

Biodiversity Conservation

GEOG 450: Sustainability & Social Justice



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INTRODUCTION:

The natural variety of plants and animals within the Earth steward biodiversity. Each species works in tandem with its counterparts to drive natural carbon, terrestrial, and hydrological cycles. Climate change threatens these systems but are conservation efforts the complete solution for preservation?

RESEARCH QUESTION:

Why is biodiversity important?
Why should we care about preserving biodiversity?
How can governments conserve biodiversity in forests?

PROBLEM:

Climate change drives biodiversity loss worldwide. Despite the recognized importance of diversity in support well-functioning ecosystems and for human health it is not a primary problem in politics.

FINDINGS:

Why Biodiversity is Important

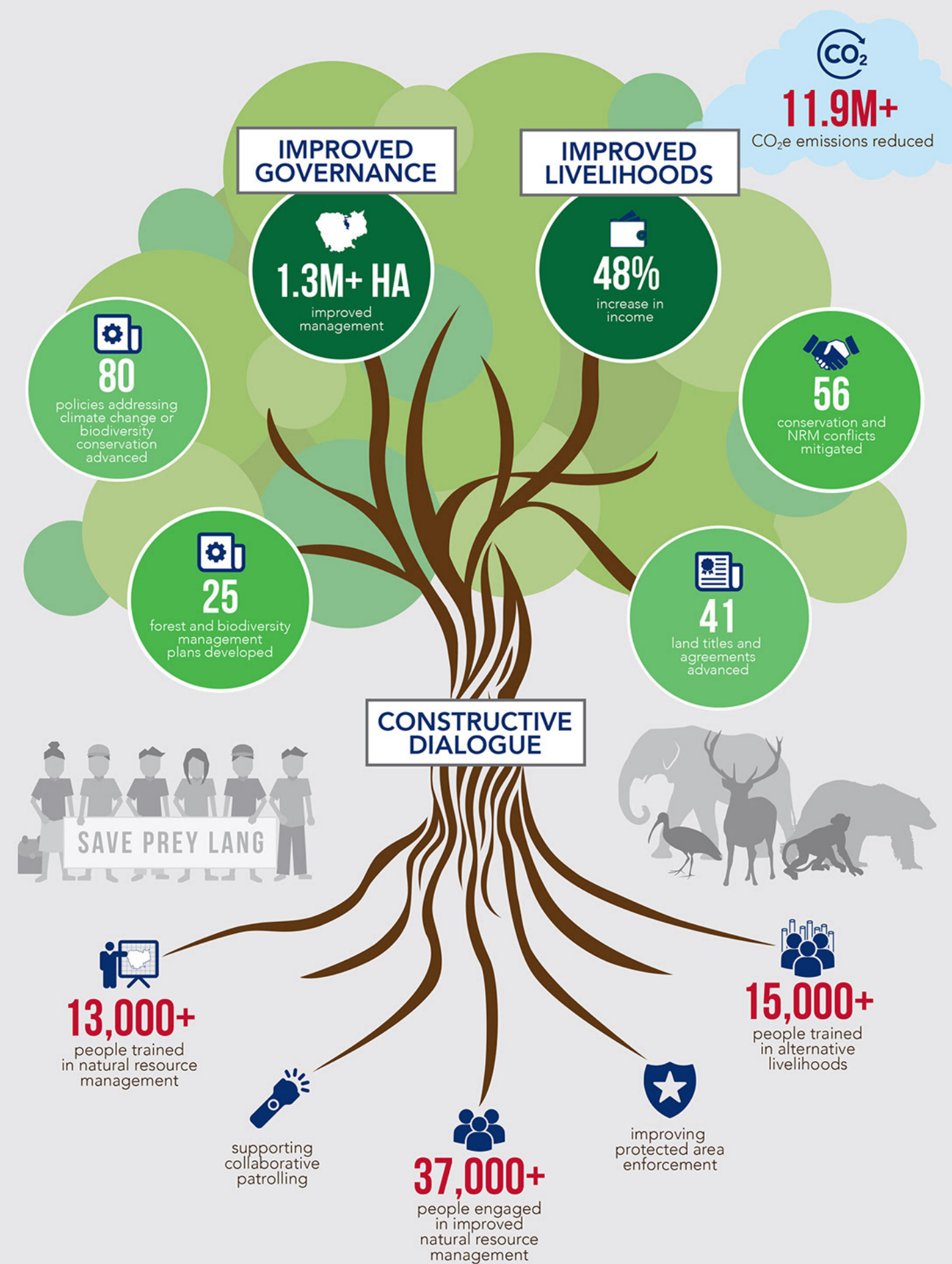
"Biodiversity loss diminishes the supplies of raw materials for drug discovery and biotechnology, causes a loss of medical models, affects the spread of human diseases, and threatens food production and water quality. Its reduction has direct effects on the discovery of potential medicines" (Idzikowski).

"Loss of biodiversity can increase the vulnerability of terrestrial and aquatic ecosystems to changes in climate and ocean acidity, thus reducing the safe boundary levels of these processes. There is growing understanding of the importance of functional biodiversity in preventing ecosystems from tipping into undesired states when they are disturbed" (Rockstrom et al).

How to Go About Preservation

Biodiversity preservation is a complex task to tackle where one solution does not apply everywhere. From our findings, a combination of economic models (which incorporate mechanism design & opportunity costs) and ecological models will help find solutions to create resilient forests that will lead to the conservation of forest biodiversity. The findings here can be used as a reference to help biodiversity preservation in other biomes.

USAID CAMBODIA SUPPORTING FORESTS AND BIODIVERSITY PROJECT



The U.S. Agency for International Development's Supporting Forests and Biodiversity (USAID SFB) project was able to provide improved forest conservation and management in Cambodia. This project successful met its goal to mitigate climate change and preserve biodiversity within the region.

CONCLUSIONS:

Biodiversity is a vital component of ecological management and resilience; however, biodiversity is declining worldwide. Without proper functionality of ecosystems due to this decline, pressure is on to understand its importance and find a solution. Loss of biodiversity has shown adverse effects on medicine along with increased vulnerability of ecosystems. To combat loss of biodiversity, economic and ecological models have been used to aid conservation programs. These conservation efforts have been successful, as shown in the infographic.

BIBLIOGRAPHY/SOURCES:

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Idzikowski, Lisa. (2019). Biodiversity and Conservation. Greenhaven Publishing LLC.

Rockström, J, Steffen, W, Noone, K, & Scheffer, M. (2009). A safe operating space for humanity. Nature (London), 461(7263), 472–475. <https://doi.org/10.1038/461472a>