

❖ Standard 9: Conduct an analysis of the severity and geographic scope of threats to conservation targets/biodiversity elements, and analyze the root causes of priority threats.

Case Study: **Root Cause Analysis of Threats**

From: WWF (2002) Ecoregion Conservation: Securing Living Landscapes through science-based planning and action. A users guide for Ecoregion Conservation through examples from the field. Washington, DC.

Purpose and region of analysis

What follows is an overview of root cause analysis as employed by WWF during the ecoregion conservation process to help understand threats to biodiversity conservation and the root cause of those threats.

Criteria/Methods

Threats to the biodiversity of an ecoregion may be viewed both from a biological and socio-economic perspective. The biological impacts of fragmentation of natural habitats- such as edge effects or the interruption of altitudinal migrations- as well as the socio-economic linkages between habitat conversion and trade agreements or macro-economic policies, are both essential information for successful conservation.

According to the root cause of biodiversity loss paradigm (Stedman-Edwards,1998), the direct causes of biodiversity loss are driven by a complex web of social, economic, political and cultural factors that influence natural resource use decisions at the local level.

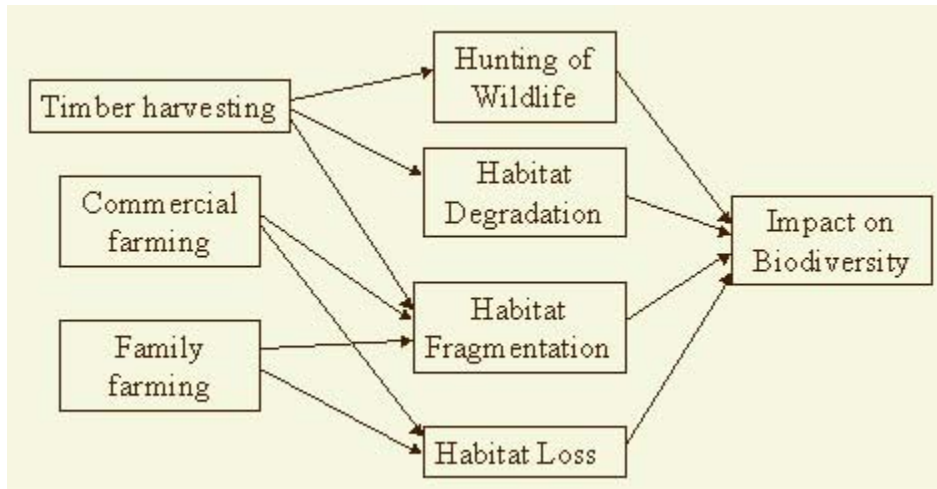
Such processes often operate outside the ecoregion, far from the threatened species or habitats either in space or time, which makes them a challenge to identify and remedy. Furthermore, factors such as population increase, poverty, inequality, local political-economic forces, macro socioeconomic forces, and the global development paradigm (necessitating increased consumption and transformation of nature into a resource base) are not issues which conservation organizations are set up to address.

The root causes of biodiversity loss in many terrestrial ecoregions are straightforward: poverty, lack of alternatives, overpopulation, and human greed, and they typically occur over very large areas. An ecoregion conservation team can consider ultimate, or root, causes of biodiversity loss as it identifies direct threats, in a straightforward manner:

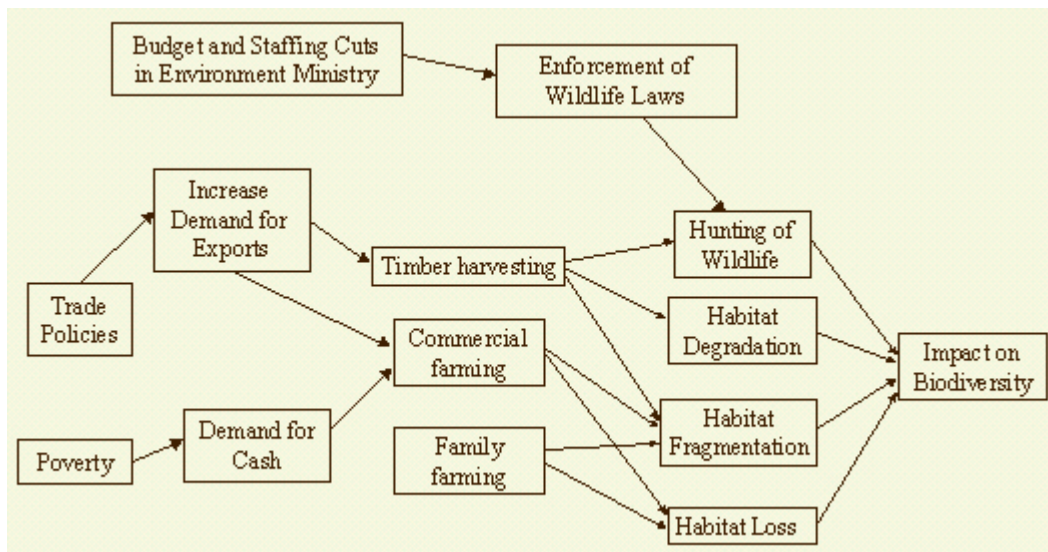
- 1) List all direct factors that impact biodiversity within the priority area, such as:
 - commercial farming
 - logging

- conversion of forest to exotic plantations
- family farming
- hunting
- new roads and associated forest fragmentation

2) Characterize how these factors cause an impact on biodiversity



3) Add key ultimate factors, including trade policy and new markets, poverty, (lack of) law enforcement, and (human) migrations.



A spatial analysis that overlays locations of human activities with habitat loss or an analysis by biologists gathered at an assessment workshop can help to identify overarching threats that affect biodiversity directly:

- Where overgrazing is a problem, the experts can identify which sites contain more endemic plant species and would face the greatest threat from poor livestock management.

- Where logging of tropical forests is a serious threat, they can identify blocks of forest habitat considered to be of higher conservation value that should not be logged.

However, the ecoregion conservation team should enlist socio-economic experts to analyze policies, intensity of human activity in and around priority areas, and socio-economic trends and conditions that promote certain activities. Policies tend to be made beyond the borders of most of the high-priority ecoregions, so the socio-economic analysis may include national and international issues.

References

Stedman-Edwards, P. 1998. Root causes of biodiversity: An analytical approach. Macroeconomics for Sustainable Development Program Office of the World Wide Fund for Nature.