




THE HECTARES INDICATOR: CHIAPAS STATE, MEXICO

By ECOSUR

The Hectares Indicator was produced as a part of
Forests 2020, a UK Space Agency funded project.

Forests 2020  UK SPACE
AGENCY

 ecometrica

ecometrica.com

The Hectares Indicator

The Hectares Indicator (HI) is a toolkit developed by Ecometrica for the UK Government, with assistance from the European Space Agency, to assess the effectiveness of interventions aimed at avoiding forest loss and promoting climate-smart land use. The toolkit is designed to answer the question: How much deforestation are we avoiding through our project's interventions?

The HI works by:

1. Defining the extent of forest at risk within the impact area
2. Setting a reference level using risk mapping or another approach
3. Measuring the actual forest loss within the impact area
4. Calculating the avoided loss and assessing project contribution

The core of the HI toolkit is the establishment of a reference level from which users can estimate expected forest loss within a specific area. The toolkit recommends creating a risk map by considering factors that increase risk of forest loss in four categories; forest accessibility, potential for cultivation, extractable value and protection status. Users can work with these categories as a guide for identifying the risk parameters that are relevant to their area of interest, or they can produce a risk map (or other reference level map) using another appropriate method. Once this risk or reference level map has been produced, users upload the map along with actual forest loss data to their [Mapping Platform](#) application where they can adjust a pre-written query that automatically calculates and produces summary results for expected forest loss, actual forest loss and avoided deforestation. After the first HI results are produced, the toolkit is intended to be implemented as a light-touch, cost effective and quick annual reporting tool.

Hectares Indicator: Chiapas State Mexico

ECOSUR, a Forests 2020 partner in Mexico, has applied the HI to present results for avoided deforestation in three regions of Chiapas state – Sierra Madre, Marques de Comillas and Reserva El Ocote.

To create their risk map, ECOSUR considered risk factors within three categories:

1. Accessibility - proximity to road, rivers and water bodies, and topography (slope)
2. Social/Economic - population density, distance to sites with agricultural land use, marginalization rate and distance to villages
3. Protection - protected areas (risk reduction factor)

These variables were spatially analyzed, then compared with the location of deforestation events to determine the risk classes. The team also utilised data from a local region within Chiapas state to determine the final categorisations of risk.

Sierra Madre

In 2016, the HI results show that in all risk classes, deforestation was avoided. For example, despite expecting to lose 71 ha of 'Very High' risk forest, only 25 ha was actually lost, resulting in 45 ha of avoided forest loss (Figure 1).

These results raise potential questions:

- Is the risk map overestimating expected forest loss in this area? Do the risk map assumptions need to be adjusted?
- Can the results be attributed to the project interventions in this area?

Marques de Comillas

Within the Marques de Comillas region, the 2016 HI results indicate that, in most risk classes, actual forest loss exceeded expected forest loss. For example, in the ‘High’ risk category, 210 ha of forest was expected to be lost, but 390 ha of forest loss was actually observed - resulting in ‘negative avoided loss’ of -180 ha (Figure 2).

To view the HI results for Marques de Comillas in the Mapping Platform, please [click here](#), select ‘Results’ from the pop-up window and scroll down to the ‘Risk & Avoided Deforestation 2016 Chiapas’ section.

Again, these results raise several questions about the risk map and project interventions for this particular area:

- Is the risk map underestimating expected forest loss in this area? Do the risk map assumptions need to be adjusted? Are there any unexpected risks specific to this area that have not been considered?
- Are project interventions ineffective or having negative impacts in this area? Are project modifications required within this area to ensure a positive impact within Marques de Comillas?

ECOSUR’s use of the HI is a great example of the development of forest monitoring methods through Forests 2020 - their application demonstrates the potential to effectively monitor the impact of projects on deforestation levels. Using their HI web application, ECOSUR can easily re-apply the method annually to compare forest loss and investigate the trends that develop over the course of Forests 2020.

You can download the detailed Hectares Indicator Guidance documents [here](#). For more information about how HI can be used to monitor, plan or evaluate your programmes, please email sarah.middlemiss@ecometrica.com

Figure 1 – Hectares Indicator results for Sierra Madre, Chiapas, Mexico in 2016.

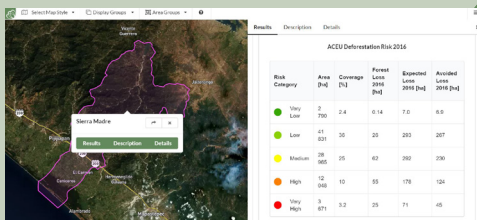


Figure 2 – Hectares Indicator results for Marques de Comillas, Chiapas, Mexico in 2016.

