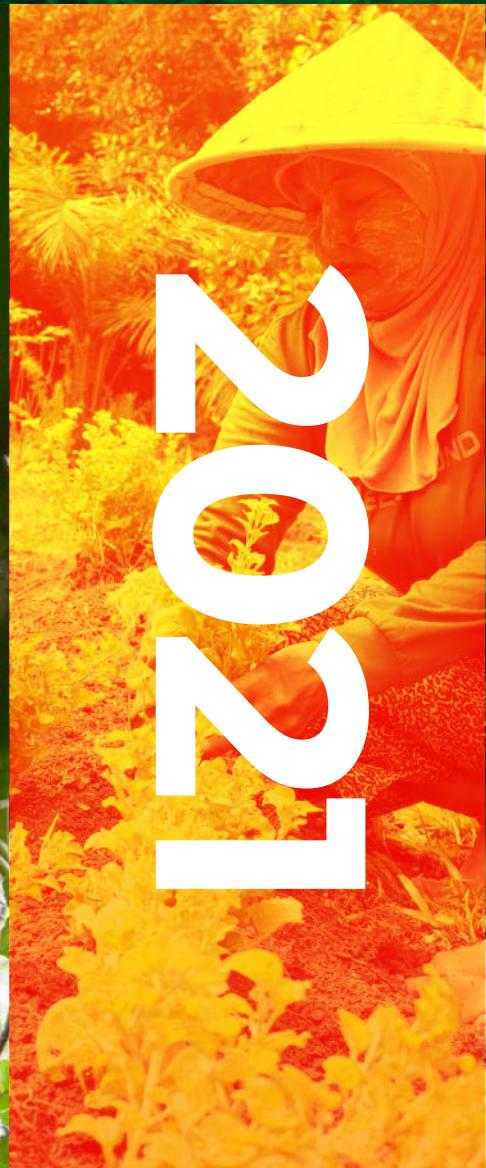




Borneo
Nature
Foundation



BORNEO NATURE FOUNDATION ANNUAL REPORT





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Executive Summary



The year 2020 was marked by the COVID-19 pandemic that hit almost the entire planet. For the world of forest conservation, the pandemic highlights two important aspects. Firstly, it reminds us of how increasingly crucial healthy forest ecosystems are for the survival of mankind in the future, and that we must work harder than ever to conserve forests for biodiversity and humanity alike. Secondly, the pandemic presents new challenges for all stakeholders in forest conservation in the form of limitations on activities, reduced mobility and lack of resources, and encourages us to innovate in the face of adversity.

Although challenging, these two aspects only inject enthusiasm into the Borneo Nature Foundation (BNF), to continue to move, strengthen, and adapt in the midst of a pandemic to actualize rainforest conservation in Central Kalimantan. Together with partners, governments, communities, and donor agencies, BNF continues to expand the scope and impact of pioneered programmes, including forest restoration and research programmes in the Sebangau National Park, community empowerment through support for social forestry management in the Rungan landscape, education and outreach activities for young people concerned about the environment, and biodiversity research in Barito Ulu.

BNF also realizes that human resources are the backbone in running and achieving success in each of our programmes. Therefore, during this pandemic we have taken great care to protect our staff and collaborators by implementing a stringent COVID-19 protocol, regular COVID-19 tests, vaccinations, and creating safe working guidelines, both in the office and in the field, in order to protect those that we care about and the biodiversity we

work with, whilst continuing our critical work in each of our programmes.

With all the achievements and efforts that have been carried out in 2020, the board expresses its gratitude to the trustees, management team and all employees for their hard work and support. The board also expressed its appreciation for BNF's partners, including the Indonesian government, donor agencies, universities, the private sector, community groups and other NGO's. The board encourages BNF management and staff to continue to increase their capacity and always strive to achieve their best for the protection and preservation of Kalimantan's precious rainforests.

2020 has brought great developments within BNF and we will see changes in the management structure of BNF starting in early 2021. The new structure is expected to further strengthen the organisation as a whole to meet new challenges in the coming years. With these changes and expansion within BNF, we will work harder and with continued passion to achieve our mission as a strong and supportive team. Therefore, BNF continues to be committed to realizing the mission carried out, through cooperation and support from all parties, both internal and external.

This pandemic is not over, and I don't know when it will end, but we must remain aware so that we can all continue the conservation effort in Central Kalimantan.

----- Juliarta Bramansa Ottay
Chairman
Yayasan Borneo Nature Foundation Indonesia

Tribute: Yunsiska Ermiasi (Siska)



On the 5th of August 2021, our beloved Yunsiska Ermiasi passed away from COVID-19. Siska, as she was known, was a Deputy Director for the Borneo Nature Foundation Indonesia (BNF). She died while being treated at the Muhammadiyah Hospital in Palangka Raya and her body was buried at Pal 12 Cemetery on the 6th of August 2021.

Growing up in the village of Tewang Pajangan in Central Kalimantan, Siska's interest in conservation started young, imbued with strong ancestral values of environmental responsibility. Siska completed her bachelor's degree in Agronomy and Soil Science in 2003 and later went on to graduate with a master's degree in Environment and Natural Resources Management from the University of Palangka Raya. She began working with the Centre for International Cooperation of Sustainable Management of Tropical Peatlands (UPT LLG CIMTROP) in 1998, and was appointed their Secretarial Coordinator from 2006. In her role as Coordinator, Siska bridged multiple conservation and research projects, developing a thorough understanding of peatland conservation and barriers to its success in the region.

Siska was noted for her kindness and patience in supporting foreign researchers, including the Borneo Nature Foundation (BNF) International

Directors whom she would join as Conservation Manager with BNF Indonesia in 2016. As Conservation Manager, Siska was responsible for establishing and overseeing BNF's reforestation project, community nurseries, firefighting teams, and liaising with relevant parties to ensure these projects were a success. After being promoted to Deputy Director, Siska continued to excel, inspiring others to follow her lead and get stuck in with conservation efforts.

There are few people as kind, generous and warm-hearted as Siska was. Her friends, family, and all of us at BNF were deeply shocked and saddened by her passing. Siska was an inspiring and very humble person, a Dayak woman who gave her short life to make a real and lasting impact on society and conservation in Borneo.

BNF will continue her work and her legacy, setting up a fund in her name to support Dayak women in conservation.

Rest in peace, Siska! You were a shining light in this world and will never be forgotten!

With love from,
The BNF Family

Borneo: Where We Work



CENTRAL KALIMANTAN



SEBANGAU NATIONAL PARK

SEBANGAU

Conservation research, dam building and hydrology monitoring, reforestation, sustainable livelihood development, environmental education, training and capacity building, community nurseries initiative, fire prevention and forest patrols, international field courses.







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Highlights Of 2021

Despite intense difficulties imposed by the ongoing COVID-19 pandemic, our dedicated, innovative teams in Borneo and beyond have found ways to continue to deliver BNF's conservation vision. Our conservation activities remain on track, continuing to expand and deliver results, including successful protections granted under the Social Forestry initiative in Rungan, and widening patrols in Sebangau National Park to deter illegal logging and poaching. Important new research projects have been initiated, Indonesian student projects supported and papers published; and our education and outreach teams have continued finding novel ways to deliver our conservation messages. This includes the use of both social and mass media, which has allowed us to reach a wider audience, including through our Rainforest Live event and over the International Orangutan and Gibbon days.



2021 in Numbers

9 publications



from BNF scientists

4 students



awarded
the Orangutan
Caring Scholarship

**5 community
patrol teams**



active in the Sebangau
National Park



**17,000
people**

around the world
participated in this year's
Rainforest Live event



**10 community
nurseries**

managed by local families

**223 children
5 schools**



joined BNF's
Conservation Class
sessions



**1,050 vaccine
doses**

against COVID-19
distributed with
BNF's support

7 villages

in the Rungan landscape participating in our
community development initiatives

13 villages

working with BNF on Social Forestry schemes
in Rungan



96,302 seedlings

planted in service of our
1 Million Trees campaign
to date

45,865 ha of land

now under protective designations in the
Rungan landscape





We have continued to strengthen our patrol, firefighting and conservation research activities in Sebangau National Park, with the sole exception of primate behaviour research follows due to COVID-19 precautions. The year's fire season was mercifully short and passed without major incident, in no small part due to the tireless efforts of our community firefighting teams. We also reinforced habitat protections for orangutans and other forest wildlife in 2021 by strengthening the management capacity of National Park staff and upping the frequency of coordinated patrols. Our community nurseries programme really took off in 2021, with the establishment of four additional nurseries, involving

Finally, we took steps to grow our environmental education initiatives, even amidst COVID-19 lockdowns, by delivering physical activity packages and forming partnerships with new groups of potential volunteers.

Prior to the start of this project, just 4,910 ha of land was protected under a 'special forest' designation for education and research purposes. Since its inception, we have supported the designation of 45,865 ha of land as conservation blocks, Social Forestry units and HCVF (High Conservation Value Forest) areas. Eight villages have already been granted Social Forestry permits with defined management boundaries and we are working with these communities to develop post-protection schemes. In five of the eight villages, we are helping to facilitate the adoption of sustainable livelihoods, such as aquaculture, vegetable gardens, honey farming and ecotourism. Social Forestry applications for the protection of an additional 5,108 ha are currently in progress, working to obtain permits for a further 13 villages. As part of the protection management plan of the Mungku Baru Education Forest (KHDTK), we collaborated with government and academic partners to delineate forest boundaries, which are now awaiting formalisation. We also continued to implement research activities in the KHDTK and support student projects, both local and international, in fulfilment of their degree theses.





As our newest site, 2021 activities in Barito Ulu consisted of pilot expeditions into the forest around the old Rekut Research Station. Between April and early June, a team of BNF scientists set out to install camera traps, granting us a sneak peek at the region's hidden biodiversity. We now know that a number of endangered and rare species exist in the area, including the elusive and endemic Borneo bay cat (*Catopuma badia*, pictured).



We have a dedicated team of international officers based at multiple locations throughout Europe, including the UK, Spain, France and the Netherlands, all working to support the on-the-ground efforts of our Indonesian teams. In 2021, we significantly increased our capacity for international outreach and fundraising, taking on new members of staff, hosting charity days with partner zoos, and developing resources for schools and universities.



COVID-19: Protecting Wildlife and People

Our work was unavoidably hampered by local surges in COVID-19 cases and related illnesses and restrictions, particularly regarding travel and face-to-face community engagement, education and outreach work. In keeping with government restrictions and public health advice, masks were worn indoors and social distancing guidelines enforced. BNF produced our own cloth reusable masks, featuring some of Borneo's iconic wildlife, which we have continued to disseminate among local communities. We also supplied sanitising gel, information and posters/pamphlets to communicate the risks associated with COVID-19

and its lesser-appreciated environmental impacts. Moreover, in August, BNF supported PO. Logos, the City Government and the City Resort Police in distributing the first stage of vaccine doses. Despite these precautions, our teams were hit hard by COVID-19 and unfortunately we lost our wonderful Deputy Director, Yunsiska Ermiasi (*Siska to those who knew her*), in August 2021 (see *tribute from the Board*). Owing to regional COVID-19 flares, some of our routine activities were carried out virtually, including the monitoring of vegetable gardens in villages in Rungan.



Saving the Rainforest

Economic and social hardship risks further forest and wildlife loss, owing to the increased conversion and exploitation of these resources as society struggles to recover from the pandemic. Our community development programme is designed to reduce pressure on the forest and increase local people's resilience to such threats by developing sustainable livelihood options in five villages, ranging from fishpond aquaculture to kelulut honey production. Furthermore, community patrols were active in Sebangau National Park and Rungan throughout the year, deterring would-be loggers and poachers, and enabling rapid detection and responses to incidents of fire. Due to these courageous efforts, a second consecutive fire season has passed without any major fire outbreaks or damage to our forest sites. Peat-rewetting projects also played a role, with further dams constructed to block ex-illegal logging canals, keeping the peat forests swampy and fire-resistant.

Our new 1 Million Trees project accelerated in 2021,

supported by BNF's community nurseries initiative, which serves the dual purpose of generating income for local villagers and providing seedlings for BNF's reforestation efforts. We expanded our capacity for growing seedlings by constructing and equipping four new community seedling nurseries and 16 training nursery managers. There are now 10 BNF-supported community nurseries, contributing 47,000 of the 96,302 seedlings planted so far. Thanks to the community nursery teams' hard work and generous community support, we are now well on the way towards our goal of planting 1 million trees by 2025!

We have taken great pains to ensure our habitat protection plans did not lose momentum despite the challenges and restrictions faced during the pandemic, facilitating meetings between community, government and industry stakeholders to implement Social Forestry schemes in the Rungan landscape.



To further protect habitats in 2021, BNF...

- Pursued recognition of the **Community Customary Law** for the rights of indigenous communities in Central Kalimantan by helping to inaugurate the Launch of Guidelines for the Recognition of the Existence of the Indigenous Law Communities (MHA).
- Helped our partners at University Muhammadiyah Palangka Raya mark the Mungku Baru Education Forest boundaries, strengthening its protection.
- Working with the local Central Kahayan Forest Management Unit to develop the **Essential Ecosystem Area (KEE) green wildlife corridor concept**, which serves to reconnect fragmented areas of forest, making up a single contiguous block for integrated conservation management.
- Ran a large event on Social Forestry licensing, together with regional authorities, where **new Social Forestry decrees** granted between 2019-2020 were handed to community groups from 20 villages.
- Continued to socialise the government's Social Forestry initiative, gathering further interest and support from local communities.
- Been instrumental to the **designation of 45,865 ha of land as conservation blocks, social forestry units and HCV (High Conservation Value) areas** in the Rungan landscape.





Scientific Research

Most of our research activities continued as normal into 2021, with the exception of our primate follows, which were temporarily suspended in March 2020 to reduce the risk of COVID-19 transmission and help safeguard the primate populations we are committed to conserving. However, our research teams have regularly reported orangutan sightings, including females with young babies and flanged males while conducting other surveys. Long-calls have been also heard at multiple times and locations, providing encouraging evidence to support the hypothesis of not only a stable, healthy and possibly growing orangutan population, but also a productive forest that can support mothers and their babies, adolescent offspring, and also older males. These informal observations seem to be confirmed by our population surveys, involving

orangutan nest counts, which suggest a relatively stable population. We hope to be able to restart our long-term primate behaviour studies in 2022 once the local COVID-19 situation allows.

To overcome the lack of information due to the suspension of the primate follows, our field research team, supported by our international primate scientists, initiated an exciting initiative, starting a brand new project. The new mammal sighting surveys started in 2021, with the aim of patrolling the forest on previously determined transects in order to record any mammal encounter, with a focus on Central Kalimantan's three emblematic primate species: Bornean orangutans, white-bearded gibbons and red langurs. Indeed, we wanted to also have the opportunity to assess

the potential changes in group composition (new babies, missing individuals...), the location where the mammals were detected, and their behavior towards observers. These surveys demonstrated encouraging results regarding the primates' population status in the Sebangau National Park.

Our core long-term forest ecology data collection in Sebangau National Park and the Rungan landscape was able to continue relatively unaffected throughout the pandemic, including bioindicators monitoring surveys, tree reproductive phenology surveys, and peat hydrology monitoring..

We also focused on analysing our long-term databases in preparation for some major planned publications and presenting preliminary results of these remotely to the global research community at the International Peatland Society congress. These analyses are revealing both the potential impacts of fire disturbance on tropical peatland biodiversity and recovery from this, and providing insight into optimal strategies for replanting burned tropical peatland areas. Watch this space for more on this in 2022!

BNF supported two promising Indonesian students to conduct dissertation research in Sebangau in 2021. This includes a PhD project co-supervised by Dresden University of Technology and Universitas Gadjah Mada (UGM) involving modelling the impact of forest disturbance on orangutans; and a UGM masters project studying the impacts of fire disturbance on reptiles and amphibians. These projects have produced some exciting results, which are currently being prepared for publication.

We have also been involved in exciting projects to advance the development and application of technology for research and conservation on Borneo. Together with partners at Liverpool John Moores University and CIMTROP-University of Palangka Raya, this includes continuing to develop novel systems for detecting and monitoring tropical peatland fires using thermal cameras attached to drones. We are also working to create a novel, low-cost system for high temporal resolution monitoring of tropical peatland subsidence, and developing the use of camera traps in trees for surveying arboreal wildlife in tropical forests.





Community Development

In 2021, we geared up our existing permaculture, aquaculture, honey production and ecotourism-homestay initiatives, which are underway in village communities across the Rungan landscape and surrounding the Sebangau National Park. A few highlights from our community development programme are shown below...

Home gardens and permaculture

- In Tahawa village, community members have built additional planting beds to plant chilli and cucumbers, the first of which were harvested in October with \$35 USD in proceeds.
- Chicken coops were built in Parahangan village in September, alongside agroforestry food training provided by the Centre for Social Forestry and Environmental Partnerships. Following this, over 300 chickens were introduced to the village late in the year.
- In Tahawa and Petuk Liti Villages, members of Social Forestry Business Groups received training in oyster mushroom cultivation.
- Kelulut bee cultivation in several villages has proven highly successful. In Bukit Bamba, several members of the honey cultivation group abandoned their previous work as loggers to become full-time beekeepers and five people in the village have adopted kelulut bee farming independently.
- In March and May, community members in the Sebangau National Park landscape conducted successful harvests of their fruit and vegetable crops; in May alone, a total of 103 kg of produce was harvested from 11 different species of crop. This project is still in its experimental stages but results thus far have been promising.



Aquaculture

- Fishponds installed by BNF for sustainable aquaculture reduce community members' reliance on river-fishing, which carries the risk of mercury poisoning. Most fishponds have been well-maintained, producing enough fish for individual consumption or to be sold at local markets, generating an average income per pond of \$230 and \$165 USD in the villages of Panjehang and Petuk Berunai, respectively.
- Some fishponds have reportedly produced eggs, which can be sold to interested parties in the villages for further fish cultivation.
- Early in 2021, BNF supported an information workshop on the use and processing of the KUSUKA card (Marine and Fisheries Business Card). The greatest benefit of having a KUSUKA card is professional recognition in the fish market. Members receive access to databases, insurance, services and technical guidance from marine and fishery business actors.
- Communities in Sebangau held their first fish harvest in May, which would have translated into sales of \$191.10 USD in the market.



Ecotourism

- Social Forestry Business Groups have been founded for ecotourism development in Petuk Liti and Penda Barania villages.
- The Bukit Bamba community held a meeting to promote Lake Baruh for tourism purposes, which was attended by the Head of the Pulang Pisau Tourism Office.
- A group of young people from Tahawa and Parahangan visited Tangkiling, a permacultural hotbed and popular ecotourist destination, to learn about ecotourism and how it might be applied in their own villages.



Environmental Education and Outreach

The ongoing COVID-19 pandemic has continued to make in-person engagement challenging, leading our dedicated education and outreach teams to innovate and develop new approaches to spread our conservation message and engender change. We regularly engaged with our 32 Anak Sebangau (Children of Sebangau) members using a variety of education techniques designed to reflect evolving pandemic restrictions and maintain participant safety. This included delivering education packs containing activities, games, journals, crafts and healthy snacks every week. Throughout the year, children learned about the biodiversity that exists in the forests near their homes, as well as taking part in environmental art activities and learning about the benefits the forest provides to people. In December, we ran our annual Anak Sebangau Festival, which this year was switched online due to COVID-19 restrictions. Likewise, we continued to engage local teens as part of our Sebangau Rangers programme, teaching around 15 young people each week about sustainable livelihoods including ecotourism and permaculture.

Conservation Class (Kelas Konservasi) is our environmental education module delivered to pupils as part of their mainstream school education, covering topics about tropical rainforest ecology, biodiversity, threats to forests and conservation solutions. Due to school closures during the pandemic, we adapted sessions to be delivered online. This had the extra benefit that we could begin expanding our educational outreach to more schools outside of our core working area, including to schools in Yogakarta (Java) as well as Palangka Raya. We invited BNF researchers to share their experiences, inspire children and raise awareness about the environment. A total of 223 children and 5 schools joined Conservation Class sessions

throughout 2021.

We are committed to ensuring children in even the most remote communities have access to environmental education and so we have been delivering regular sessions in rural areas bordering the Rungan Landscape. We have been working with the local school in Mungku Baru and the Hosanna Church Sunday School to teach pupils about the biodiversity and vegetation structure in their nearby forest.

Gibbon Goes to School is one of BNF's ongoing education initiatives that brings environmental awareness to children of a young age through interactive storytelling using BNF's storybook 'The Little Gibbon Who Lost His Song'. In June 2021, we launched the Little Gibbon storytelling app in collaboration with Jamie's Software. The app tells the story of Little Gibbon in a unique and interactive way and can be downloaded to Android devices free of charge. We are sharing this app with parents in the local communities who have reported that they enjoy this new way of storytelling and it encourages their children's curiosity about the wildlife on their doorstep.

We have also engaged a wider audience via a series of webinars, podcasts and online festivals including 'Rainforest Live', reaching over 17,000 people in total. To expand our impact even further, 2021 marked the establishment of our Global Outreach team who are working to inspire an international audience with the importance of the Bornean rainforests. To kick this off, we delivered several charity days in collaboration with some of our partner zoos in France including Parc Animalier d'Auvergne and Zoo d'Amnéville, engaging audiences well beyond Borneo.

Acknowledgements

None of BNF's conservation actions would be possible without our incredible network of global partners, collaborators and supporters. We look forward to continuing to strengthen these partnerships, working together towards a shared goal of safeguarding vital forest habitat for the conservation of biodiversity, socio-economic and cultural values.

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 Environmental Agency (DLH) Murung Raya District
 Environmental Agency (DLH) Palangka Raya city
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 Forestry Agency Central Kalimantan (DISHUT)
 Education Agency Central Kalimantan (DISDIK)
Disaster and Fire Management Agency Central Kalimantan (BNPB PK)
Technical Unit for Social Forestry Schemes Kalimantan (BPSKL)
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 City Government of Palangka Raya
 District Government of Pulang Pisau
 District Government of Gunung Mas
 District Government of Murung Raya
 Sebangau National Park Authority (BTNS)
Forest Management Units (KPHP) I and II Murung Raya District
Forest Management Units (KPHP – Central Kahayan) III, XIII and XVIII

We are grateful to be partnered with **local and international universities**, students from which contribute significantly to our research efforts in Central Kalimantan.



University of Palangka Raya
(UPR)



Palangka Raya Christian University (UNKRIP)



National University
(UNNAS)



Gadjah Mada
University (UGM)



University of Exeter



Oxford Brookes University



Liverpool John Moores



University of Leicester



University of Kent, Cornell

BNF is proud to work alongside the **CIMTROP Community Patrol Team and local firefighting teams**, TSA Bukit Tunggal, TSA Kalimantan Tengah, MPA Kereng Bangkirai, MPA Sabaru, MPA Mungku Baru and Hitam Putih Borneo, improving on-the-ground firefighting capacity for human and ecosystem health.

We offer further gratitude to the **communities** of Penda Barania, Tuwung, Sigi, Petuk Liti, Bukit Bamba, Parahangan, Tahawa, Tambak, Kasali Baru, Pahawan, Goha, Bahu Palawa, Pamarunan, Balukon, Panjehang, Petuk Berunai, Petuk Katimpun, Marang, Paremppei, Bereng Malaka and Mungku Baru for their engagement and enthusiasm.

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