4th Monitoring Report

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

Dimitris Argyriou, Ida Theilade

» Cambodia Lost More than 120,000 ha of Tree Cover in 2023

» New Illegal Logging Roads Running from the Think Biotech Concession into Cambodia's Prey Lang Wildlife Sanctuary

» Mining Expansion Threatens Cambodia's Wildlife Sanctuaries

» Habitat Loss and Fragmentation Threatens Biodiversity in Cambodia's Wildlife Sanctuaries

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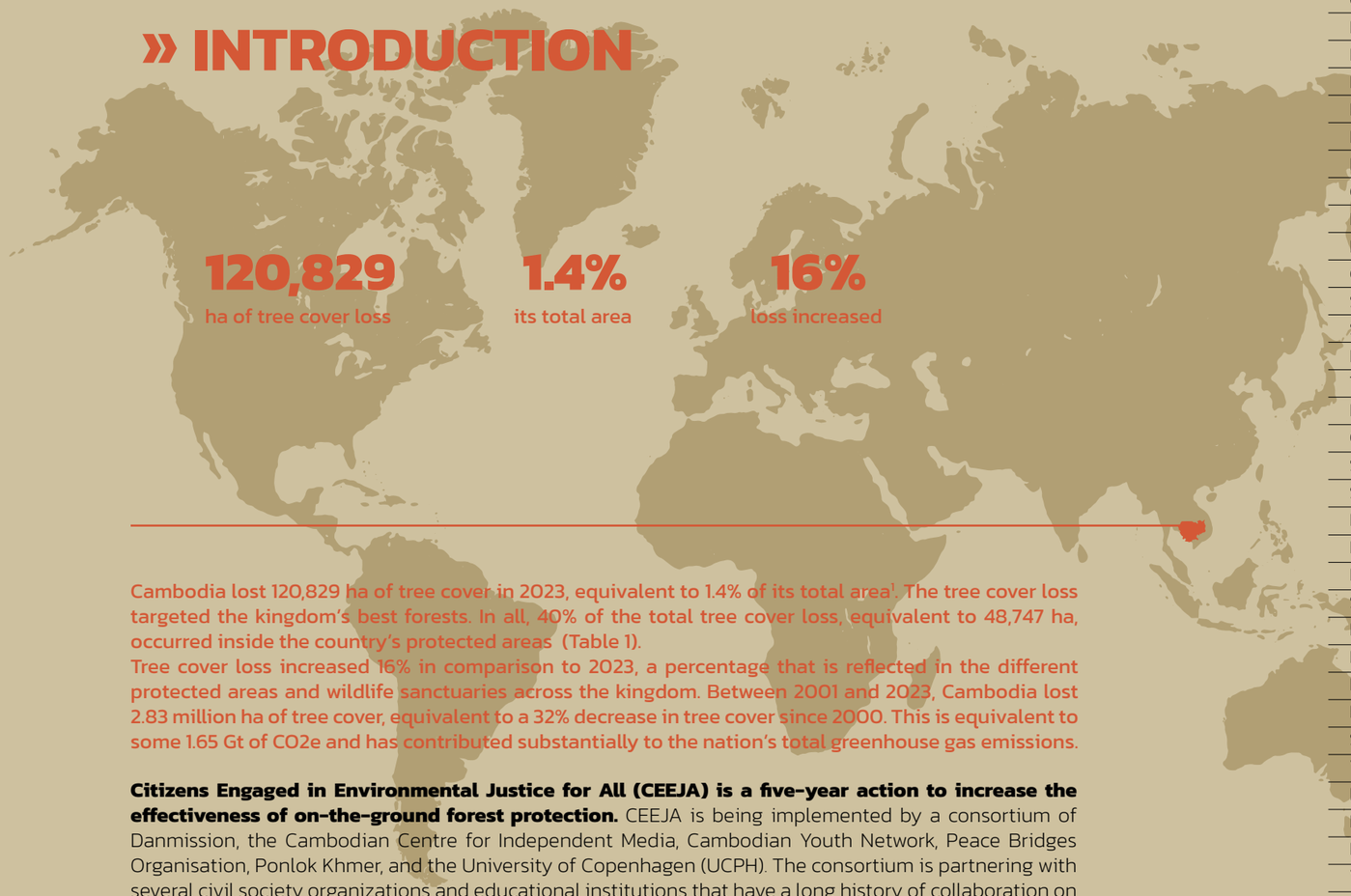
» INTRODUCTION



120,829
ha of tree cover loss

1.4%
its total area

16%
loss increased

Cambodia lost 120,829 ha of tree cover in 2023, equivalent to 1.4% of its total area[1]. The tree cover loss targeted the kingdom's best forests. In all, 40% of the total tree cover loss, equivalent to 48,747 ha, occurred inside the country's protected areas (Table 1).
Tree cover loss increased 16% in comparison to 2023, a percentage that is reflected in the different protected areas and wildlife sanctuaries across the kingdom. Between 2001 and 2023, Cambodia lost 2.83 million ha of tree cover, equivalent to a 32% decrease in tree cover since 2000. This is equivalent to some 1.65 Gt of CO2e and has contributed substantially to the nation's total greenhouse gas emissions.

Citizens Engaged in Environmental Justice for All (CEEJA) is a five-year action to increase the effectiveness of on-the-ground forest protection. CEEJA is being implemented by a consortium of Danmission, the Cambodian Centre for Independent Media, Cambodian Youth Network, Peace Bridges Organisation, Ponlok Khmer, and the University of Copenhagen (UCPH). The consortium is partnering with several civil society organizations and educational institutions that have a long history of collaboration on natural resource protection in Cambodia. CEEJA is being implemented in three main areas: the Prey Lang wildlife sanctuary, Preah Rokar wildlife sanctuary, and the Sorng Rokha Vorn wildlife sanctuary[2].

[1] Tree cover loss within protected areas in Cambodia, 2001-2023. The calculation contains data on six types of protected areas in Cambodia (national park, wildlife sanctuary, protected landscape, multiple-use area, natural heritage site, Ramsar site). Source: Hansen/UMD/Google/USGS/NASA

[2] For more information on the wildlife sanctuaries and the communities, please see 2nd CEEJA Monitoring Report

[3] M. C. Hansen et al, High-Resolution Global Maps of 21st-Century Forest Cover Change. Science 342,850-853(2013). DOI:10.1126/science.1244693

[4] Forest Canopy Disturbance Monitoring (FCDM) – A freely available tool to assess potential forest degradation

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

- On-the-ground monitoring and communities collecting data through a smartphone application and drones
- 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)

PROTECTED AREA	Tree Cover loss 2022 (ha)
Cambodia	120829
Prey Lang Wildlife Sanctuary	9532
Beng Per Wildlife Sanctuary	6648
Phnom Samkos Wildlife Sanctuary	5486
Kulen Promtep Wildlife Sanctuary	4798
Botum Sakor National Park	3984
Keo Seima Wildlife Sanctuary	2869
Central Cardamom Mountains National Park	1826
Preah Monivong National Park	1647
Phnom Aural Wildlife Sanctuary	1610
Chheb Wildlife Sanctuary	1424
Southern Cardamom Mountains National Park	1413
Samlaut Multiple Use Area	624
Lomphat Wildlife Sanctuary	609
Tatai Wildlife Sanctuary	590
Preah Rokar Wildlife Sanctuary	577
Ou Ya Dav National Park	558
Srepok Wildlife Sanctuary	510
Snuol Wildlife Sanctuary	476
Phnom Namlear Wildlife Sanctuary	429
Phnom Thnout- Phnom Pok Wildlife Sanctuary	400
Dong Peng Multiple Use Area	345
Sambor Wildlife Sanctuary	343
Mekong River Dolphin Management Area	284
Ream National Park	229
Phnom Prich Wildlife Sanctuary	187
Koh Rung Marine National Park	169
Siem Pang Wildlife Sanctuary	136
Virachey National Park	116
Peam Krasop Wildlife Sanctuary	96
Koh Kapik and Associated Islets	94
Phnom Kulen National Park	87
Veun Sai-Siem Pang National Park	84
Dolphin Sanctuary Koh Santuk Koh Konsat and Tboung Khla	80
Roniem Daun Sam I Wildlife Sanctuary	72
Preaek Prasab Wildlife Sanctuary	70
Stung Treng Ramsar Site	63
Sorng Rokha Vorn Wildlife Sanctuary	50
Preah Soramrit-Kosomak "Kirirom" National Park	44
Protected Landscape Banteay Chmar	43
Prek Teuk Sap Kbal Chhay Multiple Use Area	30
Tonle Sap Northern Lowland Protected Landscape	27
Tonle Sap Biosphere Reserve	25
Phnom Neang Kang Rey- Phnom Teuk Meas Multiple Use Area	13
Techo Sen Russey Treb Cambodian Royal Academy National Park	8
Kiriyong Natural Heritage Site	6
Sor Sor Sdom Tao Multiple Use Area	6
Phnom Tbeng Natural Heritage Site	5
Sambor Prey Kok Temple Cultural Resort	5
Kep National Park	4
Ang Trapeang Thmor Protected Landscape	3
Dolphin Sanctuary Khsach Mkak and Koh Pdao	3
Roniem Daun Sam II Wildlife Sanctuary	2
Angkor Wat Protected Landscape	2
Beng Mealea Protected Area	2
Boeung Kade, Boeung Chileng Multiple Use Area	1
Boeung Chhmar and Associated River System and Floodplain Ramsar Site	1
Prasat Bakan Protected Landscape	1
Phnom Krang Dei Meas Protected Landscape	0
Phnom Yeaysom Natural Heritage Site	0
Boeung Sroul	0
Preah Vihear Temple Protected Landscape	0

Table 1.
Tree cover loss within protected areas in Cambodia 2023

In partnership with Global Forest Watch (GFW), the Global Land Analysis and Discovery (GLAD) laboratory at the University of Maryland provides annual global-scale tree cover loss data using Landsat time-series imagery. The Global Forest Change (GFC)[3] dataset provides data on tree cover loss globally.
The Forest Canopy Disturbance Monitoring (FCDM)[4] tool developed at the Joint Research Centre (JRC) of the European Commission supports the detection of forest canopy disturbance from satellite remote sensing and can provide indications of forest degradation processes. However, compared to deforestation, the mapping of 'forest degradation' has proven to be technically much more challenging and the signalling of forest canopy disturbance is less prominent as it does not result in a change in land cover.

The dataset deriving from the FCDM tool is used to complement the GFC dataset when evaluating total forest loss in the Prey Lang, Preah Rokar and Sorng Rokha Vorn wildlife sanctuaries of Cambodia.
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. The English version of the platform can be accessed via https://iforos.live/platform and the Khmer version via https://iforos.live/khmer and both are continuously updated with the latest datasets on tree cover loss and community data.

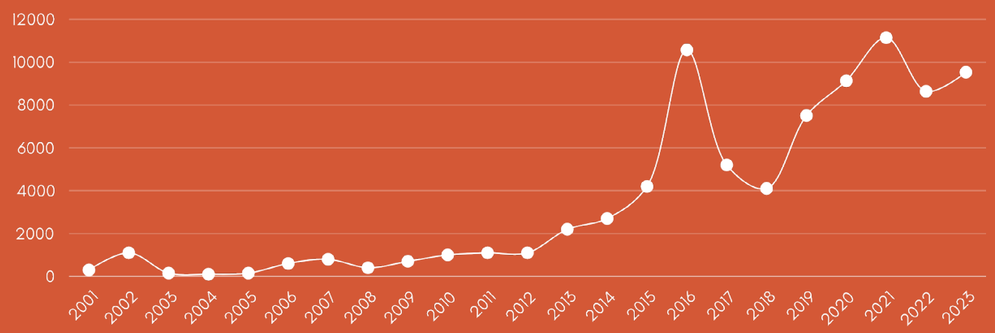
Forest loss in Prey Lang, Preah Rokar and Sorng Rokha Vorn wildlife sanctuaries[5].

Prey Lang wildlife sanctuary

Prey Lang wildlife sanctuary lost over 9,532 ha of tree cover in 2023. This represents a 10.3% increase compared to 2022, contributing to a total reduction of 2.3% in the sanctuary's tree cover. As a result, 5.83 million tonnes of CO2 equivalent were released into the atmosphere (Mt of CO2e). Since 2001, Prey Lang wildlife sanctuary has lost 85,864 ha of tree cover, equivalent to 21% of its total area and resulting in greenhouse gas emissions of 52.9 Mt of CO2e (Fig.1). Prey Lang was officially declared a wildlife sanctuary measuring 431,683 ha by the Ministry of Environment in 2016. Alarmingly, more than half of the total deforestation (53%) and associated emissions have occurred since 2018.

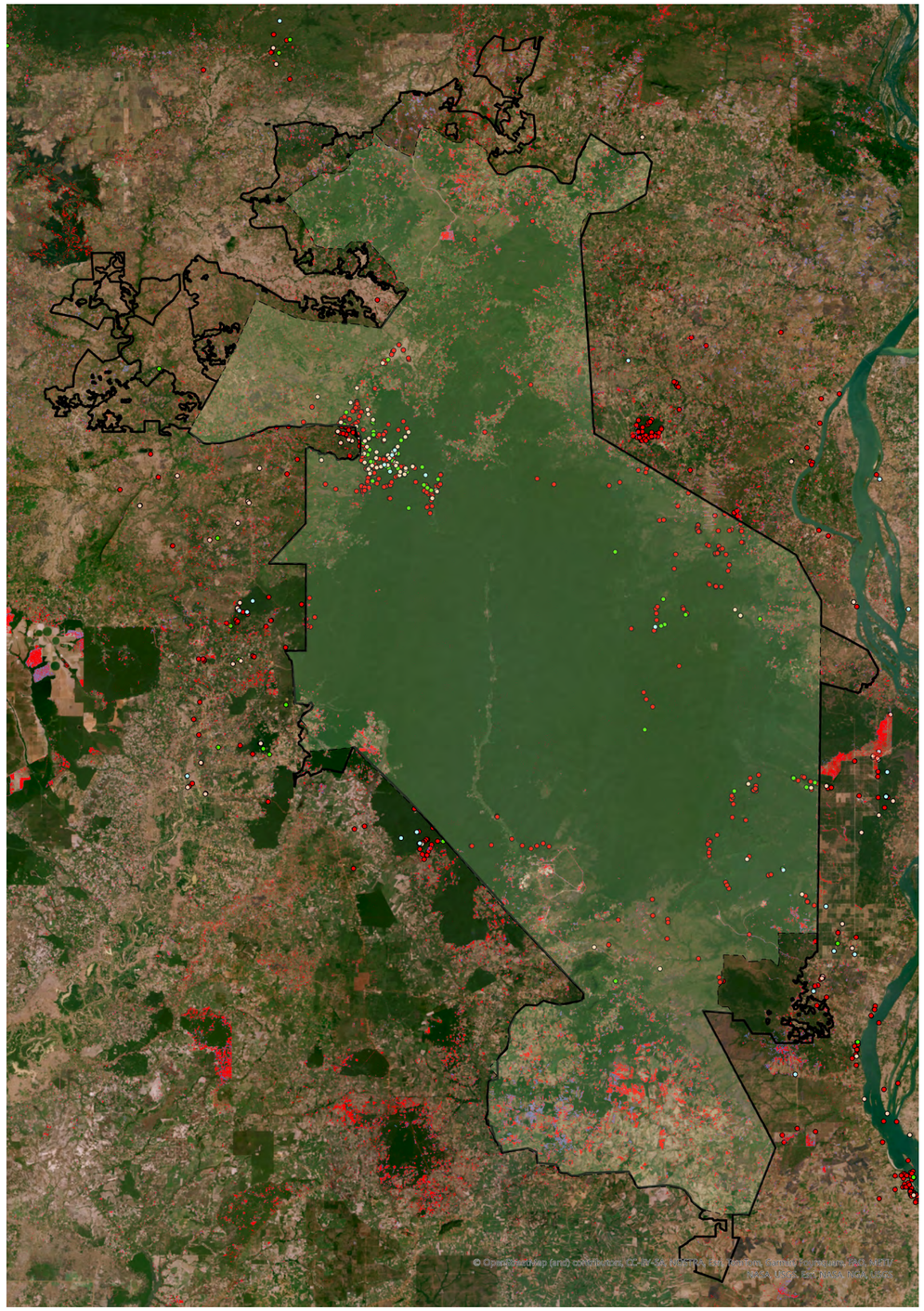
In addition, the FCDM tool detected an area of 9,778 ha of forest degradation in 2023 (Fig.2), a 19.6% increase compared to last year. During August 2023, the Cambodian government decided to expand Prey Lang wildlife sanctuary to a total of 489,662ha.

Annual Tree Cover Loss (ha) in Prey Lang Wildlife Sanctuary



↑ Figure 1.
Annual tree cover loss (ha) in Prey Lang wildlife sanctuary. Tree cover loss: Hansen/UMD/Google/USGS/NASA

[5] The data presented in this report are based on the initial boundaries of the protected area prior to its recent 2023 extension. This approach ensures consistency with previous years' data, allowing for accurate year-on-year comparisons.



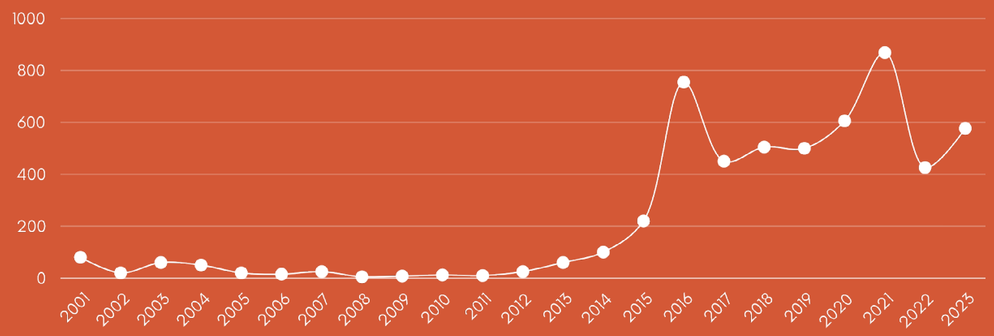
↑ Figure 2.
Prey Lang wildlife sanctuary

Forest loss in Prey Lang, Preah Rokar and Sorng Rokha Vorn wildlife sanctuaries.

Preah Rokar wildlife sanctuary

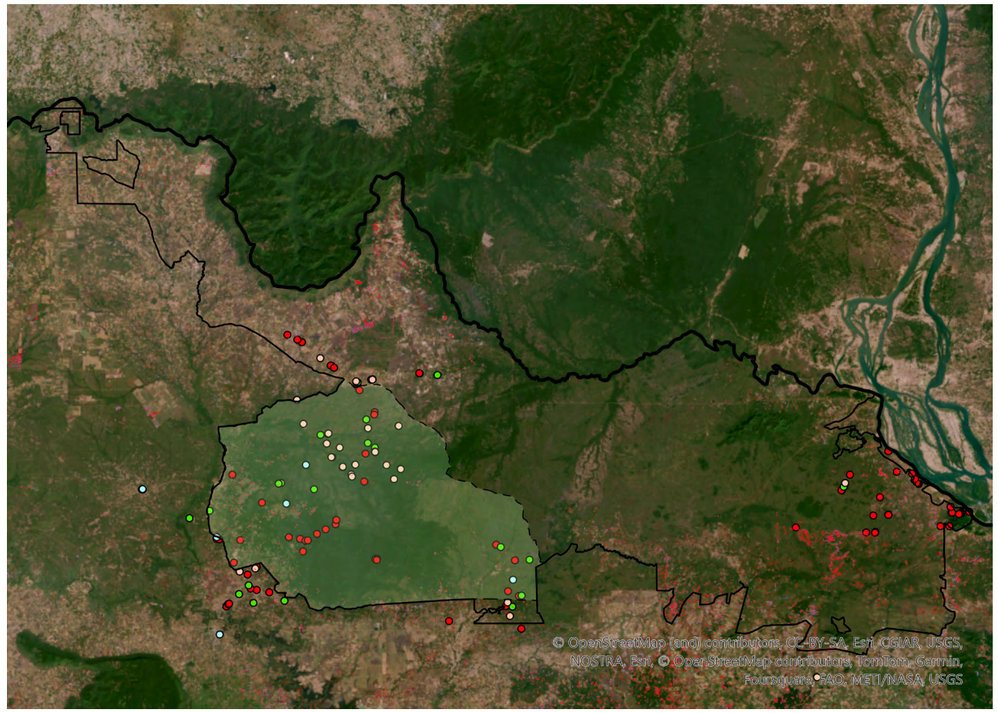
The Preah Rokar wildlife sanctuary lost 575 ha of tree cover in 2023. This represents nearly a 35% increase compared to the previous year, resulting in the release of 393 kilotonnes of CO2e into the atmosphere (kt of CO2e). Since 2001, Preah Rokar has lost a total 5,420 ha of tree cover, or 7% of its total area, resulting in greenhouse gas emissions of 3.71 Mt of CO2e (Fig.3). Preah Rokar was officially declared a wildlife sanctuary measuring 90,361 ha by the Ministry of Environment in 2016. Notably, more than half of the total tree cover loss (54%) has occurred since 2018.

Annual Tree Cover Loss (ha) n Preah Rokar Wildlife Sanctuary



↑ Figure 3
Annual tree cover loss (ha) in Preah Rokar wildlife sanctuary. Tree cover loss: Hansen/UMD/Google/USGS/NASA

In addition, the FCDM tool detected an area of 832 ha of forest degradation (Fig.4), a 45.2% increase compared to the previous year. During August 2023, Preah Rokar wildlife sanctuary was merged with Chaeb wildlife sanctuary to form the new Chaeb-Preah Rokar wildlife sanctuary. The new area that lies adjacent to the northern borders of the country now measures 347,567 ha.



↑ Figure 4
Preah Rokar wildlife sanctuary

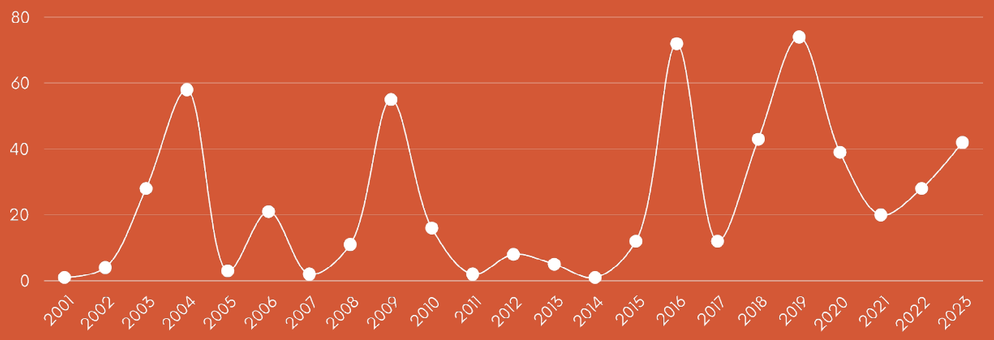
Forest loss in Prey Lang, Preah Rokar and Sorng Rokha Vorn wildlife sanctuaries.

Sorng Rokha Vorn wildlife sanctuary

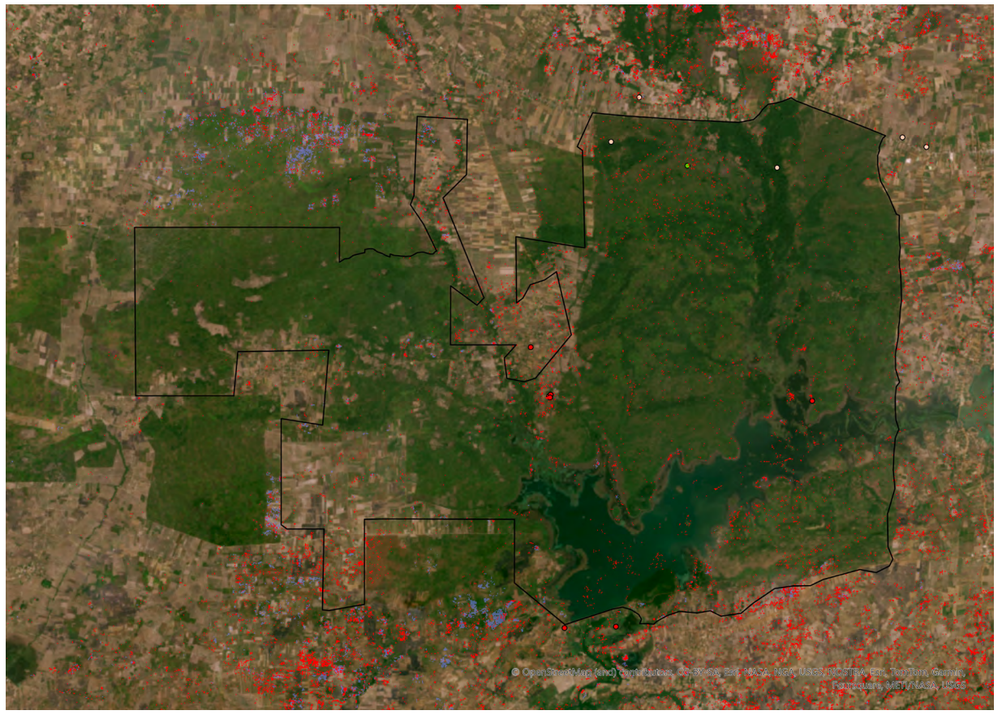
Sorng Rokha Vorn wildlife sanctuary, also known as the Monks Community Forest, lost 42 ha of tree cover in 2023. This represents a 50% increase compared to the previous year, resulting in the release of 19.3 kilotonnes of CO_2e into the atmosphere. Since 2001, Sorng Rokha Vorn has lost a total of 556 ha, or 5.4% of its total area, resulting in greenhouse gas emissions of 249kt of CO_2e (Fig.5). Sorng Rokha Vorn was officially declared a wildlife sanctuary measuring 30,254 ha by the Ministry of Environment in 2018. Remarkably, more than half (59%) of the total tree cover loss and the associated emissions has occurred since 2015.

Moreover, the FCDM tool detected an area of 333 ha of forest degradation (Fig. 6), a 21.8% decrease compared to the previous year. The Sorng Rokha Vorn wildlife sanctuary was not affected by the recent changes in the protected areas of the country.

Annual Tree Cover Loss (ha) Sorng Rokha Vorn Wildlife Sanctuary



↑ Figure 5
Annual tree cover loss (ha) in Sorng Rokha Vorn wildlife sanctuary. Tree cover loss: Hansen/UMD/Google/USGS/NASA



↑ Figure 6
Sorng Rokha Vorn wildlife sanctuary

The designation of wildlife sanctuaries in Cambodia is intended to protect biodiversity, promote sustainable resource use, and support scientific research and education. However, the data indicates that significant tree cover loss has occurred in these areas since their designation, raising concerns about the effectiveness of these protections.

Notably, the majority of tree cover loss, forest degradation and associated greenhouse gas emissions has taken place under the oversight of the Ministry of Environment, highlighting the need for more robust conservation measures and enforcement to safeguard these critical habitats.

» CHALLENGES ON THE GROUND

Ongoing evidence of logging and denial by the authorities

During late March 2023, a team of forest protection activists spent four days and three nights investigating an area in Preah Vihear province. The team discovered more than 200 illegally cut trees. The area showed signs of around-the-clock operations, transport trucks, motorcycles and armed security, while eyewitnesses were able to identify the logo from the – Phnom Penh-based – Macle Logistics (Cambodia) Co., Ltd. Activists note that the government authorities have unfortunately taken no effective action against the logging operation and nor to prevent illegal timber exports to neighbouring Vietnam, a major buyer of luxury hardwood[5].

Additionally, an investigation carried out by the Cambodian Youth Network (CYN) revealed **129 cases of illegal logging occurring within a three-day period back in May 2023**. The CYN's investigation revealed that several hundred hectares of dense, evergreen forest had been cleared, and hundreds of trees were marked for future logging. CYN noted that the situation remains concerning and called on the Cambodian government to take action against encroachment and prevent further forest destruction in Prey Lang. The authorities once more denied the severity of the issue[7].

← Figure 7
Reported evidence of illegal logging in Preah Vihear, 24 March 2023

[6] Activists find illegal logging evidence in protected area in northern Cambodia – Radio Free Asia, 4 April 2023

[7] Authorities deny CYN report of illegal logging at Prey Lang – Khmer Times, 16 May 2023

Expansion of Wildlife Sanctuaries – Circular Environmental Strategy

The Cambodian government has recently expanded the country's protected areas by over a million hectares through a series of sub decrees. However, much of the newly protected land appears to be corridors neighbouring existing protected areas, where homes and farms are already established.

This move has been met with scepticism from civil society groups and activists due to the lack of consultation and the ongoing issues of deforestation and privatization within these areas.

The ability of the authorities to patrol this much larger area also enters into question, especially given the ineffective enforcement of existing protected areas. Incomplete data and missing maps have left conservationists confused, making it difficult to understand the full implications of the changes.

The government claims that the re-zoning approach aims to avoid land conflicts and establish clear boundaries but concerns remain about the intentions, as well as the effectiveness of protection and management, given the limited resources and ongoing illegal logging activities. Conservationists and community groups are ready to support the Ministry of Environment, emphasizing the need for effective management and community involvement in the newly protected areas[8].

Finally, the new Circular Environmental Strategy (CES) 2023-28 was launched on 15 November 2023. The approach emphasises three main priorities – cleanliness, greenness and sustainability – aiming to guide Cambodia towards carbon neutrality. It includes measures for pollution control, tree plantation, and natural resource management, with a goal to increase forest coverage to 60% by 2050[9]. To effectively manage natural resources and conserve biodiversity, the ministry has officially called for four measures to be implemented: strict enforcement of laws against natural resource crimes, collaboration with local authorities to prevent such crimes, partnership with the Anti-Corruption Unit (ACU) and the National Gendarmerie Command to strengthen law enforcement, and the development of tree planting plans for reforestation and sustainable forest management[10]. While the CES 2023-28 sets ambitious goals for Cambodia's environmental future, it remains to be seen if these measures will yield the desired results so it is crucial to approach these new initiatives with cautious optimism.

→ Figure 8
Reporting evidence of land privatization, at Prey Srok Chas village, Preah Vihear province 27 November 2023

[8] Scepticism as Cambodia expands protected areas by more than a million hectares – Mongabay, 29 August 2023

[9] Ministry launches 'ambitious' strategy for carbon neutrality – Phnom Penh Post, 13 November 2023

[10] Measures to Prevent Natural Resource Crimes – Ministry of Environment, 17 October 2023

Think Biotech – New Logging Routes

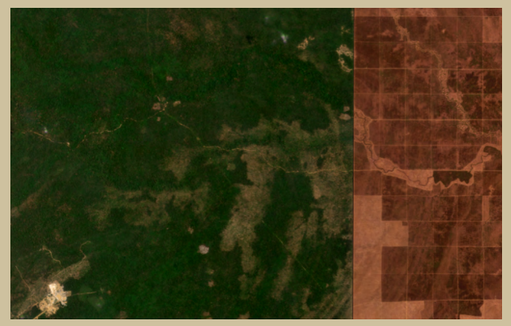
↑ Figure 9
New Road construction from Think Biotech concession in East Prey Lang Wildlife Sanctuary. April 2023. Satellite imagery from April 2023. Red-tinted area delimits the Think Biotech concession. Green is the Prey Lang wildlife sanctuary.
Coordinates of the central point are 13.01047° N, 105.87197° E. ©Planet Labs PBC, CC BY-NC-SA 2.0

A Mongabay investigation revealed a road running from a reforestation concession into the heart of Prey Lang wildlife sanctuary in Cambodia and it appears to be facilitating the illegal logging and trafficking of valuable timber (Fig.9). The road, which was first detected by satellite imagery between 6 and 9 April, measures 12km and originates in the Think Biotech concession. Although the company has been previously implicated in forestry crimes, its director denies being involved[11].

Additionally, the authors of this report revealed another new 3 km-road that was being opened from the lower part of the Think Biotech concession (Fig. 10). The new road, which has also been detected by satellite imagery, is leading towards a bigger road that intersects diagonally with the southeast part of Prey Lang wildlife sanctuary. The diagonal intersection penetrates even deeper with an 8.5 km extension that was also opened in April and passes through the KP cement concession and straight into the heart of the protected area[12]

As a consequence, the authorities carried out a crackdown[13] on 3rd May. The Kratie provincial department, in collaboration with the National Committee for Forest Crime Prevention (NCFCP), identified a private company involved in timber smuggling near the wildlife sanctuary. Although the company was not directly named, it was stated that it holds an economic land concession area, making it convenient for traders to engage in illegal logging and sell the wood to this entity.

A report from the same entity indicated that 12 people were arrested, and 328,791 cubic metres of wood were confiscated. While 11 of those arrested have been sent to court for further proceedings, activists say this was just for show and is targeting small-time loggers while the large bosses remain free. The authorities announced that the campaign would continue; however, there was no additional information about the matter or a hardcopy of the report. Finally, on 9th October, the MoE denied that any new roads had been constructed in Prey Lang wildlife sanctuary for transporting illegal logging, even though these can clearly be seen from satellites[14].



↑ Figure 10
Second road construction above KP cement in Central Prey Lang Wildlife Sanctuary. Satellite imagery is from April 2023. Red-tinted area delimits the Think Biotech concession. Green is the Prey Lang wildlife sanctuary.
Coordinates of the central point are 13.01579° N, 105.83021° E. ©Planet Labs PBC, CC BY-NC-SA 2.0

[11] Logging route cut into Cambodia's Prey Lang from Think Biotech's concession – Mongabay, 5 October 2023

[12] Prey Lang Quarterly Update #9 and #10, 16 October 2023

[13] Private company found to be involved in Prey Lang illegal logging – Khmer times, 5 May 2023

[14] Ministry dismisses wildlife sanctuary logging allegations, road construction – Phnom Penh Post, 9 October 2023

Mining Operations in Prey Lang Wildlife Sanctuary

↑ Figure 11
Reporting mining activities in O'Paav area close to Srae Pring village, Kampong Thom on 16 September 2023

In October 2023, a new report was published documenting the gold mining operations in Prey Lang wildlife sanctuary. The report was conducted by the Prey Lang Gold Mining investigation team and released by the Swiss environmental organization Bruno Manser Fonds[15].

The report traces the evolution of gold mining in Prey Lang wildlife sanctuary from primarily small-scale artisanal mining in the vicinity of Snang An village and Phnom Chi Mountain to large-scale commercial operations. Late Cheng Mining Development Company (Late Cheng) was awarded an exploratory licence in March 2020 spanning 15,100 hectares (37,300 acres) of Prey Lang wildlife sanctuary, and an extraction licence in September 2022. However, locals say the company has been operating without the relevant licence since 2019 Allegations also suggest that the mining operation may be violating multiple laws, with no public environmental impact assessment available to justify its activities[16].

Although, the legality of gold mining operations in wildlife sanctuaries may possibly be sanctioned by an Environmental Impact Assessment, this is clearly inadequate given the environmentally destructive activities that are taking place inside the Late Cheng concession. Cyanide, a substance that is being used to extract gold from the mine, poses clear and well known environmental and human health risks, and there are unverified rumours of worker fatalities and poor labour conditions at the mine, raising questions about worker safety and company practices[17]. The mining operations are threatening endangered species such as the gaur and pileated gibbon, which rely on the sanctuary's old-growth forests . Finally, the development of the Late Cheng mine concession area has required the clearance of hundreds of hectares of forest and the construction of access roads, opening up the PLWS to further human encroachment and habitat fragmentation.

The expansion has restricted village access, raised fears of property destruction, and led to accusations of government collusion with the mining company[18].

In response, Prime Minister Hun Manet has agreed to a moratorium on new mining licences in the Prey Lang wildlife sanctuary, following a request from the Minister of Mines and Energy, Keo Rattanak[19]. However, despite the moratorium, companies with existing permits can continue operations within their sites. Among them are Global Green (Cambodia) Energy Development, which is connected to Try Pheap. The company of this prominent tycoon (who was previously connected with illegal logging operations and was hit by U.S. sanctions in 2019) has been awarded 28,000 ha in the northern province of Preah Vihear for the purpose of mining iron ore[20].

[15] Large-scale gold mining threatens Cambodian Wildlife Sanctuary – Bruno Manser-Fonds, October 2023

[16] Chinese gold miners 'illegally' tearing up Cambodian wildlife sanctuary – Mongabay, 7 December 2023

[17] Expanding Gold Mine Diverts Stream in Prey Lang Wildlife Sanctuary – CamboJA News, 20 October 2023

[18] Report: Gold Mining Company Harming Cambodian Wildlife Sanctuary – VOA news, 28 October 2023

[19] PM agrees to Prey Lang mining moratorium, says Rattanak-Khmer Times, 23 November 2023

[20] Sanctioned timber baron wins new mining concessions in Cambodia's Prey Lang – Mongabay, 23 January 2024

» COMMUNITY MONITORING ON THE GROUND

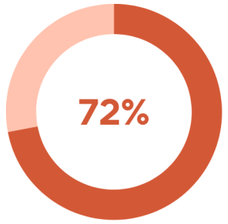
PLCN

↑ **Figure 12**
Preah Vihear communities during forest monitoring. 12 April 2023

Founded around 2000, the **Prey Lang Community Network (PLCN)** is a coalition of local communities surrounding the Prey Lang wildlife sanctuary. Its main goal is to document and combat illegal logging and other forest crimes. PLCN has earned international acclaim for its outstanding conservation efforts and has received numerous prestigious environmental awards. However, despite their significant accomplishments, **PLCN members face ongoing harassment and arrests by the authorities.** In 2020, officials banned PLCN from conducting forest patrols within the sanctuary, leading to a dramatic increase in illegal logging activities.

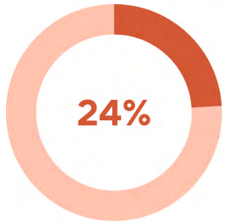
Despite challenges related to access and customary use, the Prey Lang communities have shown increased involvement in monitoring the wildlife sanctuary.

In 2023, PLCN recorded a total of 8,428 events, an increase of nearly 130% on the previous year (Fig. 13). Key points include:



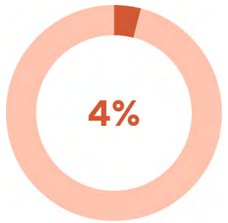
The “Resources” category

made up some 72% (6,039 entries) of the total monitoring. The most significant findings were luxury trees (3,426 entries) and resin trees (955 entries). Non-Timber Forest Products (NTFPs) were reported 1,329 times. Animals (537 entries) and sacred places or ceremonial sites such as burial grounds and ordained trees (108 entries) were less frequently reported (Fig. 15).



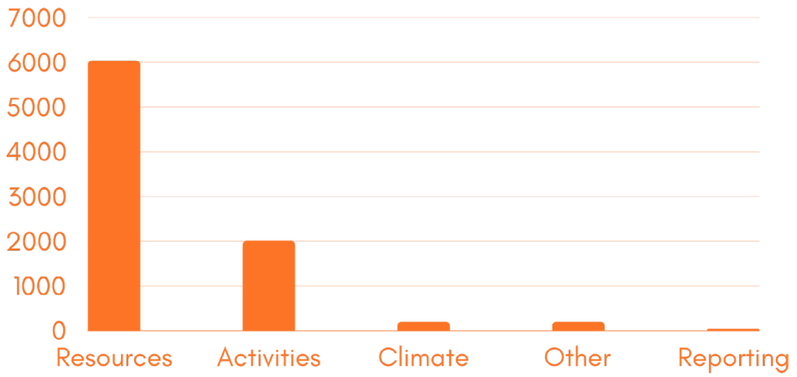
The “Activities” category

accounted for approximately 24% (2,010 entries) of the total monitoring entries for the year, nearly double compared to the previous year. Over 95% of these entries related to illegal logging, while the remaining 5% of the records on illegal activities involved mining within the wildlife sanctuary (20 entries), Economic Land Concession (ELC) plantations (12 entries), and illegal hunting, guns, and traps (35 entries). **Reports in the “Activities” category indicated 1,016 instances of single stumps of luxury wood, and 414 entries concerning the transport and storage of illegal timber. Additionally, there were 229 records of forest clearing and 270 entries of stored planks (Fig.14)**.



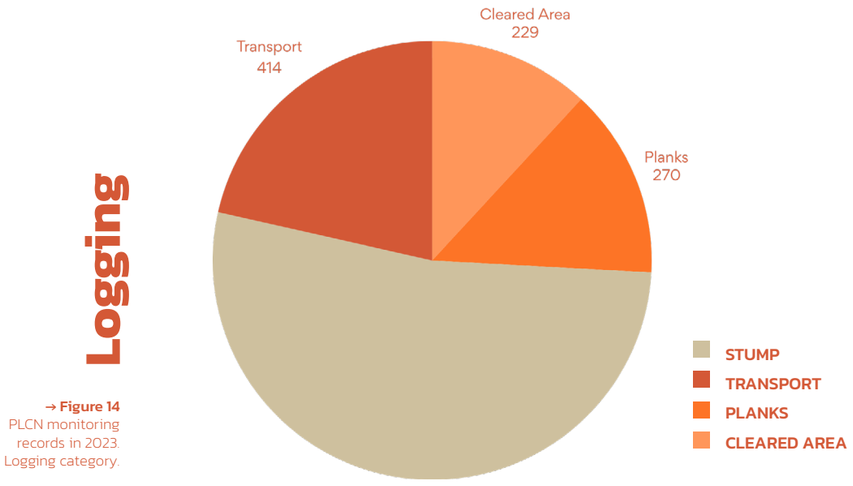
The remaining categories

made up 4% of the total monitoring activity. Patrollers reported 168 climate-related entries, including storms, fires, and changes in the local landscape, as well as 168 PLCN activities such as workshops and patrol photos. Additionally, there were 43 entries documenting interactions between patrollers and the authorities, some of which involved intimidation and threats towards patrol members by these latter.



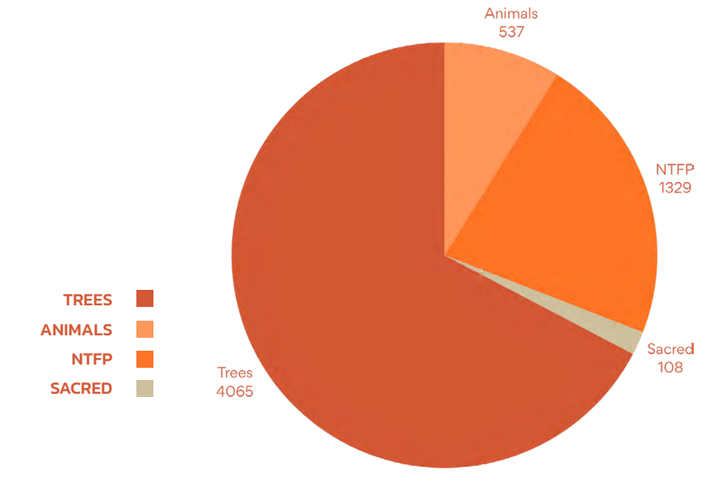
Main

← Figure 13
PLCN monitoring records in 2023. Main categories.



Logging

→ Figure 14
PLCN monitoring records in 2023. Logging category.



Resources

← Figure 15
PLCN monitoring records in 2023. Resources category.

↑ Figure 16
Reporting transport of timber in Kratie province, 14 September 2023

» COMMUNITY MONITORING ON THE GROUND

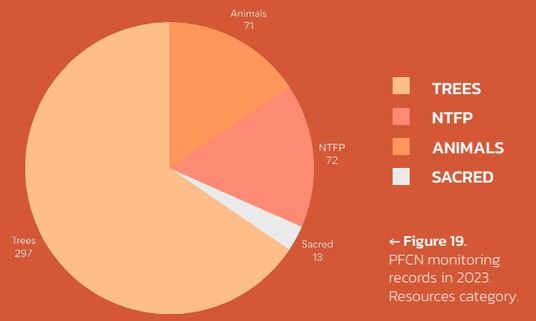
↓ Figure 17
Preah Rokar communities during a patrol.
2nd June 2023

PFCN

The **Preah Rokar Forestry Community Network (PFCN)** is a coalition of 22 villages, home to around 20,000 villagers who depend on the Preah Rokar forest for their livelihoods. This network includes both Kuy and non-Kuy Indigenous People, all dedicated to protecting the Preah Rokar wildlife sanctuary. They regularly conduct forest patrols to document forest loss, biodiversity changes, and the impacts of climate change. Additionally, the patrollers frequently intercept and confiscate illegal logging activities.

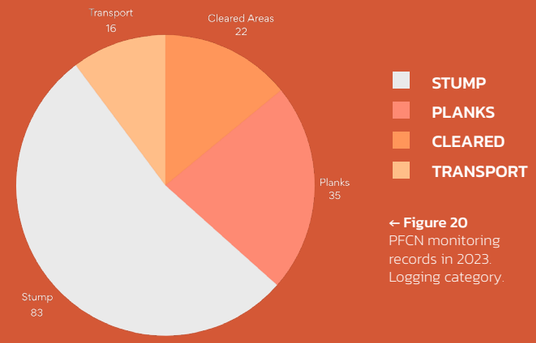
In 2023, PFCN and its subgroup PKH recorded 734 entries: (Fig.22):

Resources

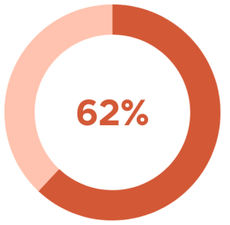


← Figure 19.
PFCN monitoring records in 2023. Resources category.

Logging



← Figure 20
PFCN monitoring records in 2023. Logging category.



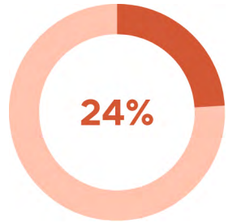
The "Resources" category

62% (453 entries) were related to resources. As noted in previous reports, the primary monitoring category for PFCN is resin trees (220 entries), which are crucial for their survival. They also recorded non-timber forest products (72 entries), animals encountered by the communities (71 entries), and sites of sacred significance (13 entries) (Fig.19).

↑ Figure 21
Reporting a single stump in Preah Rokar wldlife sanctuary, 29 July 2023

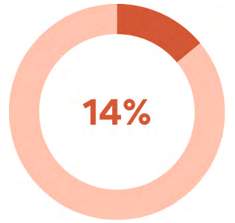
The "Activities" category

This category accounted for 24% of the monitoring entries in 2023 (178 entries), with the majority (87%) related to illegal logging. This included single stumps of luxury wood (83 entries), planks left on site (35 entries), and cleared areas (22 entries), while the transport of illegally felled timber was less frequently reported (16 entries) (Fig.20).

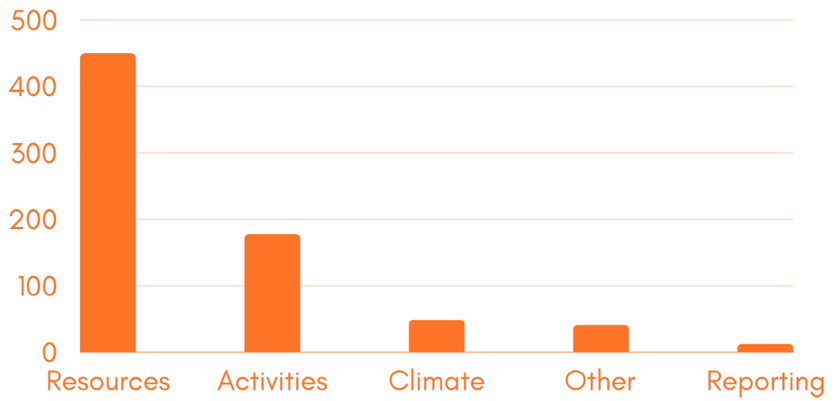


The remaining categories

14% of entries were on climate-related events (49 entries), other categories (41 entries), and reports of positive interactions with the authorities (13 entries).



Main



← Figure 22
PFCN monitoring records in 2023. Main categories.

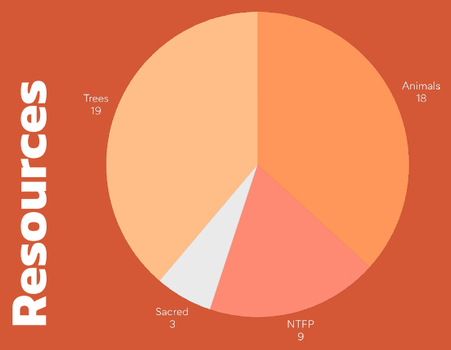
» COMMUNITY MONITORING ON THE GROUND

↑ **Figure 23**
Monks encounter a snake during their patrol.
25 October 2023

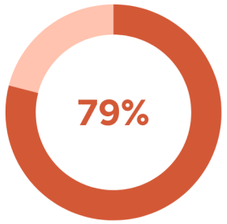
MCF

The **Monk Community Forest (MCF)** patrols the Sorng Rokha Vorn wildlife sanctuary to monitor and deer illegal activities. Leveraging the respected status of monks in this predominantly Buddhist country, the community has fostered positive relationships with both local and provincial authorities. Through their dedicated environmental protection efforts, MCF directly supports around 4,000 people who rely on the forest for their livelihoods.

Although MCF's usage is less than other forestry networks, they managed to more than double their recorded entries in 2023 compared to 2022, reaching 62 entries (Fig.26).



↑ **Figure 24**
MCF monitoring records in 2023.
Resources category.



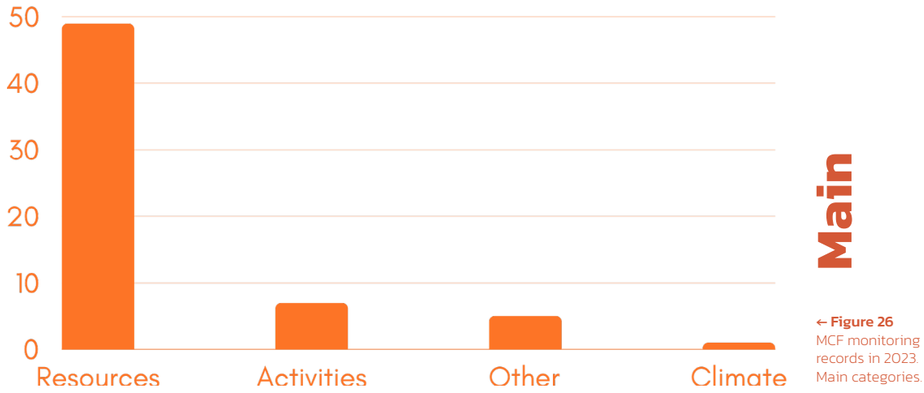
The "Resources" category

Of these, 79% (49 entries) were related to resources (Fig.24). This included 19 entries for luxury and resin trees, 18 entries for animals, 9 entries for non-timber forest products, and 3 entries for sacred sites around their main pagoda.

The "Activities" category

The remaining 7 entries were related to activities, including 4 entries for stumps found on site, 2 entries for cleared areas under the illegal logging category, and 1 entry for illegal fishing.

← **Figure 25**
Reporting single stump in Sorng Rokha Vorn wildlife sanctuary,
01 November 2023



← **Figure 26**
MCF monitoring records in 2023.
Main categories.

» BIODIVERSITY / RESOURCES

In recent years, the global community has increasingly recognized the critical importance of biodiversity for the health of our planet and the well-being of its inhabitants. This recognition was prominently highlighted at the 15th Conference of the Parties (COP15) to the Convention on Biological Diversity, held in Montreal, Canada in December 2022. The conference culminated in the adoption of the Kunming-Montreal Global Biodiversity Framework, which sets ambitious targets to halt and reverse biodiversity loss by 2030.

Indigenous communities and networks such as the PLCN, PFCN and MCF possess deep knowledge of their local ecosystems and have long practised sustainable management of natural resources. New research highlights – once more– that deforestation in areas protected by Indigenous communities is up to 83% lower compared to unprotected areas[21]. Their involvement is crucial for the success of biodiversity initiatives, as they are the stewards of the most biodiverse regions. However, the same research has also revealed that Indigenous communities have the lowest levels of socioeconomic development[22].

Incomes in Indigenous territories are up to 36% lower compared to other land uses[21]. Enhancing the economic well-being of Indigenous communities is not only a matter of social justice but also an environmentally sound strategy. Research in Nepal has demonstrated that communities with greater socioeconomic development are less inclined to sacrifice forests for development . Empowering these communities to protect and conserve their local forests while improving their economic well-being can create a mutually beneficial situation for both people and the environment.

In alignment with these global efforts, this year's report places a thematic focus on biodiversity.

This decision reflects our commitment to understanding and preserving the rich biological diversity that these forests harbour. By examining the most reported species—ranging from edible, medicinal and construction non-timber forest products (NTFPs) to luxury trees and animals—we aim to highlight the intricate connections between local conservation efforts and global biodiversity goals. All the information about the uses of the plants and trees is taken from the newly published book "Gifts from Nature" that is a result of multiple years of research in Prey Lang highlighting the knowledge of Indigenous Kuy and Khmer communities[23].

[21] den Braber, B., Oldekop, J.A., Devenish, K. et al. Socio-economic and environmental trade-offs in Amazonian protected areas and Indigenous territories revealed by assessing competing land uses. Nat Ecol Evol (2024). https://doi.org/10.1038/s41559-024-02458-w

[22] Oldekop, J.A., Sims, K.R.E., Karna, B.K. et al. Reductions in deforestation and poverty from decentralized forest management in Nepal. *Nat Sustain* 2, 421–428 (2019). https://doi.org/10.1038/s41893-019-0277-3

[23] Turreira-García, N. & Argyriou, D. 2023. Gifts from nature: ethnobotanical knowledge of Kuy and Khmer people in Prey Lang Forest. pp. 332. ISBN: 9789924986805

Most Reported Edible Non-Timber Forest Products

Paav (ផ្ការ៉) *Licuala spinosa Wurmb* is a shrub of the Arecaceae family that is found mainly in deciduous forest but also in primary evergreen dipterocarp forest and short semi-evergreen forest. The stem tastes bitter but it is a very healthy product. The young leaves are eaten in a sour soup and in many traditional dishes. It also has an edible fruit. The mature leaves are strong and are used to wrap sticky rice to make Khmer cakes.

↑ **Figure 27**
The Paav (ផ្ការ៉) *Licuala spinosa Wurmb* shrub

Tunsae (ទន្សែ) *Caryota mitis Lour.*, also known in Prey Lang as Ansae (អន្សែ) and Chongsae (ចុងអន្សែ),), is a treelet of the Arecaceae family that is found in primary evergreen dipterocarp forest but also in short semi-evergreen forest and in deciduous forest. Tunsae was one of the most reported species from communities in Prey Lang in the edible NTFPs category as the young leaves can be eaten fresh with prahok (a traditional fermented fish paste), while the stem is also edible. Tunsae's bark also has medicinal properties: when ground it can be applied to the belly button against high fever. Tunsae's wood is also good for planks and used in construction.

← **Figure 29**
The Tunsae (ទន្សែ) *Caryota mitis* Lour

Pdao (ផ្តៅ) *Calamus viminalis Willd.* is a climbing rattan of the Arecaceae family found in deciduous forest, primary evergreen dipterocarp forest but also the short semi-evergreen forest. The plant is one of the most reported in the edible category as the young leaves, shoots and fruits are edible. The plant is used to make baskets, furniture, and to produce rope to tie beams. It also has medicinal uses. A tea made from the root is used to treat fever (including malaria), stomach aches and for recovery after childbirth.

→ **Figure 28**
The Pdao (ផ្តៅ) *Calamus viminalis Willd.* rattan

↑ **Figure 30**
The Saom (ស្វាម) *Daemonorops jenkinsiana (Griff.) Mart* palm

Saom (ស្វាម) *Daemonorops jenkinsiana (Griff.) Mart* is a climbing palm of the Arecaceae family found in swamp forest and also in primary evergreen dipterocarp forest. The plant was among the most reported in the edible NTFP category as it has edible fruits and the shoots can be used in soup. The stem of the plant is also used in furniture and for baskets while the fibre is used to make rope. The leaves are used in houses to thatch roofs and to weave floor mats.

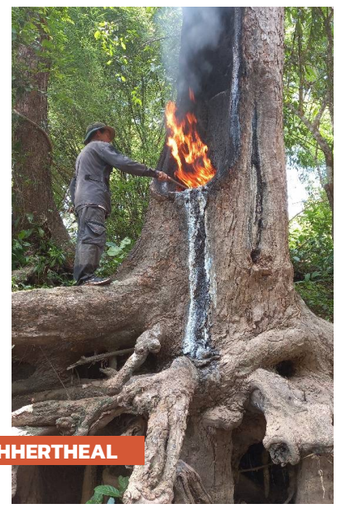
Most Reported Non-Timber Forest Products used for crafts

→ Figure 31
The characteristic stem of Chnuo (ឆ្នូ) *Myrialepis paradoxa (Kurz)* J. Dransf

Chnuo (ឆ្នូ) *Myrialepis paradoxa (Kurz) J. Dransf.* is a climbing rattan of the Areacaceae family that is found in deciduous forest but also in primary evergreen dipterocarp forest. The plant was the most reported of the NTFPs used for crafts as the fibres from the vine are used to make trays with which to clean rice, baskets, mats, rope and furniture. The leaves of the plant are used to thatch roofs.

→ Figure 32
The flower of Smarch (ស្នាច់) *Syzygium zeylanicum (L.)* DC

↑ Figure 33
Canisters full of resin



↑ Figure 34
The Chhertheal (ឈើទាល) *Dipterocarpus alatus Roxb. & G.Don* tree

Smarch (ស្នាច់) *Syzygium zeylanicum (L.) DC* is a tree of the Myrtaceae family that can be found in deciduous forest, in primary evergreen dipterocarp forest but also in short semi-evergreen forest and Sralao forest. Smarch was among the most reported in the crafts category as the wood is used for building huts and fences as well as for firewood. Smarch was also among the most reported in the edible category as the young leaves can be eaten raw, as can the fruits. Additionally, it also has medicinal uses. A tea made from the bark is used to treat diarrhoea, while a tea made from the bark and wood is used for post-partum recovery.

Resin yielded from certain tree species is considered one of the most important Non-Timber Forest Products, not only in Cambodia but across Southeast Asia. The resin is collected from a tap cut in the trunk of large resin trees and the resin flow is stimulated by a brief fire inside the tap-hole. Because of the heat the resin will run into the tap over the following days. Thereafter the resin is collected in containers and sold to traders passing by the villages. Many forest-adjacent communities rely highly on resin extraction.

Chhertheal (ឈើទាល) *Dipterocarpus alatus Roxb. & G.Don*, is a tree of the Dipterocarpaceae family and is the most abundant resin tree and also the tree that can produce the largest amounts of resin. Many families living in and around Prey Lang and Preah Rokar wildlife sanctuaries are dependent on resin to sustain their livelihoods mainly because of its ability to generate cash income throughout the whole year. The tree is also used commercially for boat caulks, varnishes and paints and some species are used as an ingredient in perfumes. Additionally, resin is domestically used as low-grade lighting.

Most Reported medicinal Non-Timber Forest Products

↓ Figure 35
The Angraedaek (អង្រែដែក) *Dracaena angustifolia (Medik.) Roxb* treelet

↑ Figure 36
The Sraomdav (ស្រាមដាវ) *Psychotria asiatica L.* shrub

Angraedaek (អង្រែដែក) *Dracaena angustifolia (Medik.) Roxb* is a treelet of the Asparagaceae family found primarily in deciduous forest and primary evergreen dipterocarp forest. The plant was the most reported in the medicinal NTFPs category as the leaves can be used to improve blood circulation when drunk in tea. When the flowers are added to the tea it can be used post-partum to boost the immune system, stimulate the appetite and milk production. The young leaves and flowers can also be eaten in soup while the stem is used to make planks for construction.

Sraomdav (ស្រាមដាវ) *Psychotria asiatica L* is a shrub of the Rutaceae family that is found in short semi-evergreen forest. The root of the plant is used in an infusion mixed with other potent medicinal plants and is drunk mainly post-partum to stimulate appetite and milk production. The bark is also used as incense.

Angtongsor (អន្ទង់ស) *Eurycoma longifolia Jack* is a treelet of the Simaroubaceae family that is found in deciduous forest, primary evergreen dipterocarp forest, short semi-evergreen forests, as well as in Sralao forest. This is a widely used medicinal plant that has many medicinal uses. When the bark and the wood are prepared as a cold infusion, it can be drunk to treat backache and to stimulate the appetite. The root of the plant can be boiled and drunk as a hot tea for post-partum recovery, specifically to aid the contraction of the uterus. The bark of the plant can also be dried and smoked either to treat nose bleeds or smoked instead of tobacco.

↑ Figure 37
The Angtongsor (អន្ទង់ស) *Eurycoma longifolia Jack* treelet.

Daiklar (ដៃខ្លា) *Gardenia angkorensis Pit*, is a treelet of the Rubiaceae family that is found in deciduous forest. A tea made from the bark and wood of the tree is drunk to treat fever.

← Figure 38
The Daiklar (ដៃខ្លា) *Gardenia angkorensis Pit* treelet.

Most Reported trees in the Luxury timber

This category contains trees that are primarily known for their durable wood and hence used primarily in (house) construction. As a result these species are distinctively targeted from illegal loggers and many of them are considered endangered.

↑ Figure 39
The Sralao (ស្រឡៅ) *Lagerstroemia calyculata Kurz* tree

Sralao (ស្រឡៅ) *Lagerstroemia calyculata Kurz* is a tree of the Lythraceae family and forms dense stands, giving the name to a particular forest type: the Sralao forest. As such it was the most reported species in this category. The wood is hard and heavy and is used as construction timber in housebuilding but is also good for firewood. **The tree also has medicinal properties**. A tea made from the bark is drunk to treat diarrhoea. The sap can be applied to wounds to aid healing. The young leaves can also be eaten raw.

Pdeak (ផ្ដៀក) *Anisoptera costata Korth* is a tall tree of the Dipterocarpaceae family that is found in primary evergreen dipterocarp forest and short semi-evergreen forest. The wood is **used for house construction, posts and planks**. It is fairly resistant to termites but susceptible to fungi and dry woodborers.

Chombork (ចំបក់) *Irvingia malayana Oliv. ex A.W.Benn* is a tree of the Irvingiaceae family that is found in primary evergreen dipterocarp forest but also in short semi-evergreen forest, and in Sralao forest. The wood is very hard but not termite-resistant. It is used for **general construction purposes, fuel and makes excellent charcoal**. The tree has also **medicinal properties** as the bark can be infused in cold water to treat fever. A tea made from the bark and wood can be drunk for infected skin and swollen body parts. The tree also has an edible fruit.

↓Figure 40
The Pdeak (ផ្ដៀក) *Anisoptera costata Korth* tree.

→ Figure 41
The Chombork (ចំបក់) *Irvingia malayana Oliv. ex A.W.Benn* tree

KORKOH

Korkoh (កកោះ) *Sindora siamensis Miq.* is a tree of the Fabaceae family that can be found in primary evergreen dipterocarp forest, short semi-evergreen forest and Sralao forest. The wood of the tree is strong and durable, resists attacks from termites and is easy to process. It is excellent for planks, construction posts, framework, furniture and boats. The bark can also be added as a flavour to rice wine. The tree also as an edible fruit.

↑ **Figure 42**
The Korkoh (កកោះ) *Sindora siamensis Miq* tree.

KNORPREY

Knorprey (ខ្នុរព្រៃ) *Artocarpus chama Buch.-Ham* is a tree of the Moraceae family, found in primary evergreen dipterocarp forest and in Sralao forest. The wood is used for house construction in the form of posts and planks and also for furniture. The bark and wood are chopped into small pieces, boiled in water, and drunk as a tea or infused in cold water and showered in to cure skin infections and rashes.

↑ **Figure 43**
The fruit of Knorprey (ខ្នុរព្រៃ) *Artocarpus chama Buch.*-Ham

PCHEK

Pchek (ផ្ចឹក) *Shorea obtusa Wall. ex Bl.* is a near threatened tree of the Dipterocarpaceae family that is found in deciduous forest. The wood is good for house construction, posts, and planks. The bark of the tree is used to make a tincture together with bark from other trees to reduce bruising.

← **Figure 45**
Leaves of Pchek (ផ្ចឹក) *Shorea obtusa Wall. ex* Bl.

TRACH

Trach (ត្រាច) *Dipterocarpus intricatus Dyer.* is a tall, endangered tree of the Dipterocarpaceae family that can be found in the deciduous forest, in primary evergreen dipterocarp forest, in short semi-evergreen forest, and also in Sralao forest. As with all the previous species, the wood is used as timber in construction but liquid resin can also be extracted. Additionally, it also has medicinal properties: a tea made from the root can be drunk to treat poisoning; a tea from the bark to treat a bloody cough; and the water from the trunk can be drunk to treat diarrhoea and parasites.

← **Figure 44**
The Trach (ត្រាច) *Dipterocarpus intricatus Dyer* tree

PORPAEL

Porpael (ពពេល) *Shorea roxburghii G. Don* is a tree of the Dipterocarpaceae family that is found in primary evergreen dipterocarp forest, in deciduous forest and in Sralao forest. The wood is used for boat and house construction, posts and planks. The bark is fermented in palm juice to sweeten the drink.

→ **Figure 46**
The Porpael (ពពេល) *Shorea roxburghii G. Don* tree

Most Reported animal species

The **Wild boar** (ជ្រូកព្រៃ), *Sus scrofa* can be found in various habitats, including forests and agricultural areas. They were the most reported animal species encountered by the communities of Prey Lang, Preah Rokar and Sorng Rukhavorn wildlife sanctuaries. Wild boars play a crucial role in the ecosystem by tilling the soil, encouraging plant life and dispersing seeds. Diseases such as African swine fever have had a significant impact on wild pig populations in Cambodia, posing a significant risk to their numbers[24]. Their population declined 18% over the 2010-2020 period, according to a recent study from the Ministry of Environment and World Wide Fund for Nature[25]. They are also prey to bigger cats such as leopards which, according to studies, are on the brink of extinction[26].

↑ **Figure 47**
Traces of wild boar (ជ្រូកព្រៃ), *Sus scrofa* spotted in Kratie province, 21 October 2023

→ **Figure 48**
Traces of Muntjac deer *(ឈ្លូស) Muntiacus muntjac* spotted in Kratie province on 3 August 2024

↑ **Figure 49**
Traces of the Sambar deer *(ប្រើស) Cervus unicolour spotted* in Stung Treng province on 8 September 2022

The **Sambar deer** (ប្រើស) *Cervus unicolour*, is a large deer species native to southern and Southeast Asia that can be found in dense forests, grasslands, and near water sources[27]. Similar to the smaller **Muntjac deer** (ឈ្លូស) *Muntiacus muntjac*, which was also among the most reported animals in Preah Rokar wildlife sanctuary, they prefer habitats with thick vegetation that provides cover from predators. Both herbivore species are known to be solitary or live in small groups[28]. They are also primarily nocturnal, being most active during the night, and are preyed upon by large predators such as big cats and leopards. Muntjac is also known as the "barking deer" a name that comes from their tendency to cry out when they sense a nearby threat, releasing a low, barking 'dog-like' call in an effort to scare off any would-be predators. According to the aforementioned study, Muntjac populations in Cambodia have decreased more than 50% over the decade 2010-2020[25].

The **Asian Elephant** (ដំរី) *Elephas maximus*, inhabits a variety of environments, including tropical evergreen forests, semi-evergreen forests, and grasslands[29]. They are the largest living land animals in Asia. They have a distinctive long trunk, large ears, and males typically have tusks. They can weigh up to 4 tonnes and stand some 2.7 metres tall at the shoulder. These herbivores can eat up to 150 kg of vegetation per day and they will eat for almost 20 hours a day[30].

← **Figure 50**
Traces of The Asian Elephant *(ដំរី) Elephas maximus* spotted in Kratie province on 26 November 2023

The **Banteng** (ទន្សោង), *Bos javanicus*, is found in various habitats, including open deciduous forests, semi-evergreen forests, and grasslands. Banteng are similar in size to domestic cattle, standing up to 1.65 metres tall and weighing up to 800 kg. These herbivores are classified as endangered on the IUCN Red List. Their population declined more than 70% over the 2010-2020 period, according to the aforementioned study from the Ministry of Environment and the World Wide Fund for Nature[25].

← **Figure 51**
Traces of the Banteng *(ទន្សោង), Bos javanicus* spotted in Preah Vihear province, 14 January 2023

The **Long-tailed macaque** (ស្វាក្តាម) *Macaca fascicularis*, is a primate species that has been among the most reported in the three wildlife sanctuaries. They are found in various habitats, including forests, mangroves, and sometimes even urban areas. These omnivores are highly adaptable and can thrive in diverse environments[31]. These macaques are known for their long tails, which are often longer than their bodies. They have a greyish-brown coat and a lighter underside and they are known for their intelligence as they have been observed using tools to obtain food.

↑ **Figure 52**
Traces of The Long-tailed macaque *(ស្វាក្តាម) Macaca fascicularis* spotted in Kratie province on 19 October 2023

In November 2022, several Cambodian wildlife officials and members of Vanny Resources Holdings primate supply company were charged with illegally exporting these endangered macaques.

Top executives at the Hong Kong-based company worked with black market dealers and corrupt officials in Cambodia, among them Keo Omaliss, the Director General of the Cambodian Forestry Administration, Ministry of Agriculture, Forestry and Fisheries. The scheme obtained wild-caught macaques and "laundered them" through Cambodian breeding facilities to conceal that they were taken from national parks and protected areas, according to the indictment[32]. The main suspect, Kry Masphal, director of the Cambodian Forestry Administration's Department of Wildlife and Biodiversity, had been detained since then but was finally acquitted by the U.S. court in March 2024 despite all the evidence[33]. The ministry statement following the release of Masphal noted that the case had "no evidence" although he was a caught on a video[34] evidencing his involvement. People for the Ethical Treatment of Animals (PETA) released a statement that reads, "Regardless of the verdict, the evidence showed that countless monkeys were abducted from their forest homes and laundered with dirty paperwork"[35]. The long-tailed macaque is listed as endangered on the IUCN Red List[36].

[24] African swine fever (ASF) situation update in Asia & Pacific - Food and Agriculture Organization of the United Nations, 5 September 2024

[25] Urgent action needed to protect ungulate species as their populations dwindled over the past decade - WWF Cambodia, 15 January 2021

[26] New Study Confirms Cambodia's Last Leopards on Brink of Extinction - Panthera, 1 March 2018

[27] Sambar - Water-loving Deer of Southeast Asia - The website of Everything

[28] Muntjac (Muntiacus muntjak) - Murray Thomas, 11 Septemebr 2019

[29] Cambodian Elephants - Mondulkiri project, 7 April 2018

[30] Indian Elephant - Jungle Dragon

[31] Long-Tailed Macaque - New England Primate Conservancy

[32] Justice Department charges 8 in alleged international monkey smuggling ring - NBC News, 16 November 2022

[33] Cambodian official acquitted in trial that exposed monkey-laundering scheme - Mongabay 29 March 2024

[34] Former Cambodian official caught on video involved in monkey smuggling case - Radio Free Asia (RFA), 6 May 2023

[35] Despite Acquittal, Smuggling Trial Offered Glimpse Into Corrupt and Cruel Business of Monkey Importation - PETA 8 March 2024

[36] Long-Tailed Macaque - Bali Wildlife

The **Asiatic black bear** (ខ្លាឃ្មុំធំ) *Ursus thibetanus*, is a medium-sized bear species native to Asia. They are found in various habitats, including forests and mountainous regions. These bears are known for their distinctive white chest patch, which often resembles a crescent moon, hence the nickname "moon bear". They have a black coat and can weigh between 60 to 200 kg[37]. They are omnivores and are also known to raid crops, which sometimes brings them into conflict with humans. Their numbers are in decline throughout Indochina and they are listed as vulnerable on the IUCN Red List[38].

ASIATIC BLACK BEAR

→ **Figure 53**
Traces of the Asiatic black bear (ខ្លាឃ្មុំធំ) Ursus thibetanus spotted in Kratie province on 18 April 2024

ASIAN PALM CIVET

↑ **Figure 54**
Traces of the Asian palm civet *(*សំពោចក្រអូប ឬសំពោចឆ្ពោត*) Paradoxurus hermaphroditus* spotted in Kratie on 19 October 2023

The **Asian palm civet** (សំពោចក្រអូប ឬសំពោចឆ្ពោត) *Paradoxurus hermaphroditus*, is a small mammal native to South and Southeast Asia. They are highly adaptable and can be found in a variety of habitats, including primary and secondary forests, plantations, and even urban areas. They are primarily nocturnal and arboreal, spending much of their time in trees. They are solitary animals, coming together only during mating periods[39]. These omnivores are known for their role in producing ***kopi luwak***, a type of coffee made from beans that have been eaten and excreted by the animal. The digestive enzymes of the civet are believed to alter the chemical composition of the beans, resulting in a distinctive flavour profile. However, the production of kopi luwak has raised significant ethical concerns. Many civets are kept in captivity under poor conditions, which can lead to health issues and high mortality rates[40]. They are listed as Least Concern on the IUCN Red List due to their wide distribution and large populations.

All the aforementioned wildlife species face similar threats that are jeopardizing their survival. One of the primary challenges is habitat loss and fragmentation[30, 41, 42, 43]. This issue is largely being driven by the growing human population's demand for luxury timber, which leads to extensive deforestation and forest degradation. Illegal timber extraction is an issue that is seen in all three wildlife sanctuaries and which further exacerbates this problem, contributing significantly to the degradation of natural habitats.

Additionally, agricultural expansion and infrastructure development, **economic land and mining concessions encroach upon forested areas, reducing the available space for wildlife to thrive**. As their habitats shrink, these animals are forced into closer proximity with human settlements, leading to increased human-wildlife conflicts. For instance, elephants may raid crops, and macaques, bears and civets may venture into villages, resulting in dangerous encounters.

Hunting and poaching also pose severe threats to these species. Many animals are hunted for their meat and horns, while others are targeted for their body parts, which are used in traditional medicine[24,38]. The pet trade and biomedical research industries also drive the capture of species such as long-tailed macaques and Asian palm civets. This illegal wildlife trade not only reduces their populations but also disrupts the ecological balance. Moreover, the widespread use of snares to capture wildlife for the illegal trade has created a crisis, further endangering these species.

SNARES

The combined effects of habitat loss, hunting, poaching, and human-wildlife conflict have led to significant declines in wildlife populations across Cambodia. Conservation efforts are crucial to address these issues and protect the country's rich biodiversity.

↑ **Figure 55**
Snares reported in Preah Rokar Wildlife Sanctuary

[37] Asiatic Black Bear – WWF Cambodia

[38] McCann G., Pawlowski K., Sinovas P., Thon S. Asiatic black bears and sun bears in Virachey National Park, Northeast Cambodia, Ursus, 2022(33e15), 1-9, (21 December 2022) https://doi.org/10.2192/URSUS-D-21-00022.1

[39] Asian Palm Civet – Animal Diversity Web

[40] Exotic Coffee Brew from Park's Civet Cousins – Cambodianess, 16 November 2023

[41] Muntjac Deer 101 – Deer Donkey

[42] Southeast Asian wild pigs confront deadly African swine fever epidemic – Mongabay 12 February 2021

[43] First Confirmation of Endangered Banteng in Cambodia's Cardamom Mountains – Wild Earth allies, 1 May 2024

» CONNECTING LOCAL FINDINGS TO THE GLOBAL BIODIVERSITY FRAMEWORK

The Kunming-Montreal Global Biodiversity Framework (GBF), established at COP15, represents a pivotal moment in global environmental governance. This framework aims to halt and reverse biodiversity loss by 2030, setting ambitious targets that address the root causes of biodiversity decline.

The significance of GBF COP15 lies in its comprehensive approach, which incorporates conservation, sustainable use, and the equitable sharing of benefits. By fostering international cooperation and emphasizing the role of Indigenous and local communities, the GBF seeks to create a sustainable future where biodiversity thrives, ecosystems are resilient, and human well-being is enhanced. The four goals and twenty-three targets set out in this framework form a roadmap towards a harmonious coexistence with nature, ensuring that the benefits of biodiversity are enjoyed by all. Keeping this in mind, the following section explores how community efforts are integral to this roadmap towards sustainability.

↑ Figure 56
Communities of Kratie province during their monitoring activities. 18 October 2023

Community monitoring of illegal activities

The **monitoring activities** conducted by the communities of Prey Lang Community Network (PLCN), Preah Rokar Forest Community Network (PFCN) and Monks Community Forest Network (MCF) address several key targets of the GBF established at COP15. By documenting and combating illegal logging and other forest crimes, the community networks are supporting **Target 5**, which aims to ensure the sustainable, legal use of wild species.

The significant increase in monitoring events, particularly those related to illegal logging and the protection of luxury and resin trees, aligns with **Target 3** to conserve at least 30% of the world's land areas. Additionally, the involvement of local communities in these efforts highlights the importance of **Target 22**, which emphasizes respect for Indigenous knowledge and practices and the effective participation of Indigenous Peoples and local communities in decision-making processes. It furthermore contributes to **Target 21** that ensures that the best available data are available to decision makers with a special focus on traditional knowledge of Indigenous Peoples.

The documentation of climate-related events and interactions with authorities further supports **Target 11**, which focuses on maintaining and enhancing ecosystem resilience and the provision of ecosystem services. Despite facing harassment and restrictions, the dedication of community members exemplifies the critical role that local and Indigenous communities play in achieving global biodiversity conservation goals.

However, the **illegal logging activities** uncovered in the wildlife sanctuaries highlight severe breaches of COP15 targets

The felling of hundreds of trees and the clearing of dense forests directly undermine efforts to conserve 30% of the world's land areas (Target 3) and ensure the sustainable, legal use of wild species (Target 5). These activities also exacerbate climate change impacts (Target 8) and conflict with sustainable forestry management goals (Target 10).

Moreover, the **authorities' denial of the severity of these issues** compromises the rights and involvement of Indigenous communities in conservation efforts (**Targets 22**), who are crucial stewards of these biodiverse regions and also compromises that the best available information are accessible to the public, to guide equitable governance (**Target 21**).

Moreover, the **construction of new roads by Think Biotech**, facilitating illegal logging in Prey Lang wildlife sanctuary, poses significant threats to biodiversity and Indigenous communities. These roads hinder ecosystem restoration efforts (**Target 2**) and reduce the area of protected lands (**Target 3**). The illegal logging and trafficking of timber violate the sustainable and legal use of wild species (**Target 5**) and contribute to climate change impacts (**Target 8**). Additionally, the disruption of ecosystems and loss of biodiversity services compromise ecosystem resilience (**Target 11**). The activities also undermine the rights and traditional territories of Indigenous Peoples (**Targets 22**), who rely on these forests for their livelihoods and cultural practices.

The **gold mining operations** in Prey Lang wildlife sanctuary present multiple challenges to biodiversity conservation and Indigenous communities. The clearance of hundreds of hectares of forest for mining hinders ecosystem restoration (**Target 2**) and undermines the conservation of protected areas (**Target 3**).

↑ Figure 57
Communities of Preah Vihear province monitor illegal logging activities. 26 December 2023

The use of harmful substances such as cyanide poses significant pollution risks to biodiversity (**Target 7**) and exacerbates climate change impacts (**Target 8**). These activities threaten endangered species and disrupt ecosystem services, compromising ecosystem resilience (**Target 11**). Furthermore, the lack of public environmental impact assessments and potential legal violations undermine respect for Indigenous knowledge and practices (**Target 14**). The expansion of mining operations also infringes on the rights and territories of Indigenous communities (**Targets 22**), who are essential partners in biodiversity conservation.

Biodiversity monitoring

The sustainable management of **crafts, edible, and medicinal NTFPs** in the wildlife sanctuaries of Cambodia aligns with several key targets of the GBF. By ensuring that the use, harvesting, and trade of these wild species are sustainable and legal (**Target 5**), local communities can benefit from the equitable sharing of genetic resources (**Target 9**). Additionally, promoting sustainable forestry practices (**Target 10**) supports the broader goal of managing agricultural and forestry areas sustainably, contributing to both biodiversity conservation and community well-being.

↑ **Figure 58**
Communities of Kratie province harvest mushrooms

↑ **Figure 59**
A fallen tree as a result of a thunderstorm. These kind of extreme climate events are more prevalent than ever. Recorded in Preah Rokar wildlife sanctuary on 3 June 2023

Protecting and restoring habitats for luxury timber trees addresses multiple targets of the COP15 agreement.

Efforts to restore degraded ecosystems (**Target 2**) and conserve significant land areas (**Target 3**) are crucial for maintaining these valuable and mostly endangered species. Furthermore, sustainable management practices help mitigate climate change impacts (**Target 8**) by preserving forest cover and enhancing carbon sequestration, thereby supporting both environmental and economic objectives.

Conservation efforts aimed at **protecting animal species** are directly linked to several COP15 targets. Reducing the rate of species extinction (**Target 4**) and minimizing the impact of invasive species (**Target 6**) are essential for maintaining biodiversity. Additionally, protecting animal species enhances ecosystem resilience and the provision of vital ecosystem services (**Target 11**), such as pollination and seed dispersal, which are critical for the health of both natural and human systems.

Future Plans

The **Cambodian government's initiatives** in response to the COP15 targets focus on several key objectives outlined in the Kunming-Montreal GBF. Specifically, Cambodia aims to achieve Target 3, which mandates that

at least 30% of terrestrial and inland water areas be effectively conserved and managed by 2030.

This aligns with their recent expansion of protected areas and the establishment of the Circular Environmental Strategy (CES) 2023-2028, which emphasizes sustainable management and community involvement in conservation efforts. Additionally, the government is addressing **Target 2**, which calls for the restoration of at least 30% of degraded ecosystems by 2030. This is reflected in their commitment to increase forest coverage to 60% by 2050 through reforestation and sustainable practices.

However, these positive measures are counterbalanced by **concerns regarding the effectiveness of the enforcement and management of newly designated areas, particularly in the light of ongoing illegal logging and resource exploitation.** This contradiction highlights the challenge of translating ambitious targets into tangible outcomes, as the government's plans will need to overcome significant implementation hurdles to ensure genuine progress in biodiversity conservation and ecosystem restoration.

← **Figure 60**
Communities of Preah Rokar wildlife sanctuary save saplings of endangered species from vulnerable areas to replant them

The **involvement of Indigenous and local communities** in biodiversity conservation is a cornerstone of the Kunming-Montreal Global Biodiversity Framework. Respecting and utilizing the knowledge and practices of these communities (**Target 22**) ensures that conservation efforts are culturally appropriate and effective. Moreover, promoting their participation in decision-making processes (**Target 23**) fosters equitable and inclusive conservation strategies, recognizing the indispensable role that Indigenous Peoples play in safeguarding biodiversity.

In conclusion, the efforts of communities such as the Prey Lang Community Network, Preah Rokar Forest Community Network, and Monk Community Forest exemplify the critical role that local and Indigenous communities play in achieving global biodiversity conservation goals.

Their dedication to monitoring and combating illegal activities, despite facing significant challenges, underscores the importance of community involvement in environmental stewardship. As we strive towards a sustainable environment for all, it is essential to recognize and support the invaluable contributions of these communities, ensuring that their voices are heard and their rights respected. Together, we can work towards a future where biodiversity is preserved, ecosystems are resilient, and the well-being of all communities is safeguarded.

» STATEMENT FROM THE COMMUNITIES

Statement on

Illegal Logging, Forest Clearing, Wildlife Hunting, the Use of Homemade Guns, and Mining Concessions in Prey Lang

We are members of the Prey Lang Community Network from four provinces: Kampong Thom, Preah Vihear, Kratie, and Stung Treng. For over 20 years, we have volunteered to protect the Prey Lang Wildlife Sanctuary. Despite being banned from patrolling the sanctuary by the Ministry of Environment since early February 2020, we continue to carefully monitor illegal logging activities, timber transportation, the use of homemade guns, and the uncontrolled use of electric shock devices for wildlife hunting.

When Prey Lang was designated as a Wildlife Sanctuary (Protected Area), **we observed an increase in logging activities**. Even more concerning, since the Ministry of Environment rangers banned our Prey Lang Community Network from patrolling the forest, loggers have been free to enter and leave Prey Lang, cut down trees, clear the forest, and transport timber without hindrance. They can simply pay the officers at the checkpoints in exchange for permission to carry out illegal activities in Prey Lang.

Since early 2023, we have observed that illegal activities in and around the Prey Lang area have continued in a disorderly manner, including:

PREY LANG
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MINING CONCESSIONS

» Mining concessions **in the Prey Lang area** such as Late Cheng Mining Development Co., Ltd., owned by Chinese interests in the Phnom Chi area, bordering Kratie and Kampong Thom provinces.

REMOVAL OF LARGE TREES

» The removal of large trees, along with the daily transportation of timber by numerous local tractors, and the delivery of materials **facilitating logging to the company**, without any official action from the relevant authorities.

FOREST CLEARANCE & SLUM SETTLEMENTS

» Forest clearing and slum settlements in the buffer zone of the Prey Lang Wildlife Sanctuary, **backed by powerful officials and new migrants**.

USE OF DRUGS & PRODUCTION OF GUNS

» Uncontrolled use of drugs and the production of homemade guns by loggers and villagers living near Prey Lang, **leading to threats against natural resources and wildlife defenders**.

ILLEGAL WILDLIFE POACHING

» Wildlife being electrocuted, the use of monkey nets, and other illegal equipment, which have had **serious impacts on wildlife, biodiversity sustainability, and the environment**.

We urge the Royal Government of Cambodia, the Ministry of Environment, and relevant authorities at all levels to take action as recommended below;

» **Monitor and revoke** economic concessions from companies that fail to comply with agreements in the Prey Lang Wildlife Sanctuary.
» **Supervise and evaluate** the roles of officials involved in forest crimes or neglecting their duties..
» **Inspect and develop** specific strategic plans to combat deforestation, new forest clearances for agriculture, disorderly settlements, homemade guns, wildlife electrocution, and other tools facilitating illegal activities.
» **Enforce** existing regulations and laws for the protection of forests and protected areas.
» **Encourage Cambodians** and the global community to actively participate, directly or indirectly, in protecting natural resources.
» **Call on stakeholders** to cease purchasing all types of illegal timber originating from Cambodia.
» **Request** major international actors to take an interest in and allocate resources to Cambodia.

For more information, please contact the community representatives on the following telephone number:

» **Mr. Hoeun Sopheap** 096 632 8573
» **Mr. Minh Ny** 096 300 27 62
» **Mr. Srey They** 014 371 926
» **Mr. Khut Soeum** 017 640 084
» **Mr. Svay Song** 071 451 94 65
» **Mr. Ek Sovanna** 097 644 99 98
» **Mr. Pich Sarik** 097 923 3199
» **Mr. Kheng Khou** 095 224 933

"We Together in Protecting Prey Lang Forest, It Is Our Forest Too"

27 August, 2024

Front cover photo
Communities of Stung Treng province reporting a forest clearing inside a concession on 24 September 2023.

Back cover photo
Communities of Preah Vihear province during a patrol on 11 June 2023.

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

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