

# RESTORE HER RIGHTS

WOMEN-LED COMMUNITY  
RESTORATION OF BIODIVERSITY IN  
KAWTHOOLEI,  
MYANMAR

September 2024

Written by the Karen Environmental and Social Action Network (KESAN)



Women4Biodiversity

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## PREFACE AND ACKNOWLEDGMENTS

This case study has been authored by the Karen Environmental and Social Action Network (KESAN), who Women4Biodiversity has supported. KESAN is a community-based, non-governmental, non-profit organisation that works to improve livelihood security and to gain respect for Indigenous people's knowledge and rights in the Karen State of Burma, where the violence and inequities of more than 75 years of civil war have created one of the most impoverished regions in the world. KESAN's approach is based on the principles of democratization-from-below and "Free, Prior and Informed Consent (FPIC)" to support the development of sustainable rural livelihoods. This

work has included ecosystem restoration, strengthening customary land governance through cultural revitalisation and policy development, research, and community empowerment. This case study examines biodiversity conservation efforts by communities in the northern Mutraw District in the Salween Peace Park and how a gender-responsive approach to community-led research has improved environmental governance in the area.

This case study aims to share the process and learnings of gender-responsive, community-led biodiversity restoration to influence greater recognition

of Indigenous women in global biodiversity protection efforts. The completion of this case study would not be possible without the dedicated members of the Women's Research Group, who have committed time, energy, and care into their work to preserve their biocultural knowledge, genetic diversity of flora and fauna and to preserve the rich life in their territories, KESAN's Indigenous research consultant Saw Sha Bwe Moo, and KESAN's International Advocate for Women's Research – Naw Sunita Kwangta. This paper was primarily written by Charlotte (Lotty) Clare, KESAN's Advocacy and Research Officer.

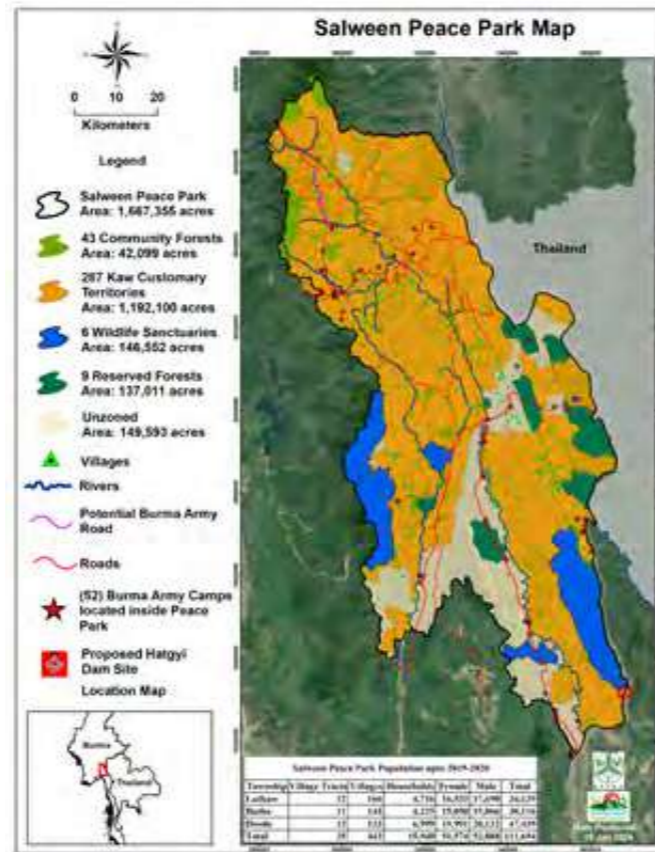
## ACRONYMS

<b>CBD</b>	Convention on Biological Diversity
<b>CBO</b>	Community Based Organisation
<b>CF</b>	Community Forest
<b>CSO</b>	Civil Society Organisation
<b>FPIC</b>	Free, Prior and Informed Consent
<b>KESAN</b>	Karen Environmental and Social Action Network
<b>KM-GBF</b>	Kunming-Montreal Global Biodiversity Framework
<b>KNU</b>	Karen National Union
<b>NGO</b>	Non-Governmental Organisations
<b>NTFP</b>	Non-Timber Forest Products
<b>SAC</b>	State Administration Council
<b>WRG</b>	Women's Research Group
<b>NR</b>	Natural resource



## INTRODUCTION

During the UN Decade on Ecosystem Restoration 2021-2030, protecting and restoring landscapes is crucial for collective well-being. Indigenous peoples manage about 80% of the world's remaining biodiversity<sup>1</sup>, respecting and enhancing their rights and knowledge is essential. Despite progress in recognising Indigenous peoples' and women's roles in forest restoration, there is limited documentation, especially in Myanmar, of their contributions to revitalising ecosystems like watersheds and mountainous regions. While multilateral environmental agreements, such as Target 23 of the Kunming-Montreal Global Biodiversity Framework (KM-GBF), aim to integrate gender perspectives, gaps remain due to limited awareness and support for women-led conservation efforts. Indigenous Karen women, as primary caretakers with deep traditional knowledge, play vital roles in ecosystem protection and restoration but are often overlooked. This case study highlights the community-led restoration efforts in northern Salween Peace Park, focusing on the significant contributions of the Indigenous Women Research Group.



## About the Salween Peace Park and Kawthoolei

Myanmar is the second-largest country in Southeast Asia, with a total land area of 676,578 square kilometres<sup>2</sup>. Its diverse landscapes range from fertile tropical deltas in the south to rocky terrain in the Himalayan foothills of the north. Myanmar is also one of the world's most culturally and ethnically diverse countries. It is divided into seven states, seven regions, and one union territory. Situated in the Indo-Burma biodiversity hotspot, one of the most species-rich areas, it is home to numerous endangered species found nowhere else. However, Myanmar's environment is one of the most threatened on Earth, ranked as the second most vulnerable country to climate change<sup>3</sup>. The proximate and underlying causes of

habitat and forest loss and degradation include overexploitation, agricultural expansion, legal and illegal logging, fuelwood and charcoal consumption, road construction, mining, forest fires, and dam construction.

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*In the past, we had many species of plants and animals. However, they are slowly disappearing*

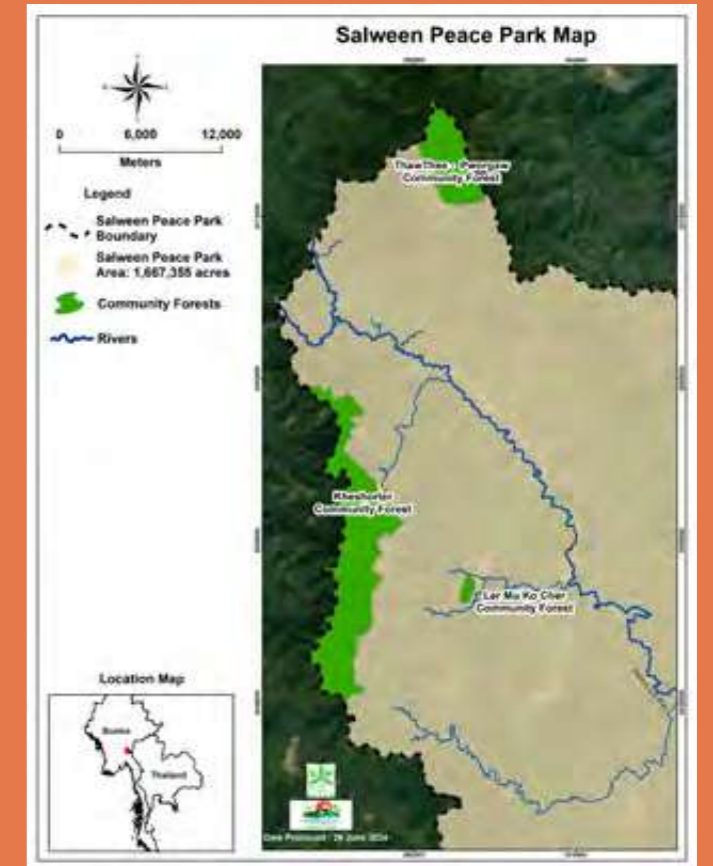
**Naw Kenralel Moo,**  
WRG Researcher

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This case study focuses on areas in northern Salween Peace Park (SPP), within Karen State in southeastern Myanmar. The main areas where the women-led research group is active are Ler Mu Ko Cher Community Forest (CF) which is located in Kaw Thay Gu, Thawthee-Pworgaw CF, which is in Leh Kee's Kaw, Khesorter CF (see Figure 2) in Kaw Thay Ku and is located on the border of other Kaw. The Karen National Union (KNU) has controlled most of Karen State, or Kawthoolei (Karen homeland), for several decades. It holds local legitimacy, although certain areas remain under Burmese government control or operate as mixed administration zones. As the State Administration Council (SAC) regime faces ongoing challenges in the current state of armed conflict, the influence of central Burma in the region has further diminished since the 2021 military coup and subsequent Spring Revolution. In northern Kawthoolei, villagers have preserved traditional ceremonies and spiritual connections with the land, unlike in many areas under central government control where such practices have declined. Prolonged conflict has limited infrastructure development, leading to high biodiversity and the survival of globally significant rare wildlife in the region's virgin forests. While some Karen people deviate from traditional practices, most continue to follow them, helping maintain one of the healthiest ecosystems in Burma and Thailand. Protected by the Karen for thousands of years, these critical ecosystems must be preserved.

Within Kawthoolei lies the SPP, or Kholo Tamutaku K'rer in the Karen language, which was officially launched in 2018 by popular vote on the SPP charter developed over several years with local communities. The Peace Park spans a 6,746 km<sup>2</sup> area controlled by the KNU (see Figure 1), with 111,000 inhabitants in 443 villages, almost all of whom identify as Sgaw Karen. Most have an animist belief system and practice; some have converted to Buddhism or Christianity. There, people's livelihood activities encompass wet-rice paddy farming, upland rotational farming, and diverse agroforestry systems, including mixed-species orchard gardens. Forest cover moderates local microclimates, benefiting upland rotational farms. The forest provides essential materials such as wood and bamboo for building, leaves for roofing, and various wild fruits, nuts, vegetables, honey, mushrooms, bamboo shoots, rattan shoots, and herbal medicines. Other NTFPs include pinus oil and dipterocarpus oil for light, dyeing, weaving, and wax.

The SPP embodies a vision where an alternative to top-down, militarised, and destructive development is possible. Indigenous Karen communities within the SPP adhere to biocultural traditions where people and nature are intimately interconnected. The SPP fosters a community-led, democratic governance system supported by KNU laws and policies that address the root causes of conflict, such as democratic governance, respect for Karen culture, and protection from land and forest dispossession.



Central to the SPP is the formal recognition of the General Assembly (GA) as its governing body, which is guided by a community-approved charter and has created a democratic forum that allows communities to learn from one another and steer their vision for a peaceful and sustainable future. The General Assembly also provides a robust support network for communities in times of need and enhances resilience to external threats. Another essential tenant is acknowledging Indigenous Karen socioecological systems, known as Kaw. The Kaw system functions as a management and governance structure, an institutional unit, a social framework, and spiritual and physical territory, depending on the context. It serves as a physical region and a social institution for land and natural resource (NR) governance, integrating indigenous ecological knowledge, protected wildlife areas, rotational farming fields, and peaceful conflict resolution mechanisms.

Since 2012, efforts to establish the SPP within customary land areas have aimed to strengthen community sovereignty over food and natural resource access and production. The (re)demarcation of ancestral Kaw territories has empowered villages to manage their natural resources better and expand knowledge of local taboos and norms, encouraging sustainable use. This has facilitated inter-Kaw activities, such as establishing fish conservation zones, wildlife conservation zones, buffer zones, forest corridors, and community forests, helping communities maintain a diverse diet.

1. Fleck, A. and Richter, F. (2022) Infographic: Indigenous Communities Protect 80% of all biodiversity, Statista Daily Data. Available at: <https://www.statista.com/chart/27805/indigenous-communities-protect-biodiversity/> (Accessed: 09 September 2024).

2. Mimu. Available at: <https://www.themimu.info/country-overview> (Accessed: 10 September 2024).

3. Eckstein, David, Vera Kunzel, and Laura Schafer. 2021. "GLOBAL CLIMATE RISK INDEX 2021." Germanwatch. [https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021\\_2.pdf](https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021_2.pdf)

## REASONS FOR RESTORATION

Communities in the SPP have faced a tumultuous history spanning over seven decades, marked by recurring cycles of conflict and exploitation. The military's "Four Cuts" strategy<sup>4</sup>, which deliberately scorched land and forests, devastated both communities and ecosystems. Central to this case study, significant portions of the Khesorter forest were burned during the Burma Army's Four Cuts strategy in the 1990s and 2010s. The Khesorter forest is located west of Lu Thaw Township, Mutraw (Papun) District and east of Mon Township of Kler Lwee Htoo (Nyaunglaybin) District of Kawthoolei in Burma. The forest is under the collective governance, protection, and management of 15 indigenous Karen communities living in three village tracts: Kay Pu, Ler Mu Plaw, and Saw Mu Plaw of Mutraw District. In addition, established in 2011, the Thawthi Pworghaw CF is located in the Kaw ancestral lands of Lay (Len) Kee Kaw. Lay Kee Kaw covers over twenty thousand acres and is governed by 37 households. Like many areas in this region, the Kaw also underwent severe deforestation and forest degradation as a

result of military offensives led by the Burma Army years before the establishment of the CF. This was complemented by forest fires started by the Burma Army and the forced displacement of local villagers. In addition to these challenges, the communities face threats from the wildlife trade, which goes against traditional taboos and local laws. For example, the illegal trade of wild orchids and pangolins, which escalated after the ceasefire agreement between the Karen rebels and the Burma government, is a significant concern. Enhanced access to these areas by people from different cities and states facilitated this trade. The Salween Peace Park, particularly vulnerable due to its location at the Thai-Burma border, faces significant problems with shorter illegal wildlife trading routes to Thailand. In light of these diverse threats, restoration efforts are essential for ecological recovery and preserving the Karen communities' cultural heritage, traditional practices, and overall resilience in the Salween Peace Park.



The Women Research Group (WRG) © WRG KESAN

## Beginning of Restoration Informed by Traditional Knowledge

Karen communities have long adhered to ancestral teachings for sustainable and reciprocal environmental stewardship, which are central to their Kaw land management practices. They categorise land into various types, such as residential areas, ritual forests, and wildlife protection zones, each governed by traditional rules. Decades of war and displacement in Burma's Karen territories disrupted these practices. In response, communities have revitalized their customary Kaw governance and initiated ecosystem restoration efforts. The community land protection process involves several key steps: community consultations, participatory land demarcation and zoning, and meetings to discuss and clarify customary rules and regulations for land use. This process takes varying amounts of time due to potential disagreements within communities about land demarcation and use. After demarcation and rule clarification, maps are created, and further meetings are held for finalization. Communities then apply for land registration with the KNU, ensuring that KNU regulations and local practices, including taboos, are agreed upon and clarified.

For generations, Indigenous Karen people have had customary forest protection practices. However, these have historically not been legally recognized and have been in slow decline in many areas of Karen State. KESAN works with local people and the Kawthoolei Forestry Department (KFD) to revitalize these practices and help them establish more community forests throughout Karen State with the legal protection of the KFD. CFs are an essential tool for biodiversity conservation and

sustainable community-driven development. In Karen communities, a CF is managed by a committee composed of local community members who manage the forest for the entire community's benefit. CFs incorporate environmental, social and economic sustainability and focus on local control over local forest resources.

The local Indigenous communities' ultimate goals in Thaw Thi Pwor Ghaw CF are to protect the sacred Pwor Ghaw Kho and Thawthi Kho sacred mountains located on their lands and preserve their ancestral lands. These mountains are sacred to the Karen communities that surround them. Since the community forest's establishment, the populations of endangered wildlife species in the forest have increased significantly. The restoration of Khesorter Forest, a 14,606-acre CF, began more than a decade before its official designation in 2014. This effort commenced with biodiversity research in 2010, which revealed significant deforestation. Following this research, communities expanded their work to restore their forests and protect their biocultural heritage, as detailed further in this case study. These efforts underscore the importance of traditional knowledge and community-led initiatives in restoring and managing ecosystems in the Karen territories of Kawthoolei, Burma. A similar process was carried out for other community forests in the SPP, including the CFs being surveyed by the WRG in the northern SPP.

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*I hope women will have equal rights with men. I hope to see future generations will have healthy forest, plenty of water, fresh air, and plants. People in remote upland areas live in the forests and get everything from the forest. That's why we are active to protect the environment. The local people have community forests and fish conservation areas. Hopefully, they will achieve their desires in their communities. The indigenous people have the right to own their land and hope they will have eternal rights. I don't want to see other people take their land.*

Naw Kenralet Moo,  
WRG Researcher

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4. Fishbein, Emily. 2021. "What Is the Myanmar Military's 'Four Cuts' Strategy?" Aljazeera.com. Al Jazeera. July 5, 2021. <https://www.aljazeera.com/news/2021/7/5/what-is-the-myanmar-militarys-four-cuts-strategy>.

## Box 1

## Intended outcomes from Restoration of Kheshorter CF

The ecosystem restoration efforts aimed to achieve several vital outcomes.

They are:

- **Ecosystem Protection and Restoration:** Revitalizing and preserving the biodiversity of the Kheshorter forest and its surrounding areas.
- **Cultural Preservation:** Safeguarding the traditional ecological knowledge (TEK) and cultural heritage of the Karen people.
- **Land Tenure Security:** Securing legal recognition and protection of Karen ancestral lands to prevent confiscation and destructive development.
- **Sustainable Livelihoods:** Promoting food security and self-sufficiency through community-managed resources, including rice banks.
- **Community Empowerment:** Strengthening local governance systems and involving women and youth in environmental monitoring and decision-making processes.
- **Climate Resilience:** Building climate resilience through sustainable land and resource management practices, helping communities withstand the impacts of global warming.

## Revitalizing Traditional Ecological Knowledge through research and awareness-raising

During the work to restore Indigenous Karen community's traditional knowledge, land governance and restore and protect the ecological integrity of Karen territories, it became clear that there needed to be a focus on women's knowledge if the work was to be successful and sustainable. Indigenous Karen women possess unique knowledge about various species that differs from that of men, yet their insights are frequently undervalued. This disparity spurred a biodiversity research initiative in the SPP, led by Indigenous women. The idea for the Women's Research Group originated with Saw Sha Bwe Moo, an Indigenous Karen scientist who resettled in Canada as a refugee. Growing up in the Peace Park area, Saw Sha observed that men and women had different knowledge about the local ecosystem. His research on socio-ecological relations in Kho Khay within the Peace Park, near the border, reinforced this perception. His findings revealed that men typically identified hardwood species used for tools and construction, while women focused on species essential for food, herbal medicines, and

weaving and dyeing clothes. After some women joined as volunteers in his community-led research, they expressed a great interest in becoming more involved in research. Women play an important role in mobilizing community members and sharing information. Women are primarily responsible for caring for children and passing on knowledge and languages to the next generation. Moreover, recognizing the importance of both types of knowledge in maintaining Karen territories and ensuring community well-being, Saw Sha recruited and trained four women from Mutraw District as biodiversity researchers in 2010 with a focus on areas in and around Kheshorter, Ler Mu Kho Cher and Thawthi Pwor Ghaw forests—the first research centered on gibbons, and later, women-led research on orchids and mushrooms. The WRG also includes male community members; when the group carries out surveys, many community members can join and learn.

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*We integrate traditional knowledge and modern scientific methods in the ethnobotany research project by asking the older people about the names of the species and how they are used and recording them in notebooks. When we conduct research, we photograph the species, use line measurements, and search for their scientific names.*

Naw Yen Poe,  
WRG member, local bird expert

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*As a diverse team of women with expertise in various research fields, we cooperate with local researchers whenever the research is conducted. The local researchers are not only women but also men from different places. The villagers are also involved in our activities, which helps us build better connections and assists us in gaining the results we expect. We also cooperate with local leaders of KNU and its relevant departments such as the forestry, livestock, and fishery departments to strengthen our activities and their departments. We can solve complex research questions and overcome our challenges by working with them.*

Saw Hser Pwer Moo,  
WRG member, ethnobotany expert

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## RESTORATION PROCESS

Communities have established community forests, revitalized communally managed Kaw, created fish conservation zones, developed holistic and integrated watershed management practices, preserved herbal medicine forests, conducted community-led and women-led biodiversity research combining indigenous wisdom with scientific methods, and strengthened livelihoods and food sovereignty through rice banks designed to ensure food security during crises.

In response to the research mentioned above, the Kheshorter communities developed rules and regulations rooted in ancestral taboos to protect and manage the forest, and continue to develop and review these regulations based on ongoing observation and research. Alongside

these regulations, the community engaged in capacity building, awareness campaigns, and forest monitoring, with active participation from women and youth. Various research activities were conducted to observe forest life, including bird species, bison (gaur), tiger, leopards, pangolins, bears, Sambar, big headed turtle, and others. These activities were carried out in collaboration with local students and the community, aiming to reconnect students with the forest and encourage them to build knowledge, values, and attitudes that foster a deep appreciation for the forest and its indispensable resources. The goal was to instill the understanding that the forest is integral to their livelihoods, survival, and traditional culture.

Alongside research, the group plays an important role in raising community awareness. They travel to villages in the area and share research findings, such as information about the local ecology, threats, and TEK. Through this awareness-raising and

increased involvement in developing local rules and regulations, the community has become more galvanized and unified in supporting the research and conservation efforts.

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*To be women with expertise in various research fields and be able to solve the research question and overcome the challenges, we often cooperate with the local villagers, students, communities, and leaders in our research. Not only do we conduct research but also organize meetings and awareness raising. Through meetings, we share and discuss our activities with each other and what they can do to help us in their corner.*

Naw Swen Ler Paw,  
WRG member, ethnobotany expert

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One such example is the widening participation in reforestation tree planting events: the most notable reforestation efforts in the area are spearheaded by Naw Paw Tha – who has acted as a pillar of the community and one of its key teachers and knowledge holders for a significant portion of her life. After the murder of her husband, Karen Indigenous environmental and human rights defender (EHRD) Saw O Moo, by the Burma Army in 2018, she has continued to actively speak out on Indigenous rights and the importance of Karen Indigenous knowledge. As part of this, she actively manages a tree nursery and germination center close to the Kheshorter community forest, where people from across the Peace Park can come and collect saplings for free. Naw Paw Tha and her team cultivate plants that are of cultural and biological significance to the Karen and their territories, including native species, essential herbal medicines, and plants that are

used during annual ceremonies honoring the K'Sah, which are the spirits of lands and waters. Trees from her nursery are also used in annual Kawthoolei tree-planting events (see Box 2).

Karen Indigenous resource management is deeply rooted in reciprocal obligations between humans and spirits known as K'Sah, which are essential for the well-being of people and nature. Villagers perform ceremonies to ensure protection and prosperity for their lands and waters. Each year, local communities, supported by KESAN, hold a forest ordination ceremony in Kheshorter forest to thank the K'Sah spirits for sustaining their livelihoods. This annual celebration highlights the deep relational values that guide Karen environmental governance and the traditional practices used to steward the forest for generations



A member of the Women Research Group (WRG) during a community awareness program. © WRG KESAN

## Box 2

### Annual Tree Planting Day: Building Solidarities and Revitalizing Ecosystems

The KNU has designated July as Kawthoolei Tree Planting Month; throughout Kawthoolei, with an annual tree planting day held on July 1st, serving as a pivotal moment for community-led reforestation in degraded forest areas. Communities and local leaders identify degraded areas to restore, and the WRG knowledge helps in this process to identify plant species and areas that need more care. Tree planting events brings communities together in solidarity to protect their forests and engage in forest restoration activities. It also provides an opportunity for learning and collaboration among Karen community-based organizations (CBOs) and Karen National Union leaders, emphasizing the significance of forest conservation for cultural heritage, health, and livelihoods. Thousands of saplings and

important companion plants are planted, with the community taking responsibility to protect and nurture the newly planted biodiversity using their Indigenous knowledge and experience. This commitment ensures the success of the restoration process. To further support these efforts, ongoing collaboration with the community will help identify and address specific vulnerability areas that need restoration. The community remains at the forefront of restoring forest areas, protecting ancestral territories, and safeguarding local ecosystems. Communities have also focused on reforesting areas that can link tapestries of rich community forests together to replenish wildlife corridors, such as between Ler Mu Kho Cher CF and Kheshorter CF.

## Governance Mechanisms

Communities have formalized their customary land management systems to restore forests degraded by displacement, military destruction, and the erosion of traditional ecological knowledge (TEK). While Kaw governance structures exist in some areas, many communities have established Community Forest committees to aid in the governance of CFs, and recently, a forest ranger group in Kheshorter CF to monitor illegal activities and protect biodiversity. Kaw communities are also formalizing their reciprocal relationships with the land and K'Sah through community land codes and establishing Kaw committees. They map territories using GPS technology and create community forests and fish conservation areas to safeguard their environment further. In April 2022, the KNU administration issued the first communal Kaw title certificates including Kaw Thay Gu, in which Kheshorter/Le Mu Kho Cher CF is located.

As women gain knowledge and expertise through research, they become essential voices in decision-making and NR governance, including collaboration with the KFD. Community leaders and policymakers must consult these women researchers, shifting

power dynamics and promoting gender equity. The WRG plays a crucial role in the Salween Peace Park's environmental integrity, cultural survival, and self-determination goals by documenting Indigenous biodiversity, which informs the decisions and priorities of the GA and working groups. The SPP GA recognises that grassroots women have the necessary knowledge and skills to achieve peace, ecological integrity, and cultural survival. Additionally, women participate in issue-based working groups that advise the General Assembly, ensuring their perspectives are integrated into the governance of the SPP. The WRG is also professionalising; after previously working voluntarily with limited funding from KESAN, the researchers are now receiving a salary for the first time in 2024. This allows them to dedicate more time and energy to their work, making the research initiative more sustainable. Now, more women are being recruited as KFD staff and are joining WRG field surveys to gain deeper knowledge in forest management and wildlife conservation. The group aims to train and establish other women-led research teams across the SPP.

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*We have many species in our territory. We do not want the Burmese government to take our land. It is crucial for us to identify and document the species that still exist. Each species holds its own names and cultural significance, making research essential. As I mentioned before, women must take the lead. In our culture, children are often closer to their mothers than their fathers. Children ask their mothers about things they do not know. Women possess deeper knowledge of plant species compared to men. Therefore, it is imperative for a woman to lead to preserve our traditional knowledge and ensure that children's wisdom thrives for future generations.*

Naw Kenralet Moo,  
WRG member

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## Challenges

The WRG has been pivotal in pushing conservation efforts, but they were only accepted partially by the local communities and have faced numerous challenges. At first, people were suspicious of Saw Sha taking photos of plants and animals because they thought he was doing it for trading purposes. It was unusual because of his and his family's respected position in the community. The team faced significant cultural barriers in the early stages of establishing the women's research group. There was a prevailing belief that women should not engage in research, with many people expressing disapproval. Despite these challenges, the group insisted on incorporating Indigenous knowledge and language in their work. Teaching roles are more culturally acceptable for women, as women traditionally teach children and are perceived as better educators than men. This rationale was used to argue for women's involvement in research.

However, many communities did not understand or support the women's activities. The trust had to be built, and in some cases, Saw Sha's familiarity with traditional knowledge and adherence to Indigenous law, as well as his grandfather, who was the Kaw leader (Kaw K'Sah), helped gain acceptance.

When the WRG started, others in the community doubted the women's research group, however, these perceptions have shifted, as men see their wives and daughters get involved, and they now see the outcomes of the research and enjoy reading the reports that the WRG has produced. As Saw Sha Bwe Moo said: *'People said "Oh! We should have known that! Our grandfather told us about that, but we did not know in detail." They look at the book and see that it is educational, and they ask KESAN to publish it many, many times.'*



Fish surveys are carried out in the Yunzalin River by the Women Research Group © WRG KESAN



A species of mushroom recorded by WRG. © WRG KESAN



## RESTORATION OUTCOMES

### Environmental outcomes

These efforts have significantly enhanced biodiversity in the area. Populations of endangered and vulnerable species, such as hooded gibbons, have surged; previously unseen for decades in nearby forests, gibbons have become common in areas like Leh Khee and Thawthi Pwor Kwor. This research catalysed the implementation of stronger KNU laws on protected species and heightened community awareness. Recommendations from these studies led to the establishment of wildlife corridors, including the Ler Mu Kho Cher CF and Kheshorter CF corridor, complete with firebreaks, signboards, and community stations displaying rules to protect these areas. Students actively participate by planting indigenous trees, such as ficus, agar woods, rattan, and fruit trees, and creating habitats supporting gibbons, tigers, leopards, gaur, bears, deer, hornbills, and other wildlife. Early research in the 2010s highlighted the extent of environmental degradation caused by Burma Army attacks, prompting the WRG to advocate for more coordinated and effective use of firebreaks. Since implementing these measures in 2010, no significant forest fires have been reported. WRG research conducted in the Peace Park area also revealed the significant impact of orchid trafficking

on global biodiversity. Of the 143 orchid species documented, 77.5% are classified as endangered and endemic under IUCN, and CITES, making their international trade prohibited. In response, the KNU intensified efforts to enforce local policies that prevent the transport of these endangered orchids. Since the publication of this report in 2018, the research team has continued its important work, now focusing on documenting amphibians and fish species in the area and conducting ethnobotanical surveys.

The WRG remains active and is expanding. In 2018, after five years of dedicated work, the research team published their first report in Karen and Burmese, documenting 143 orchid species<sup>5</sup> in Kheshorter and Thawthi Pwaw ghaw CFs. The eight core members of the team—five women and three men, all Indigenous—are currently documenting ethnobotanical species in the SPP, including amphibians and fish. For instance, they've focused on the native fish species *Nya*, endemic to the Bwe Lo Klo River, which spawns over pebbles in shallow water and is vulnerable to fluctuating water levels. Karen stewards use small rock dams to protect this species to maintain ideal spawning channels.



Figure 3: From L-R: Kheshorter forest area in 2004 before it was burnt by the Burma Army; Kheshorter forest area after areas were damaged by fires set by the Burma Army. Photo taken in 2014; Kheshorter forest area following restoration work, photo taken in 2024.



To address the loss of traditional knowledge among Karen youth who have resettled worldwide, these reports are crucial in helping the Karen diaspora retain knowledge about their homelands. The WRG recently published a report on fungi, highlighting the essential role wild fungi play in food, medicine, and community health and their contribution to household incomes. Due to a decline in oral traditions in mushroom identification, there was a growing number of incidents where people lost their lives due to the consumption of poisonous mushrooms. Therefore, the research team, along with community women, initiated a study of local mushrooms to improve the community's ability to identify edible varieties and close the knowledge gap among the younger generation. The research documented 160 species of mushrooms across 44 families, providing a valuable resource for the community and helping to preserve TEK.

Since restoration efforts began, following the degradation of local ecology and traditional ecological knowledge due to war, wildlife corridors have been reforested, and community forests have been protected. Targeted protection measures for key species, such as gibbons and tigers, have led to increased sightings of wildlife including gibbons, deer, and hornbills. Another significant achievement is the improvement of community-led governance of natural resources and the recognition of customary custodianship by the KNU. This includes issuing land titles and formal recognition for Kaw, a process made possible by years of dedicated work from civil society and communities and strong relationships with the KFD and land data management offices at both the district and central levels. These initiatives have preserved critical habitats and integrated Western science with Indigenous wisdom, underscoring the importance of community-led conservation.

### Box 3

#### Carrying out women-led ethnobotanical research

The WRG conducts research with deep respect for nature and local traditions, starting with a prayer ceremony to seek safety and honor the land's spirits. They use a systematic approach: marking an 80 cubic meter plot with rope, dividing it into smaller sections, and recording various plant species. Lines measuring around 20 cubic units each are drawn across the plot, with four smaller plots along each line for detailed observation. Plants are categorized into groups such as grass, herb, shrub, tree, fern, and ginger. GPS technology ensures accurate location marking, and plants are measured and labeled for future reference. The WRG also consults community elders to record

ancestral knowledge and document the uses and cultural significance of species, facilitating ongoing research and conservation.

Here, the research team is measuring the Ter Aye Shay plant during field research. Some Ter Aye Shay plants are found in forests, while some are planted. They are edible, and their roots are cooked with meat.

## Sociocultural outcomes

Training Indigenous Karen women in biodiversity research has been transformative. It empowers them to actively protect natural resources while building their confidence, leadership, and decision-making skills. These women possess extensive knowledge about their local environment, particularly the traditional uses and properties of plants. This knowledge is documented and

preserved through biodiversity research, ensuring its transmission to future generations. Empowered women are better positioned to advocate for protecting their natural resources. They can use their research to inform governance decisions and promote sustainable development practices that benefit their communities.

## Continued Threats and Challenges

Communities in the Salween Peace Park continue to face significant and persistent challenges, including ongoing conflict and extreme weather events. Key threats include the Hatgyi Dam<sup>7</sup> development and other proposed dams along the Salween River, large-scale infrastructure projects, and the potential for failed attempts at democratic transition, all of which negatively impact Indigenous and ethnic peoples due to the well-documented phenomena of 'cease-fire capitalism,'<sup>8</sup> a term used to describe the Burmese central State's strategy of incorporating former political adversaries into new (trans)national capitalist networks focused on land deals and resource extraction.

In Kawthoolei, frequent and indiscriminate attacks by the SAC military junta, including artillery strikes and aerial bombardments, have severely impacted the situation. These attacks have made travel difficult for staff and significantly restricted the movement of local community members within and beyond the pilot project areas. Additionally, intermittent internet and phone connectivity have further hindered communication and coordination efforts due to the military dictatorship and the remote location. These combined threats highlight the ongoing instability and challenges in effectively managing and supporting the project.



Every year, the Women Research Group participated in the community's tree-planting event.

7. Publication, The Hatgyi Dam May 2018 A Case of Thai Investment in Myanmar: Adverse Impacts to Salween Communities & Key Recommendations (EarthRights International, May 2018), <https://earthrights.org/publication/briefer-the-hatgyi-dam/>

8. Woods, Kevin. "Ceasefire Capitalism: Military-Private Partnerships, Resource Concessions and Military-State Building in the Burma-China Borderlands." *Journal of Peasant Studies* 38, no. 4 (October 2011): 747-70. <https://doi.org/10.1080/03066150.2011.607699>

## CONCLUSIONS

This case study underscores the critical role of gender-responsive approaches in biodiversity conservation and restoration. By acknowledging the specialised and differentiated knowledge systems that women bring to natural resource governance, particularly in herbal medicine and non-timber forest products (NTFPs), the study demonstrates how empowering women as key agents of social change leads to more effective and sustainable conservation outcomes. Despite cultural norms and the burdens of domestic labour that have historically sidelined women in these spaces, their active participation and leadership are vital for maintaining the intergenerational transmission of Indigenous knowledge systems. The study also

emphasises the importance of centering TEK and knowledge documentation in biodiversity restoration and natural resource governance. Respecting and recognising Indigenous custodianship is integral to achieving global conservation targets, and it is crucial. This case highlights the need to give credence to Indigenous science and knowledge systems at local, national, and international levels. Integrating gender considerations into biodiversity policies, programs, and projects is essential for their effectiveness and for advancing the objectives of the Convention on Biological Diversity (CBD) and promoting sustainable development goals.

## RECOMMENDATIONS

- ✓ Recognize the contributions of Indigenous customary governance systems and Indigenous women in biodiversity custodianship, conservation, and restoration to meeting global targets, particularly Target 23 of KM-GBF.
- ✓ Recognize that Indigenous peoples play a vital role in preserving biological diversity, and their rights must be upheld, including their culturally aligned ecosystem restoration strategies. These strategies are rooted in Indigenous women's practices and knowledge systems, aligning with Article 8(j) of the Convention on Biological Diversity (CBD), which calls for the respect, preservation, and maintenance the knowledge, innovations, and practices of Indigenous peoples and local communities relevant to biodiversity conservation. It also emphasizes the importance of promoting their wider application with the approval of knowledge holders and ensuring the equitable sharing of benefits arising from the use of biological diversity.
- ✓ Ensure that Indigenous women have secure access to land and natural resources, which are crucial for both their livelihoods and biodiversity conservation efforts. Recognizing their custodial role will enhance ecosystem restoration while supporting gender equity.
- ✓ NGOs, CSOs, and CBOs can advance gender equality and biodiversity by fostering collaboration, ensuring inclusive participation in local conservation initiatives and policy development, and promoting women's leadership. Through joint efforts, inclusive decision-making, and recognition of women's contributions, CSOs play a vital role in addressing both issues simultaneously.
- ✓ Provide flexible and sustainable funding for Indigenous women researchers to enhance their capacity in revitalizing and applying traditional ecological knowledge (TEK) in restoration projects. By supporting their leadership in documenting, transmitting, and integrating TEK with modern conservation techniques, we can ensure both gender inclusivity and ecological sustainability. This approach not only strengthens their effectiveness but also bridges ancestral practices with contemporary restoration efforts.

## ABOUT KAREN ENVIRONMENTAL & SOCIAL ACTION NETWORK (KESAN)



Karen Environmental And Social Action Network (KESAN) is a community-based, non-governmental, non-profit organisation that works to improve livelihood security and to gain respect for Indigenous people's knowledge and rights in the Karen State of Burma, where the violence and inequities of more than 60 years of civil war have

created one of the most impoverished regions in the world. KESAN's approach is based on the principles of democratization-from-below and "Free, Prior and Informed Consent" to support the development of sustainable rural livelihoods.

## About Women4Biodiversity

**Women4Biodiversity**

Women4Biodiversity believes that 'Living in Harmony' with Nature needs to take into account the roles and contributions of women and girls to achieve transformative change. This requires addressing gender equity and needs to embrace the holistic solutions and the recognition of women's human rights to achieve it. Our work

involves building synergies around the work of the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD) and other international arenas to provide direction for more coherent and inclusive processes while ensuring their proper implementation.

