



## **Forest Monitoring in Prey Lang: Preah Rokar and Sorng Rokha Vorn wildlife sanctuaries**

### **2nd Monitoring Report**

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# Forest Monitoring in Prey Lang, Preah Rokar and Sorng Rokha Vorn wildlife sanctuaries



2<sup>nd</sup> Monitoring Report

**Authors**

Argyriou D., Bori P. J., Theilade I.



CAMBODIA LOST 144.000 HA OF TREE COVER IN 2021

Power transmission line compromises protected areas and forest livelihoods

Cambodia's dedication to protecting natural resources in question

Government harassment of environmental defenders must stop

## What is CEEJA

The world's tropical forests are under continuous pressure from widespread logging, spurred by the expansion of agribusiness, mining operations, hydropower, and the global demand for valuable timber. Cambodia hosted over 8 million hectares of natural forest cover two decades ago. Today, many of these areas are covered with barren fields, void of vegetation, wildlife, and people. Despite continuous efforts by Cambodian civil society, the country has the highest deforestation rate in the World. Corruption, a lack of rule of law, and constant harassment of environmental defenders curtail conservation initiatives by donors, the conservation industry, and civil society.

### INTRODUCTION

THE WILDLIFE  
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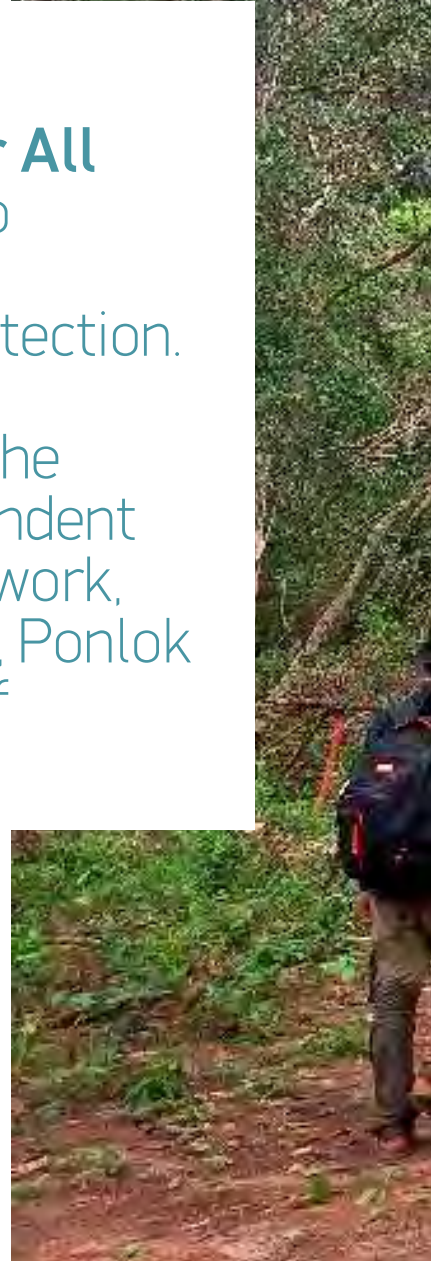
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**Citizens Engaged in Environmental Justice for All (CEEJA)** is a 5-year action to increase the effectiveness of on-the-ground forest protection. CEEJA is implemented by a consortium of Danmission, the Cambodia Centre for Independent Media, Cambodia Youth Network, Peace Bridges Organisation, Ponlok Khmer, and the University of Copenhagen.

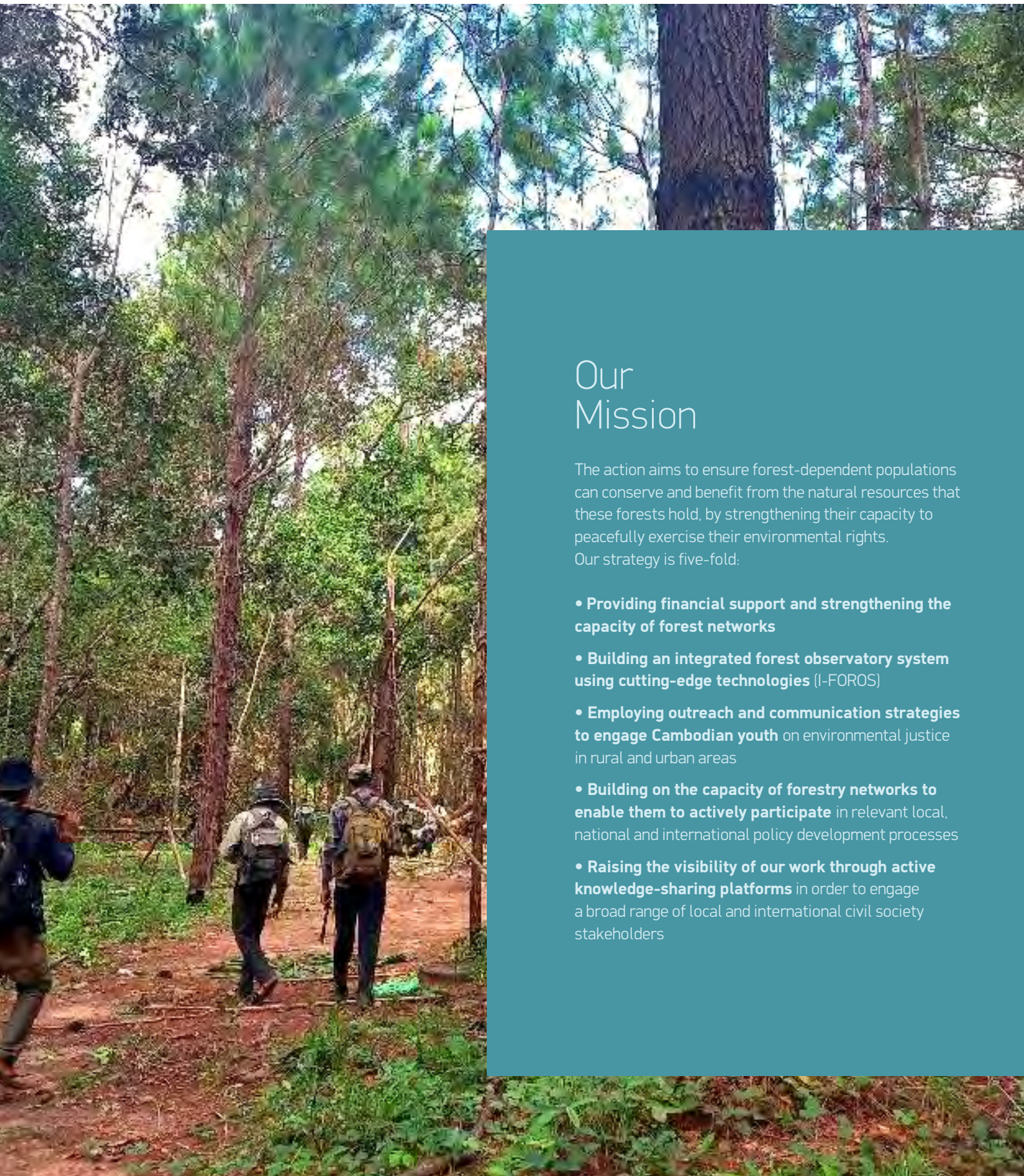
The consortium partners with several civil society organizations and educational institutions with a long history of collaboration on natural resource protection in Cambodia. CEEJA is implemented in three main areas: The Prey Lang wildlife sanctuary, the Preah Rokar wildlife sanctuary, and the Sorng Rokha Vorn wildlife sanctuary.







**Figure 1**  
Patrollers encounter  
a felled tree in Preah Vihear



## Our Mission

The action aims to ensure forest-dependent populations can conserve and benefit from the natural resources that these forests hold, by strengthening their capacity to peacefully exercise their environmental rights. Our strategy is five-fold:

- **Providing financial support and strengthening the capacity of forest networks**
- **Building an integrated forest observatory system using cutting-edge technologies (I-FOROS)**
- **Employing outreach and communication strategies to engage Cambodian youth** on environmental justice in rural and urban areas
- **Building on the capacity of forestry networks to enable them to actively participate** in relevant local, national and international policy development processes
- **Raising the visibility of our work through active knowledge-sharing platforms** in order to engage a broad range of local and international civil society stakeholders

# 02

# THE WILDLIFE SANCTUARIES AND THEIR COMMUNITIES

## INTRODUCTION

### THE WILDLIFE SANCTUARIES AND THEIR COMMUNITIES

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The Prey Lang wildlife sanctuary is located in central Cambodia and is the largest lowland evergreen forest complex in the Indo-Burma biodiversity hotspot. It contains over 500.000 hectares of forests and hosts a wide array of flora and fauna species. The Sanctuary – declared as such officially in 2016 - is also home to over 200.000 residents, including Kuy Indigenous communities and Khmer people, a majority of whom depend on these forests for their livelihoods. The forest provides them with building materials, but also non-timber forest products, such as resin, medicine, and food.

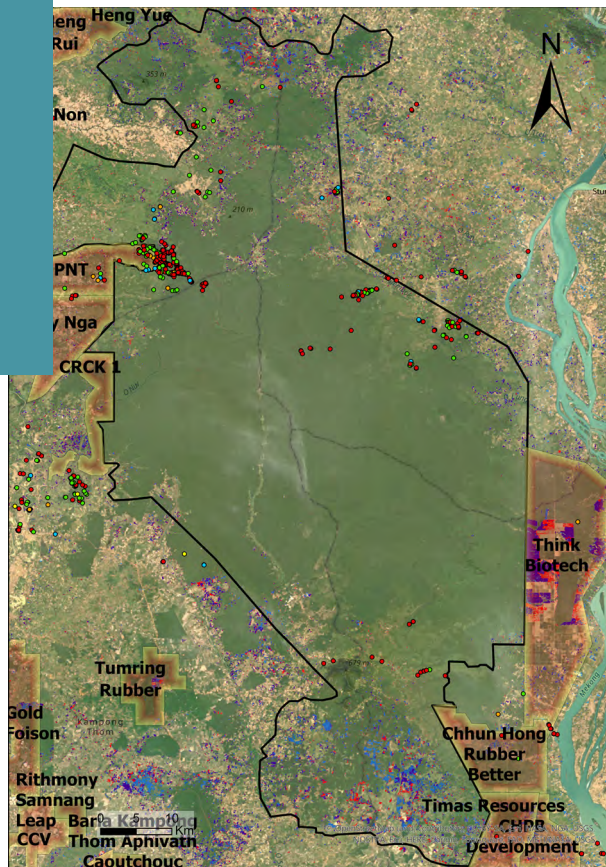
Prey Lang is surrounded by Economic Land Concession sites (ELCs), where the Cambodian government has granted companies with rights to pursue logging, industrial agriculture, and mining. These industries regularly disregard the official delineation of their ELCs and pursue economic activities within the borders of the Sanctuary. According to a report released in 2020 by the NGO Jesuit Service Cambodia's Ecology Program and the Cambodian Youth Network, more than 103.000 ha of forest were illegally cut down and converted into crops, plantations, and human settlement areas in Prey Lang, in the last 20 years <sup>1</sup>.

**Prey Lang Community Network (PLCN)** is a network of local village groups formed around year 2000 with the aim of documenting the illegal logging activities threatening the forest. PLCN is recognized internationally for its conservation efforts and received multiple international environmental awards. Yet, members of PLCN continually face official harassment and arrests. In 2020, PLCN was banned from conducting forest patrols in the Prey Lang wildlife sanctuary. The ban on local forest patrols was followed by an immediate rapid increase in illegal logging.

<sup>1</sup> Technical Report on Forest-Cover Change Detection in the Prey Lang Protected Area of Cambodia. A study authored by the Ecology Program of Jesuit Service Cambodia (JSC) in partnership with Cambodian Youth Network (CYN), August 2020. <https://preylang.net/wp-content/uploads/2021/03/Forest-Cover-Change-Prey-Lang-Report.pdf>



# I. The Prey Lang Wildlife Sanctuary

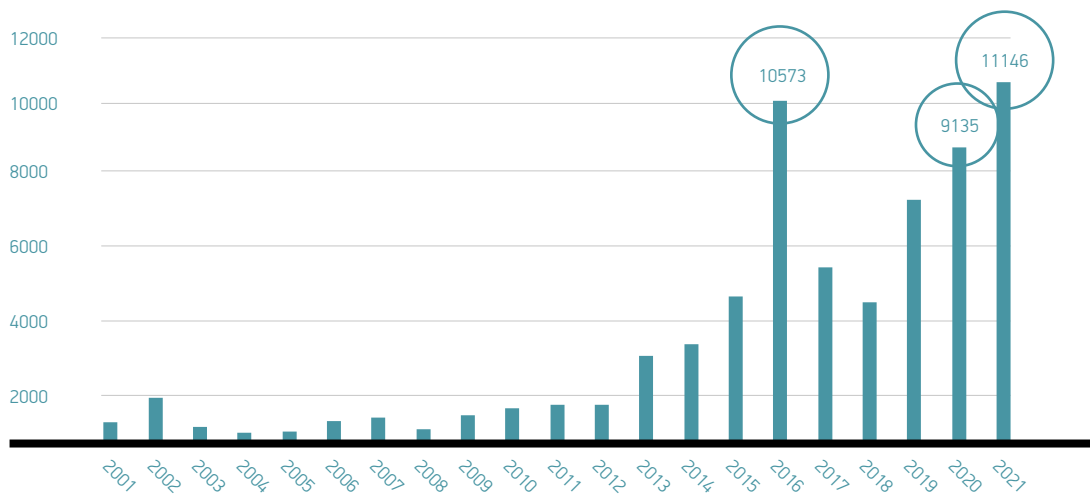


**Figure 2**  
Community patrol findings in Prey Lang wildlife sanctuary. The base map is the December 2021 mosaic downloaded from Planet Labs. Forest monitoring entries are depicted with circles of different colors according to the respective category. Forest Canopy Disturbance Monitoring tool (FCDM-radar) detections 2021 are depicted with red-colored patches while the Global Forest Change (GFC) 2021 dataset is depicted with blue patches. The purple color overlay is where both datasets coincide. Economic Land Concessions (ELCs) are depicted with a yellow-red gradient

- Activities
- Climate
- Other
- Reporting
- Resources
- ECONOMIC LAND CONCESSIONS
- TREE COVER LOSS (2021)
- FOREST CANOPY DISTURBANCES (2021)

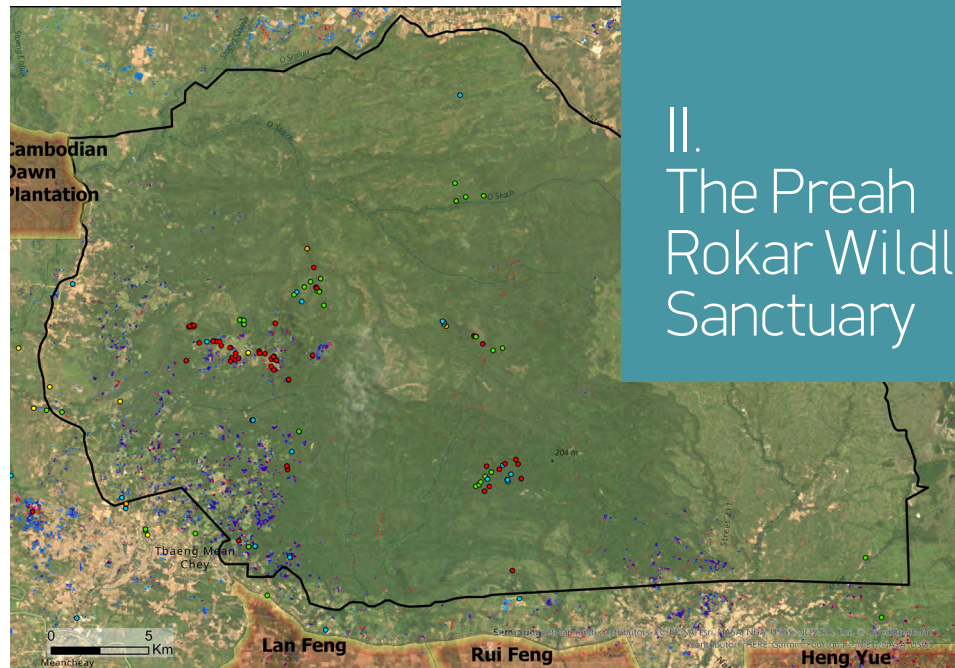
YEARLY TREE COVER LOSS (HA)<sup>34</sup>

PREY LANG WILDLIFE SANCTUARY



In 2021, Prey Lang wildlife sanctuary **lost more than 11,100 ha of tree cover**, the highest on record. It correlates to a 22% increase since 2020 and 2.7% of the total forest cover lost. Since 2000, Prey Lang wildlife sanctuary has lost 67,400 ha of forest, equivalent to 16% of the total forest cover.<sup>33</sup>

## II. The Preah Rokar Wildlife Sanctuary



**Figure 4**

Community patrol findings in Preah Rokar wildlife sanctuary. The base map is the December 2021 mosaic downloaded from Planet Labs. Forest monitoring entries are depicted with circles of different colors according to the respective category. Forest Canopy Disturbance Monitoring tool (FCDM-radar) detections 2021 are depicted with red-colored patches while the Global Forest Change (GFC) 2021 dataset is depicted with blue patches. The purple color overlay is where both datasets coincide. Economic Land Concessions (ELCs) are depicted with a yellow-red gradient

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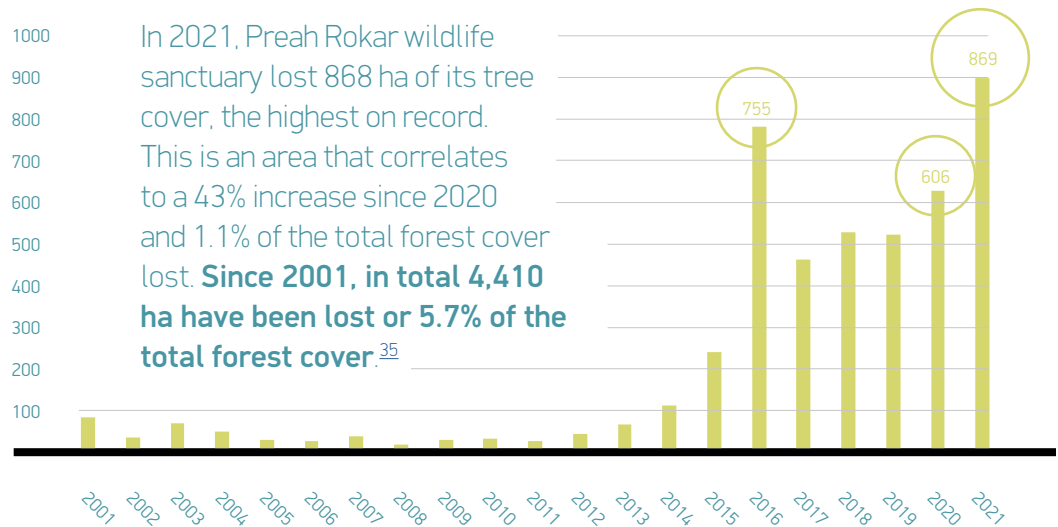
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The Preah Rokar wildlife sanctuary is located in northern Cambodia near the Thai border and covers over 90,361 ha of forest. More than 15,000 forest-dependant Kuy and non-Kuy indigenous people inhabit the 22 villages surrounding the forest. Preah Rokar was designated as a wildlife sanctuary in 2016. It is surrounded by ELCs and the sanctuary is threatened

by concessionaires that conduct illegal logging activities. For more than two decades, members of the **Preah Rokar Forestry Community Network (PFCN)** have actively been working to protect the forest through forest patrols that document forest loss, biodiversity, and climate change. Patrollers also regularly intercept and seize illegal logging activities.

### YEARLY TREE COVER LOSS (HA)<sup>36</sup>

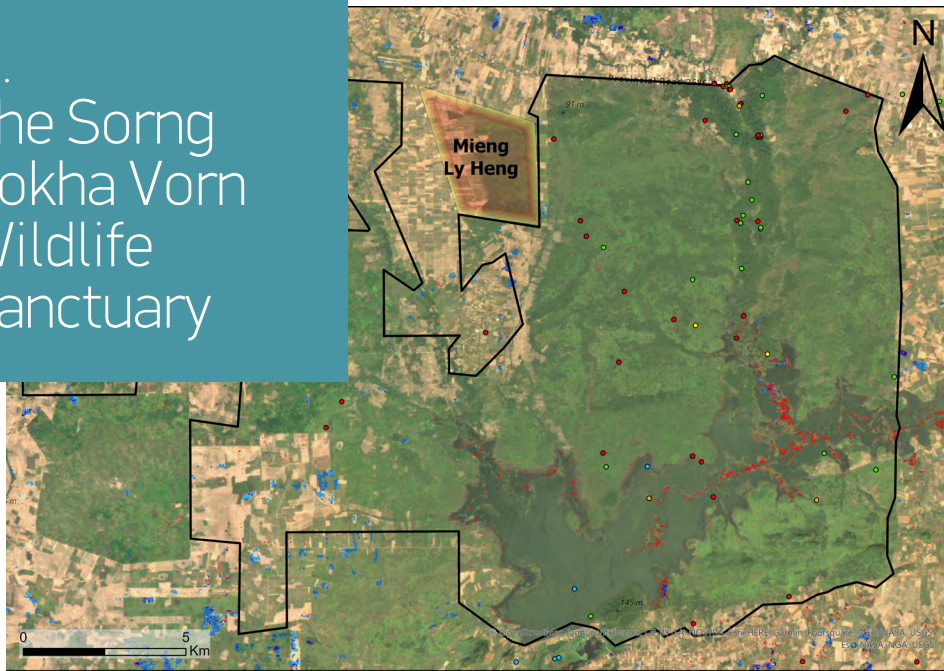
### PREAH ROKAR WILDLIFE SANCTUARY



2. United Nations Development Program. 2012. Monks Community Forest, Cambodia. Equator Initiative Case Study Series. New York, NY: [https://www.equatorinitiative.org/wp-content/uploads/2017/05/case\\_1348163303.pdf](https://www.equatorinitiative.org/wp-content/uploads/2017/05/case_1348163303.pdf)

3. For Sorng Rokha Vorn wildlife sanctuary, the numbers have been calculated using a modified shapefile that does not include the extended area around the Ou Phal River. This allows us to exclude potential mistakes from algorithms which, in their attempt to automatically calculate forest loss, misunderstand large water bodies. The estimates for Monks Community Forest are therefore conservative.

### III. The Sorng Rokha Vorn Wildlife Sanctuary



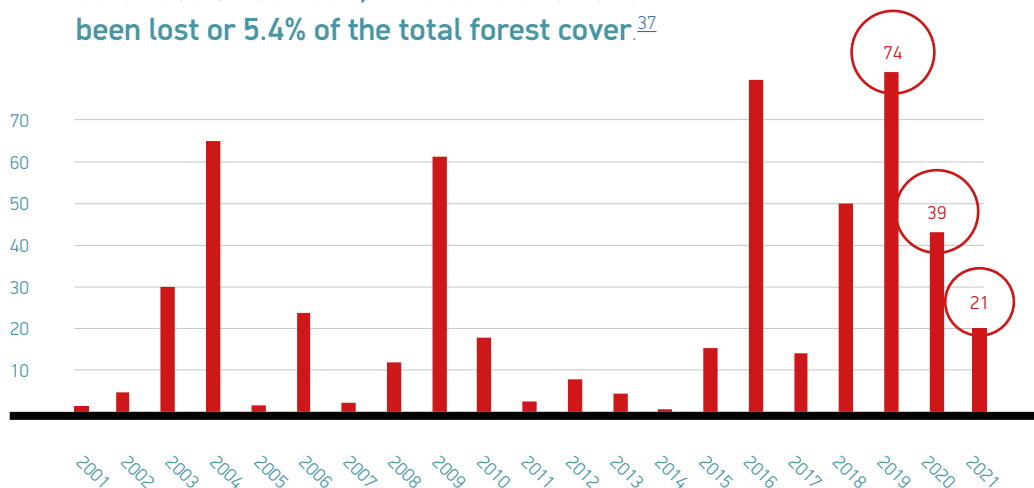
**Figure 6**  
Sorng Rokha Vorn wildlife sanctuary (modified version)<sup>32</sup>. The base map is the December 2021 mosaic downloaded from Planet Labs. Forest monitoring entries are depicted with circles of different colors according to the respective category. Forest Canopy Disturbance Monitoring tool (FCDM-radar) detections 2021 are depicted with red-colored patches while the Global Forest Change (GFC) 2021 dataset is depicted with blue patches. The purple color overlay is where both datasets coincide. Economic Land Concessions (ELCs) are depicted with a yellow-red gradient

The Sorng Rokha Vorn wildlife sanctuary is 30,254 hectares of evergreen forest in northwest Cambodia. Its protection was initiated by the Buddhist monk Venerable Bun Saluth, who witnessed the continual decimation of his country's precious forests. Volunteers and patrollers of the **Monk Community Forest (MCF)** began patrolling the area to monitor and stop illegal harvesting activities. The status of monks in the predominantly Buddhist country has allowed the community to maintain a good relationship with local and provincial authorities. Their efforts at environmental protection and the reduction of forest crime directly benefit more than 3,700 people, who are dependent on the forest for their livelihoods<sup>2</sup>.

#### YEARLY TREE COVER LOSS (HA)<sup>35</sup>

#### SORNG ROKHA VORN WILDLIFE SANCTUARY

In 2021, forest loss decreased in Sorng Rokha Vorn wildlife sanctuary<sup>3</sup>. There was 21 ha of tree cover loss, an area that correlates to a 47% decrease since 2020 and 0.23% of the total forest cover lost. **Since 2001, in total 486 ha have been lost or 5.4% of the total forest cover.**<sup>37</sup>





# 03

# METHODOLOGY<sup>4</sup>

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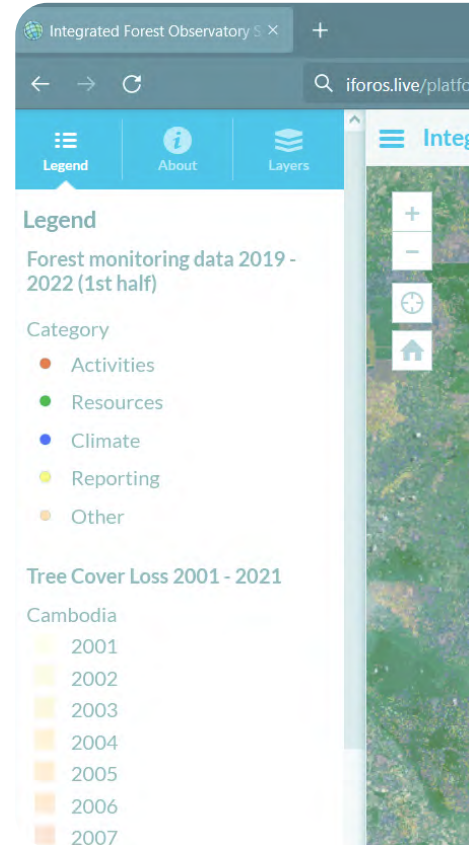
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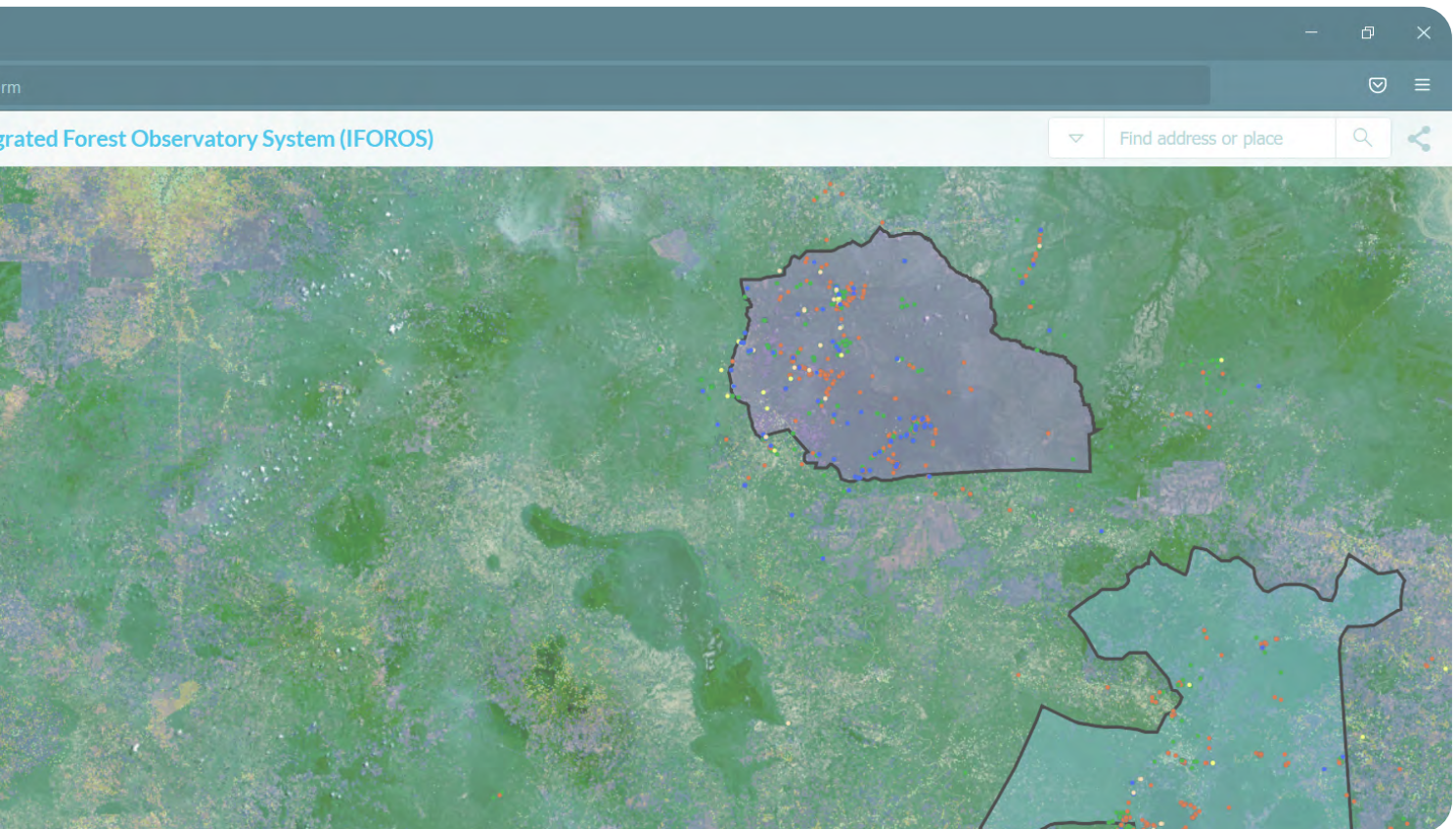
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CEEJA uses on-the-ground monitoring by communities combined with remote sensing:

I. On-the-ground monitoring and communities that collect data through a smartphone application and drones

II. State-of-the-art satellite monitoring approaches: GLAD alert system (Maryland University), FCDM tool (Joint Research Centre of the European Commission), and high-resolution analysis-ready mosaics of the world's tropics (Planet Labs - Norway International Climate and Forests Initiative)

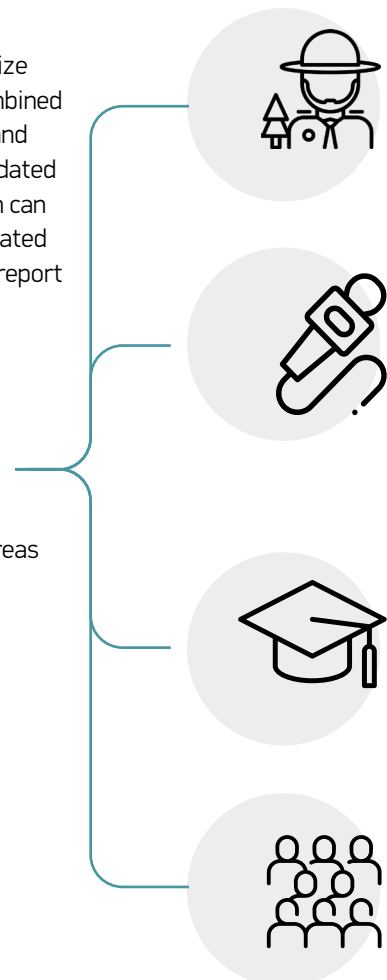




The two data sources are combined and visualized in the Integrated Forest Observatory System (IFOROS): an online platform that can be used as an interactive tool to visualize different types of information for Cambodia's protected areas. Combined with contextual data such as protected areas, mining, Economic Land Concessions and other developments, it provides users with an updated and holistic view of the status of the protected areas. The platform can be accessed via <https://iforos.live/platform> and is continuously updated with the latest datasets on tree cover loss. Data presented in this report can be explored in detail via the above link.

**The platform can be used by:**

- **Authorities**  
for forest monitoring and law enforcement
- **Journalists**  
that would like to report on the status of the protected areas
- **Academic institutions**  
for research-related activities
- **Civil Society Organizations, advocacy groups, and the general public**  
in order to advocate and hold stakeholders accountable.



<sup>4</sup> Extended information regarding our methodology can be found in the 1st Monitoring Report: [https://static-curis.ku.dk/portal/files/290599758/CEEJA\\_REPORT\\_FINAL\\_ONLINE\\_JAN22.pdf](https://static-curis.ku.dk/portal/files/290599758/CEEJA_REPORT_FINAL_ONLINE_JAN22.pdf)



# 04 CHALLENGES IN 2021

## Detention of Activists [5.6.7](#)

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**Figure 8**  
Arrested activists outside Kratie provincial court, February 2021

Instances of legal harassment, repression, and detention of activists rose in frequency during the Covid-19 pandemic. In February 2021, award-winning environmentalist Ouch Leng and four of his team were arrested for putting up ‘No Chainsaw’ signs and wrapping trees with blessed saffron robes. In October of the same year, activist Chan Thoeun received a suspended two-year sentence for allegedly

assaulting a logger: in reality, Mr. Thoeun was documenting the transportation of illegally felled timber. These arrests and trials indicate the government’s will to silence and deter any resistance that challenges their support for the unabated exploitation of the country’s natural resources, as can also be seen in a press release from Amnesty International<sup>8</sup>.

## Skewed narratives, forced contracts and bans [9, 10, 11](#)

There are other, more overt and covert forms of government pushback against the environmental movements fighting to save Cambodia's wildlife sanctuaries. In February, the Environment Ministry banned an annual Prey Lang Forest Ceremony and tree ordination under the excuse that it should not be held in protected areas. In similarly paradoxical statements, the Ministry has stated that illegal logging is primarily being carried out on a small scale by local forest-dwellers and not at the hands of the large (trans)national companies operating in the surrounding sanctuaries, as documented in a report from the Global Initiative against Transnational Organised Crime<sup>15</sup>. The government also attempted to force patrollers to sign contracts essentially banning them from entering the forest, justifying the order by stating that the PLCN was not a registered NGO. Overall, these government pushbacks constitute a clear violation of human rights, as PLCN representative Khem Sokhy has noted<sup>9</sup>.

5 <https://newint.org/features/2021/02/15/forest-defenders-under-fire-cambodia>

6 <https://vodenglish.news/award-winning-environmentalist-four-others-arrested-in-kratie/>

7 <https://vodenglish.news/prey-lang-activist-handed-two-year-suspended-sentence/>

8 Cambodia's Prey Lang: how not to protect a vital forest. <https://www.amnesty.org/en/latest/news/2021/04/cambodias-prey-lang-how-not-to-protect-a-vital-forest/>

9 <https://cambodianess.com/article/environment-ministry-prohibits-local-community-from-holding-prey-lang-ordination-ceremony>

10 <https://www.phnompenhpost.com/national/govt-rejects-logging-claims>

11 <https://vodenglish.news/prey-lang-community-patrollers-asked-to-sign-contracts-to-formalize-bans/>

12 <https://cambodiannews.com/prey-lang-patrollers-criticize-us-claim-it-supported-the-forest-group/>

13 <https://cambodianess.com/article/failing-conservation-efforts-in-prey-lang-once-again-focus-of-scrutiny>

14 U.S. Embassy Phnom Penh Statement on the USAID Greening Prey Lang Funding Redirect: <https://kh.usembassy.gov/u-s-embassy-phnom-penh-statement-on-the-usaid-greening-prey-lang-funding-redirect/>



**Figure 9**  
Monks conducting a tree-blessing ceremony in Sorng Rokha Vorn wildlife sanctuary

## USAID – tension and withdrawal [12, 13, 14](#)

In the previous monitoring report, PLCN criticized the USAID Greening Prey Lang (GPL) project for furthering deforestation by condoning government bans and indirectly supporting government-controlled patrolling programs that exclude local and Indigenous Peoples from the sanctuary and do little to limit illegal logging. In 2021, the USAID GPL project announced an end to its assistance to government entities, and a redirection of the funding to local efforts aimed at improving livelihoods. However, it failed to invite the official network of local communities, PLCN, to consultations. USAID's GPL project holders went further and issued a statement falsely promoting collaboration between GPL and the forest network. In an announcement made in March 2021, PLCN condemned USAID's use of the PLCN name and stated that it has never been included as a stakeholder in the GPL project.



# Transnational crime and corruption <sup>15</sup>

In 2021, Global Initiative against Transnational Organized Crime published a detailed report outlining the intricate supply chain and corrupt legislative environment fueling illegal logging in Cambodia. The report gives further legitimacy and proof to the

claims that PLCN has been making over the past years, highlighting how companies such as Macle Logistics Cambodia Co Ltd and PNT Co Ltd are responsible for forest crimes and how corruption within the Environment Ministry is spurring deforestation.

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## Green facade and power lines <sup>16, 17, 18</sup>

Cambodia declined to sign a pledge to conserve and help regenerate its forests in the November 2021 UN Global Climate talks. The Ministry of Environment announced the decision but gave no explanation for it. Instead, the Ministry spokesperson highlighted the government's commitment to facilitating green energy development by signing up to the Green Grids Initiative. And yet, only last year, the Cambodian government announced plans to construct a 299-km transmission line that will cut through the Prey Lang wildlife sanctuary and a REDD+ project zone. The power line will have a significant negative impact on the biodiversity of the sanctuary. Leaked documents show that the consulting firm in charge of the environmental impact assessment presented the government with two alternative and significantly cheaper routes for the powerline. The government's choice to go for the most destructive and most expensive solution raises concerns that the decision is political and tainted by corruption

### Figure 10

Prey Lang wildlife sanctuary contains Cambodia's last intact forest landscape (IFL), which is a tract of old growth forest that is sufficiently large and undisturbed to retain its original biodiversity levels. While much of the planned route for the power lines skirts through a previously degraded portion of the IFL, the northern segment pierces a portion that was remaining as of 2020.

Source Mongabay<sup>19</sup>



Sources: The IFL Mapping Team (2021); Sat. Ima

<sup>15</sup> <https://globalinitiative.net/analysis/forest-crimes-cambodia/>

<sup>16</sup> <https://vodenglishnews.com/cambodia-cops-out-of-forest-protection-pledge-at-cop26/>

<sup>17</sup> <https://vodenglishnews.com/power-line-to-cut-through-prey-lang-troubling-conservation-partners/>

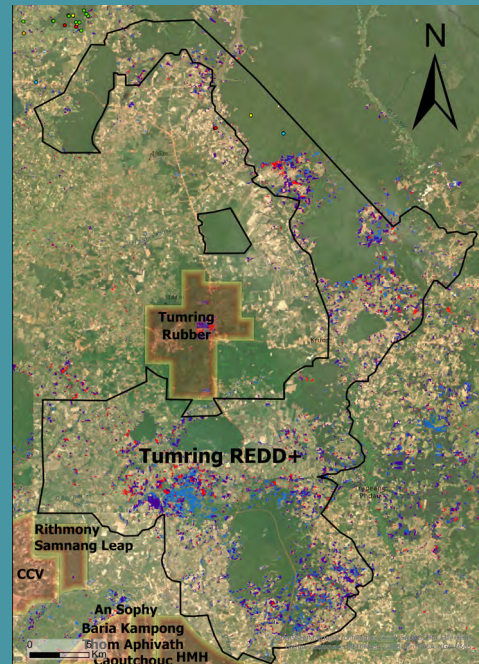
<sup>18</sup> <https://news.mongabay.com/2022/06/opaque-in-frastructure-plans-a-death-sentence-for-cambodia-as-prey-lang-wildlife-sanctuary/>

<sup>19</sup> <https://redd-monitor.org/2021/09/06/new-report-reveals-large-scale-deforestation-in-turning-redd-project-in-cambodia/>

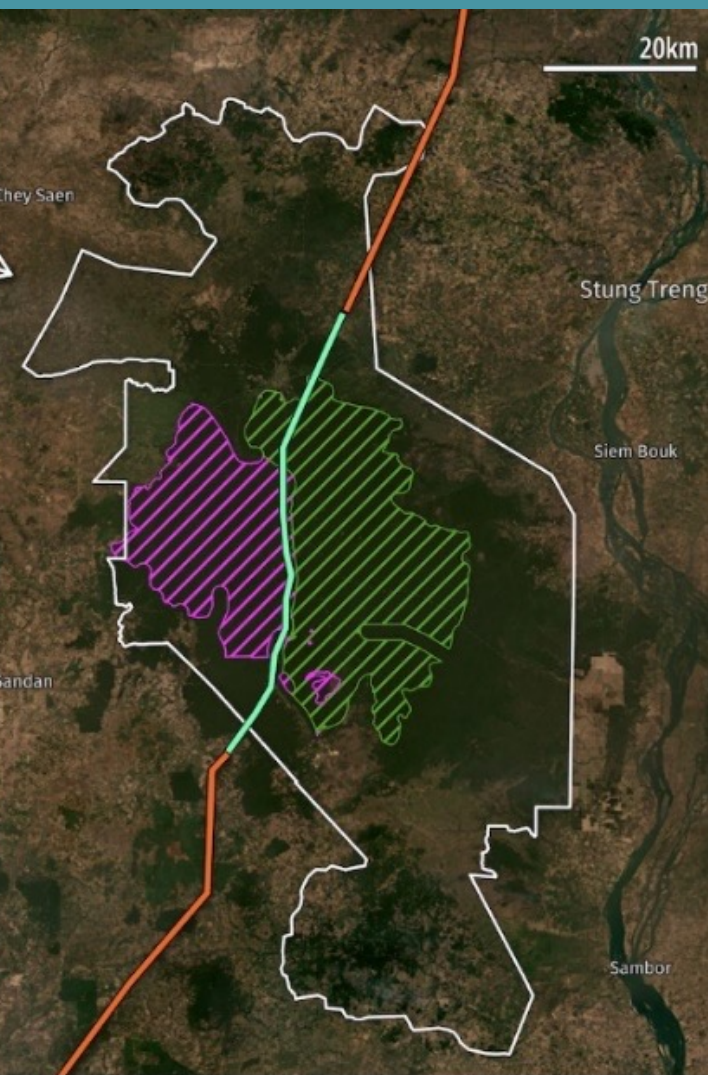
<sup>20</sup> <https://vietnamagriculture.nongnghiep.vn/legal-proof-needed-for-timber-imported-from-cambodia-d291336.html>

# REDD+ limitations [19](#)

The Tumring REDD+ Project covers more than 67,000 ha on the edge of the Prey Lang Sanctuary and has long been heralded as a successful cooperation between the Cambodian and South Korean governments. However, a recent report using on-site data collection, satellite image analysis, and interviews uncovered large-scale deforestation within the REDD+ project area. The report states that more than 37% of the REDD+ forest area has been partially or completely felled. Almost 5,000 ha were lost inside the project area in 2021, rendering the Korean Forest Service’s statement that “there has been no large-scale illegal logging at the Cambodian project site” incorrect.



**Figure 11**  
Tumring REDD+. The base map is the December 2021 mosaic downloaded from Planet Labs. Forest Canopy Disturbance Monitoring tool (FCDM-radar) detections 2021 are depicted by red-colored patches while the Global Forest Change (GFC) 2021 dataset is depicted by blue patches. The purple color overlay is where both datasets coincide.



# Vietnamese Timber Association fighting illegal timber imports [20](#)

The Vietnamese Timber Association has reached out to the Cambodian government to request clarification regarding documents assessing the legality of timber imports. The call came following an increase in illegal Cambodian timber passing through Vietnamese borders despite a ban in place by the Cambodian government.



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# RESULTS

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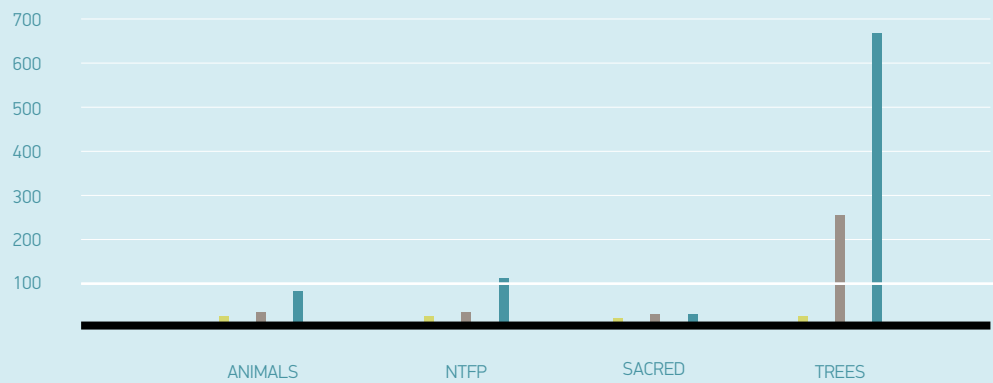
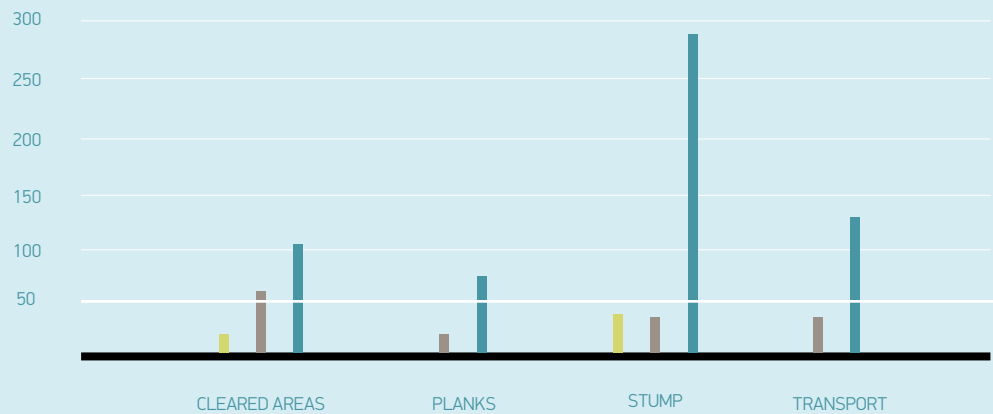
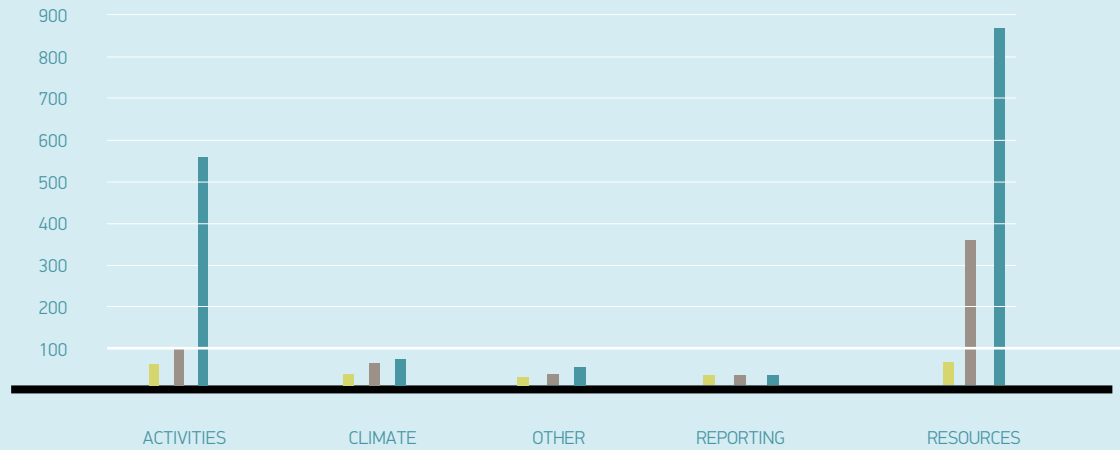
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DISTRIBUTION OF ENTRIES

# MAIN CATEGORIES

IN THE FROM THREE COMMUNITIES

**Figure 12**  
Distribution of validated entries recorded from three different communities for the main categories for the year 2021.



DISTRIBUTION OF ENTRIES IN THE

# ILLEGAL LOGGING

CATEGORY FROM THREE COMMUNITIES

**Figure 13**  
Distribution of validated entries recorded from three different communities for the "Illegal logging" categories for the year 2021.



DISTRIBUTION OF ENTRIES IN THE

# RESOURCES

CATEGORY FROM THREE COMMUNITIES

**Figure 14**  
Distribution of validated entries recorded from three different communities for the "Resources" categories for the year 2021.







## I. PLCN

Despite a constantly challenging environment, PLCN members collected significant amounts of data in comparison with 2020. In 2020, the government ban on patrolling activities and COVID limitations resulted in less than 230 entries, while 2021 saw 1,578 validated entries. The graphs below give a detailed explanation of all entries. These are this year's main takeaways:

- More than half (57%) of all entries were related to resources while the majority of the remaining entries were related to illegal activities (37%). Climate, Reporting, and Other entries accounted for only around 6% of all entries.
- Within Activities, 95% of all entries were records of illegal logging.
- Patrollers encountered over 296 sites with stumps covered in stumps of precious felled trees and 62 sites with trees already cut into planks. 88 entries recorded "Cleared areas" in previously logged forested spaces. Finally, 112 entries registered instances of illegally transported timber.
- In terms of the reporting of valuable Resources that still remain intact, patrollers recorded 665 trees as Resources, a majority (80%) was luxury trees and 20% were resin trees.

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These findings reflect **the communities'** observations that, **while they are banned from entering the forest, illegal loggers are allowed to roam freely** and transport timber using kohyun (local tractors) and other kinds of transport. Timber transportation continues night and day, crossing rangers' checkpoints by bribing them. Illegally logged timber often ends up in adjacent concessions, the most prominent being Angkor Plywood Co., Ltd and Think Biotech Co. Ltd in Kratie as well as Thy Nga Co. Ltd, PNT and Macle Logistics in Preah Vihear.

**Animal traps that are set up with electronic equipment seriously harm biodiversity** and the wildlife. At the same time, there has been an increase in the use of hand-made guns used for hunting wild animals but also to threaten community members and environmental activists.



**Figure 15**  
A kohyun (local tractor) transporting timber by night. It is a common practice, and locals report that they cannot sleep from the noise. Entry reported in a Preah Vihear community.



Finally, the communities are experiencing **forest clearances and chaotic housing construction** in the buffer zone and in the core area of Prey Lang wildlife sanctuary on the part of high-ranking officials and immigrants from other regions.<sup>39</sup>



**Increased timber transportation**



**Threats to community members**



**Animal traps harm biodiversity & wildlife**



**Chaotic housing construction**



## II. PFCN

Members of the Preah Rokar Forest Community Network were also able to increase their patrolling compared to previous years. With a total of 552 entries, these are 2021's results:

- Over 70% of all entries recorded Resources, while 19% related to Activities. Patrollers also recorded a significant amount of data (8%) relating to Climate Change, and a small number of entries in Reporting and Other categories.
- 97% of all recorded Activities concerned acts of Illegal Logging.
- Of these, 53% of entries related to Cleared Areas, 25% to encountering Stumps, 14% Planks, and 8% instances of Transport.
- PFCN patrollers recorded 364 entries under Resources. 288 (79%) of these were Trees, a majority of which (82%) were luxury trees and resin trees (18%). They also encountered Animals (10%), Non-Timber Forest Products (9%), and a small number of Sacred sites (2%).

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Similar to Prey Lang communities, **PFCN was also restricted from patrolling the forest while illegal loggers increased their activities**, with transportation taking place night and day without any intervention from the relevant authorities. Land clearing increased, including the sacred areas inside the Preah Rokar wildlife sanctuary, while there was an increase in forest fires. This affects the livelihoods of community members who are dependent on their resin trees for their survival.

Meanwhile, **community members** that are active in environmental protection activities **are being targeted by the courts but are also being threatened with hand-made weapons** by loggers in the area.





Increased logging



Communities targetted by courts



Increased forest fires

Lastly, there is ongoing trafficking of wildlife and no restrictions on the luxury timber furniture stores that are increasingly opening around the Preah Rokar wildlife sanctuary.<sup>39</sup>



Ongoing trafficking of wildlife



**Figure 16**  
A cleared area reported in Preah Rokar wildlife sanctuary.





### III. MCF

Monk Community Forest members recorded a total of 126 valid entries in their first year of using the smartphone app:

- During 2021, patrollers recorded 50 entries under Activities, 57 entries under Resources, 11 under Climate, and 4 each for Reporting and Other.
- 78% of all Activities concerned instances of Illegal Logging, where patrollers came across 28 sites with Stumps (72%) and 11 sites (28%) with larger cleared areas.
- Members also collected data on valuable resources within the protected area: there were 24 entries on Luxury trees (96%) and Resin trees (4%); 23 entries on Animals; 9 on non-timber forest products and 1 on a sacred site.

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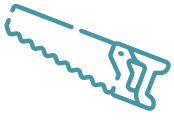
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According to MCF members who conduct patrols regularly together with the local authorities, luxury timber such as rosewood continues to be logged and transported. Wildlife trafficking and commercial fishing have both increased together with forest fires, while forest clearing for land ownership has hindered the demarcation and protection of the wildlife sanctuary.<sup>39</sup>





Increased logging



Increased forest fires



Ongoing trafficking of wildlife



**Figure 17**  
A logged stump that was reported in Somg Rokha Vorn wildlife sanctuary.



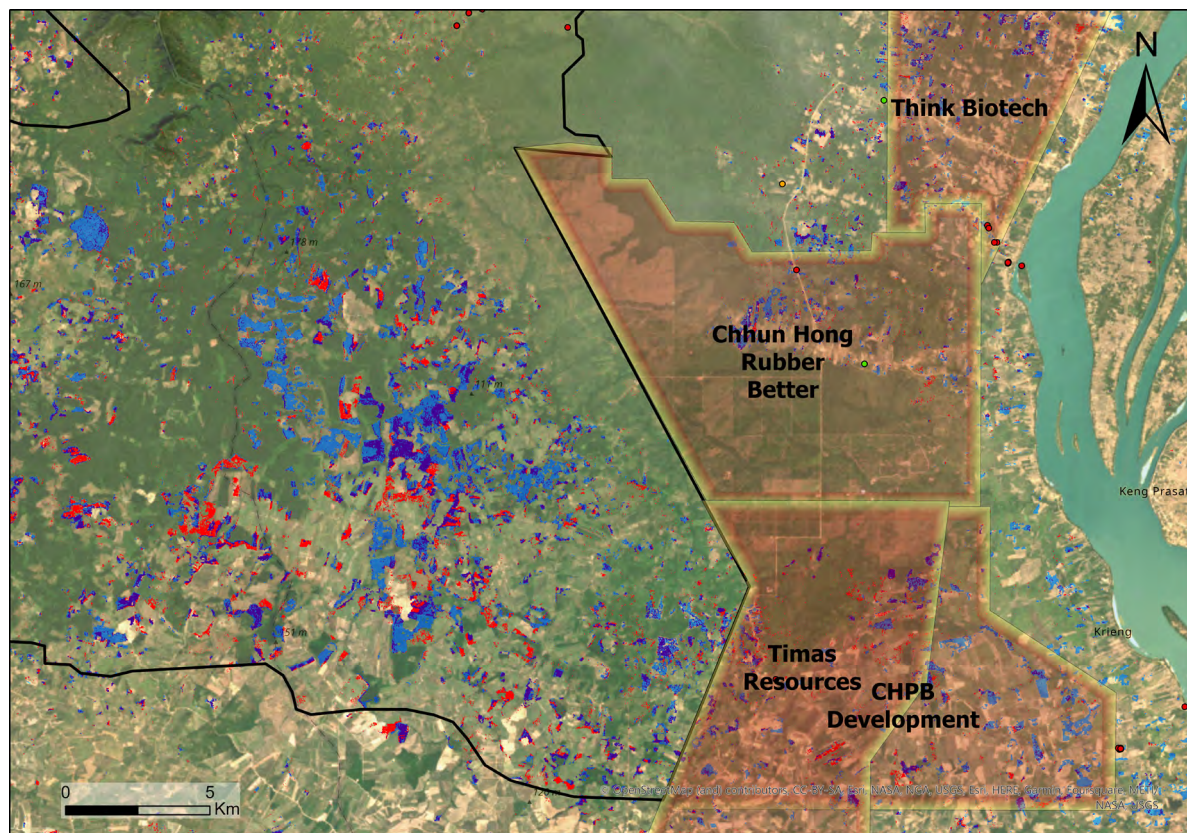


# 06

# HOTSPOTS & SUMMARY

Overlaying datasets shows the status of the wildlife sanctuaries and identifies hotspots of illegal logging and deforestation.

**Figure 18**  
South-east Prey Lang wildlife sanctuary



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Figure 18 shows serious deforestation and forest degradation in the south-east of Prey Lang wildlife sanctuary. There are four ELCs bordering on this part of Prey Lang: **Chhun Hong Rubber Better, Timas Resources, CHPB Development and Think Biotech.**

FCDM  
Forest Canopy Disturbance Monitoring tool



GFC  
Global Forest Change



ELCs  
Economic Land Concessions



The base maps are the December 2021 mosaic downloaded from Planet Labs. Forest Canopy Disturbance Monitoring tool (FCDM-radar) detections 2021 are depicted by red-colored patches while the Global Forest Change (GFC) 2021 dataset is depicted by blue patches. The purple color overlay is where both datasets coincide. Economic Land Concessions (ELCs) are depicted by a yellow-red gradient.

**COMPANIES ACCUSED OF FOREST CLEARING AND TIMBER LAUNDERING**

- PNT
- THY NGA
- CRCK 1
- THINK BIOTECH

**Figure 19**  
North-west Prey Lang wildlife sanctuary

Think Biotech has been repeatedly accused of **clearing forests** and the precious resin trees of surrounding communities<sup>21</sup> as well as **destroying ancient temples**<sup>22</sup> and was also recently linked to **illegal timber laundering from the KP cement mining concession** inside the Prey Lang wildlife sanctuary in an investigative article from the Pulitzer Center<sup>23</sup>.

The company has furthermore **arrested environmental activists** in the past<sup>24</sup> and, although there has been numerous amounts of evidence collected from local communities and journalists<sup>25</sup>, the company continues to deny any involvement and **has also been cleared by a Forestry Administration investigation** that took place back in 2019.<sup>26</sup>

The aforementioned report "Forest crimes in Cambodia", which was published by the Global Initiative against Transnational Organised Crime, explores the **links between Think Biotech and government officials**.<sup>15</sup>

Figure 19 depicts the north-west part of Prey Lang wildlife sanctuary. This is another problematic area that is being closely monitored by forest activists, as the numerous entries show.

**This area is bordered by three more ELCs: CRCK 1, PNT, and Thy Nga,** which have also been accused by environmental activists of **forest clearing and timber laundering** through their concessions.<sup>27, 28, 29, 30</sup>

PNT and Thy NGA ELCs are also investigated in the report on "Forest Crimes in Cambodia"<sup>15</sup> for their **links with the government**.

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While the “Global Forest Change” (GFC) dataset, updated and released in April 2022 by Hansen et. al., provides insight into deforestation, we use a different approach to provide an indication of forest degradation processes.

The “Forest Canopy Disturbance Monitoring” (FCDM) tool, and specifically the FCDM-radar approach developed by the Joint Research Centre of the European Commission, allows monitoring independent of cloud coverage and, furthermore, provides more reliable detection of selective logging or smaller areas within drier and more seasonal vegetation types that have proven to be technically much more challenging.

A detailed overview of the tree cover loss (Global Forest Change dataset) in the last two years as well as the related CO2 emissions and the areas affected by forest degradation (FCDM) can be seen in Table 1.

The affected area that is calculated by the FCDM tool cannot be used as an indicator of the extent of forest loss. Furthermore, it cannot substitute or be compared with the findings from the GFC dataset but nor can it be added as a number to the affected hectares, as the two approaches (also) measure different kinds of forest loss.

The dataset deriving from the FCDM tool can instead be used to complement the GFC dataset in order to have a holistic view of the extent of forest loss in the wildlife sanctuaries of Cambodia.



## FIGURES OF WILDLIFE SANCTUARIES



	PREY LANG	PREAH ROKAR	SORNG ROKHA VORN / (MODIFIED) <sup>3</sup>
TOTAL AREA	432,380ha	90,361ha	30,254ha / 29,490ha
CO2 EQUIVALENTS EMITTED SINCE 2001 <sup>31</sup>	42 Mt <sup>33</sup>	3 Mt <sup>35</sup>	312kt / 230 kt <sup>37</sup>
TREE COVER LOSS SINCE 2001 <sup>32</sup> (% OF TOTAL AREA)	67,700ha <sup>34</sup> (13%)	4,420ha <sup>36</sup> (5.7%)	664ha (5.8%) / 486ha <sup>38</sup> (5.4%)
GFC 2020	9,134ha <sup>34</sup> (2.2%)	607ha <sup>36</sup> (0.78%)	77ha (0.66%) / 39ha <sup>38</sup> (0.44%)
GFC 2021	11,100ha <sup>34</sup> (2.7%)	869ha <sup>36</sup> (1.1%)	34ha / 21ha <sup>38</sup> (0.23%)
FCDM 2021	8,822ha	674ha	122ha / 20ha

**Table 1:**

Overview of the total size of the protected areas and the associated tree cover loss (hectares) and FCDM affected area, as well as the CO2 equivalent emitted into the atmosphere stemming from said tree cover loss. The percentage of the total area is given in parentheses. For Sorng Rokha Vorn wildlife sanctuary, the first number relates to the total area of the wildlife sanctuary, while the second relates to a modified area<sup>3</sup> excluding the areas around the Ou Phal River water body in order to provide more conservative results.

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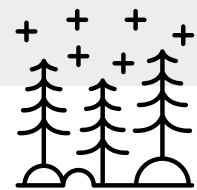
## CONCLUSION

Cambodia's lowland evergreen forests are facing unprecedented anthropogenic pressures, compounded by climate change with extreme droughts, floods and widespread biodiversity loss that affects not only the forests but Cambodian society at large. This forest loss is further aggravated by government-mandated mining projects, agricultural expansion, and destructive infrastructure development.

Economic Land Concessions granted to timber-, mining-, and agricultural companies such as Think Biotech Co., Ltd., PNT Co., Ltd., and Thy Nga Development

Co., Ltd. border the wildlife sanctuaries and regularly trespass to conduct logging in the protected areas. **Illegal logging peaked in Prey Lang during the Covid-19 pandemic as restrictions were imposed on forest patrols, thus enabling logging cartels to operate with impunity.** As a result, last year, Cambodia lost 144,000 ha of forest along with an immeasurable loss of biodiversity. More specifically, there was a 22% increase in tree cover loss at Prey Lang wildlife sanctuary, and a 43% increase at Preah Rokar wildlife sanctuary, while there was a 47% decrease in tree cover loss over the same years in Sorng Rokha Vorn wildlife sanctuary.

144.000 HA FOREST LOSS



22% increase at Prey Lang

43% increase at Preah Rokar

47% decrease at Sorng Rokha Vorn

**The construction of a powerline that will cut Prey Lang wildlife sanctuary in two is testimony to the Cambodian government's unwillingness to recognize the natural, social and biophysical value of the country's last remaining wildlife sanctuaries.** As the report from Change to Global Initiative against Transnational Organised Crime states:



**Figure 20**  
Transport of illegally felled timber from trucks  
in Preah Vihear province.



“Far beyond isolated acts of criminality, **the pattern of illegal logging in Cambodia suggests an organized network directed by oknhas and public officials**, who have created and profited from a climate of corruption and impunity”<sup>15</sup> and this profit comes at the cost of Cambodian society.

And yet all three of these sanctuaries are home to a dedicated grassroots network of forest-dependent communities, activists, and spiritual leaders. Members of the Prey Lang Community Network, the Preah Rokar Forestry Community Network, and the Monk Community Forest work tirelessly to monitor and gather data on forest loss, biodiversity, and climate change. Equipped with the Prey Lang App for smartphones and supported by satellite and drone monitoring, their efforts are contributing to a better understanding of the rapid and radical changes occurring in

Cambodia’s forests. **Their data, compiled in this report, show that Cambodia’s forests are rapidly shrinking and, without fast and radical intervention, will disappear.** The consequences of forest loss are a global problem but forest communities are the most directly affected. According to a joint statement released by the three communities, more action should be taken by the Cambodian authorities to prevent forest crimes<sup>39</sup>.



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We, the PLCN, MCF, and PFCN call on the Royal Government of Cambodia, the Ministry of Environment, and relevant authorities at all levels to take action:

1. We request the Royal Government of Cambodia (RGC) to monitor and stop the land concessions in the extended areas of the wildlife sanctuaries. At the same time remove any Ministry of Environment (MoE) rangers who are involved in forest crimes or fail to perform their duties.
2. We request the RGC and especially the MoE to develop a specific strategic plan to combat deforestation and forest clearance for agriculture as well as the possession of hand-made guns, hunting, and other equipment that can be used in deforestation activities.
3. We call upon the RGC to enforce the regulations and laws on forest protection.
4. We call upon and encourage all the people of Cambodia and of the world to actively participate and work together to protect natural resources.
5. Major international actors should pay attention to the allocation of resources to Cambodia and the countries affected by deforestation. Abstain from the trade of timber that originates from Cambodia.

Additionally,  
the authors of this report  
would like to request that the RGC:

- Remove the ban on local communities' access to forest areas, forest patrols, and use of remote sensing. At the same time, **create an enabling environment for local and Indigenous communities to participate in forest management** and increase consultations and their involvement in decision-making.

- **Ban all the sawmills** that are adjacent to wildlife sanctuaries, increase inspections and revoke concession agreements with ELCs involved in timber laundering and harassment of environmental activists.

- **Investigate the ties between authorities and the forestry industry.** Bring to justice every government official that is found guilty of corruption.

<sup>21</sup> <https://www.business-humanrights.org/es/%C3%BA%20timas-noticias/cambodia-prey-lang-community-alleges-that-a-korean-owned-think-biotech-cambodia-harvests-timber-illegally-but-the-company-denies/>

<sup>22</sup> <https://www.phnompenhpost.com/national/indigenous-group-says-firm-razed-two-temples>

<sup>23</sup> <https://pulitzercenter.org/stories/large-scale-logging-cambodia-as-prey-lang-linked-politically-connected-mining-operation>

<sup>24</sup> <https://www.business-humanrights.org/en/latest-news/cambodia-authorities-private-security-of-think-biotech-arrest-goldman-environmental-prize-winner-three-activists/>

<sup>25</sup> <https://news.mongabay.com/2020/05/cambodian-firm-accused-of-creating-a-monopoly-in-the-timber-business/>

<sup>26</sup> <https://www.business-humanrights.org/en/latest-news/cambodia-the-forestry-administration-say-there-is-no-connection-between-think-biotech-and-alleged-illegal-logging-in-prey-lang-areas/>

<sup>27</sup> <https://news.mongabay.com/2022/06/opaque-infrastructure-plans-a-death-sentence-for-cambodias-prey-lang-wildlife-sanctuary/>

<sup>28</sup> <https://www.phnompenhpost.com/national/forest-activists-allege-logging-scheme-prey-lang>

<sup>29</sup> <https://news.mongabay.com/2020/05/they-never-intended-to-protect-it-outcry-as-loggers-gut-cambodian-reserve/>

<sup>30</sup> <https://redd-monitor.org/2011/03/02/can-redd-protect-prey-lang-forest-in-cambodia/>

<sup>31</sup> Harris, N.L., Gibbs, D.A., Baccini, A. et al. Global maps of twenty-first century forest carbon fluxes. *Nat. Clim. Chang.* 11, 234–240 (2021). <https://www.nature.com/articles/s41558-020-00976-6>

<sup>32</sup> Hansen, M. C., P. V. Potapov, R. Moore, M. Hancher, S. A. Turubanova, A. Tyukavina, D. Thau, S. V. Stehman, S. J. Goetz, T. R. Loveland, A. Kommareddy, A. Egorov, L. Chini, C. O. Justice, and J. R. G. Townshend. 2013. "High-Resolution Global Maps of 21st-Century Forest Cover Change." *Science* 342 (15 November): 850–53. Data available on-line from: <http://earthenginepartners.appspot.com/science-2013-global-forest>

<sup>33</sup> Global Forest Watch. "Forest-related greenhouse gas emissions in Prey Lang wildlife sanctuary". Accessed on 07/07/2022 from [www.globalforestwatch.org](http://www.globalforestwatch.org)

<sup>34</sup> Global Forest Watch. "Tree cover loss in Prey Lang wildlife sanctuary". Accessed on 07/07/2022 from [www.globalforestwatch.org](http://www.globalforestwatch.org)

<sup>35</sup> Global Forest Watch. "Forest-related greenhouse gas emissions in Preah Rokar wildlife sanctuary". Accessed on 07/07/2022 from [www.globalforestwatch.org](http://www.globalforestwatch.org)

<sup>36</sup> Global Forest Watch. "Tree cover loss in Preah Rokar wildlife sanctuary". Accessed on 07/07/2022 from [www.globalforestwatch.org](http://www.globalforestwatch.org)

<sup>37</sup> Global Forest Watch. "Forest-related greenhouse gas emissions in Somg Rokha Vorn wildlife sanctuary". Accessed on 07/07/2022 from [www.globalforestwatch.org](http://www.globalforestwatch.org)

<sup>38</sup> Global Forest Watch. "Tree cover loss in Somg Rokha Vorn wildlife sanctuary". Accessed on 07/07/2022 from [www.globalforestwatch.org](http://www.globalforestwatch.org)

<sup>39</sup> Joint statement of PLCN, PFCN, and MCF. Illegal Deforestation and Land Clearance in Prey Lang, Prey Preah Roka, and Monk Community Forest.

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**Front cover photo**

An illegally felled stump is reported in Preah Vihear province on 21 October 2021.

**Back cover photo**

A luxury tree is reported in Kampong Thom province on 19 July 2021.

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The Prey Lang app was built based on Sapelli: an open-source project that facilitates data collection across language or literacy barriers through highly configurable icon-driven user interfaces. For more info see: <http://www.sapelli.org/>

All photos are the intellectual property of the communities that collected them. All maps were made with ArcGIS Pro 2.7.1.

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