

The Value of Nature

Balancing Conservation, Development, and People in
the Heart of Borneo

Cynthia L.M. Chin and Russell Ting





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Ulu Sungai Menyang, Batang Ai.

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Upper Baleh.

PREFACE

This book is the result of many sleepless nights, long hours spent trekking through the interior regions, and unbridled passion that fuel a small but dedicated team of colleagues and partners who believe in a sustainable Sarawak. It is about striving towards sustainability in the Heart of Borneo (HoB). Although HoB stretches beyond the boundaries of three countries – Brunei, Indonesia and Malaysia, this collection hones in specifically to the state of Sarawak in the HoB boundary and looks into the stories of sustainability here.

These individuals have selflessly dedicated their time, sweat and tears into a multi-disciplinary approach to look at what it means to have a safe, green future for this beautiful state of Sarawak. They have gone above and beyond the call of duty to assess natural capital, engaging with local communities to ensure they continue to grow and prosper, conducting surveys on orangutans and other wildlife, assessing water resources and clean water for Sarawakians, as well as initiating projects that have benefited both humans and wildlife.

The WWF-Malaysia team – with funding from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and in partnership with Forest Department Sarawak, Economic Planning Unit, Song District Office, Bukit Mabong District Office, Kapit Resident’s Office and Inland Fisheries – have worked together with other supporting institutions since 2017, including Sarawak Energy that supported the biodiversity camera-trapping work and Western Digital that supplied the sophisticated camera traps.

These diverse disciplines and partnerships have resulted in a greater understanding of how Sarawak can sustain herself economically and environmentally through a green economy, by taking a sustainable approach that encapsulates the growing need for development and resources while still ensuring that its pristine land and rainforests, along with the unique flora and fauna it houses, are protected and preserved for future generations to appreciate.

Most importantly, lessons learned from this project indicate that a ‘business as usual’ approach for the state’s development will result in less and poorer benefits for its people and nature in the long run. By taking a green economy approach, the negative impact of the current status quo can be mitigated to achieve a beneficial middle ground. Local communities, which are at the heart of this project, can also benefit from livelihood projects that are aligned to ecological well-being. The empowerment of these communities must be upheld and prioritized to include involvement in the supply chain and various markets.

This book is a convergence of all the work that has been carried out thus far – a vision and simultaneously a reflection of Sarawak’s current circumstances as it stands with its indigenous communities and wildlife – and presents a pictorial brief of the state’s sustainable potential that could place it in a powerful strategic position in a world that increasingly feels the impact of an economic-ecological imbalance.



A scenic waterfall near Rumah Dominic in Ulu Katibas, Song.

FOREWORD

Without a doubt, the ceaseless development of Sarawak as both an economic hub in South East Asia and a cultural icon with its own unique identity has resulted in interesting contrasts. On the one hand, Sarawak needs to provide infrastructure, land and resources for an ever-growing population base, while on the other hand, it is imperative that its wildlife and forests are preserved and protected for the benefit of all, and for future generations to appreciate.

This is where the concept of a green economy really shines. For years, conservationists have endeavoured to raise awareness on sustainable development that will help rural local communities grow together with the fast-changing landscape of the modern world, while still keeping their traditions.

We understand the challenges faced by such communities, and the impacts of developments to nature and our precious rainforests. The efforts undertaken by this project in our small corner of the world will undoubtedly show how sustainable forest management, integrated watershed management, green economy and community livelihoods can be adopted by all involved in these multiple industries. We will move forward as one species, knowing that we hold in our hands the power to do the right thing, for the sake of future generations and for the betterment of the environment.

Datu Dr. Muhammad Abdullah Zaidel
Director of Economic Planning Unit Sarawak
Chief Minister's Department

CHAPTER 1

INTRODUCTION

Batang Ai landscape is one of the project sites in Sarawak.



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Heart of Borneo (HoB)

It would be difficult to imagine a world without this island we call Borneo. This wondrous land is home to one of the oldest rainforests in the world; estimated to be over 140 million years old, and spans more than half of the island.

Borneo is the only island in the world to be administered by three different countries – Malaysia, Indonesia and Brunei Darussalam. Its ecology, along with abundant natural resources and multitude of flora and fauna, combined with a veritable melting pot of cultures and people, make Borneo a truly unique place like no other – and it’s where we call home.

Truth be told, our island home faces one of the biggest challenges we as a species face as a whole – climate crisis. Climate crisis has changed the way our forests grow, the way we view our continued harvesting of natural resources in the name of development, and the livelihoods of our communities.

This project is part of the the International Climate Initiative (IKI) and is titled “Green Economy in the Heart of Borneo (GEHoB): Integrating conservation, economic development and well-being of communities across the Heart of Borneo Corridor”. Funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the implementation of this project saw three national offices – WWF-Germany, WWF-Indonesia and WWF-Malaysia – coming together with local stakeholders to integrate efforts in reducing emissions of greenhouse gasses, for biodiversity conservation and for more environmentally friendly economic development to benefit local communities and indigenous people.

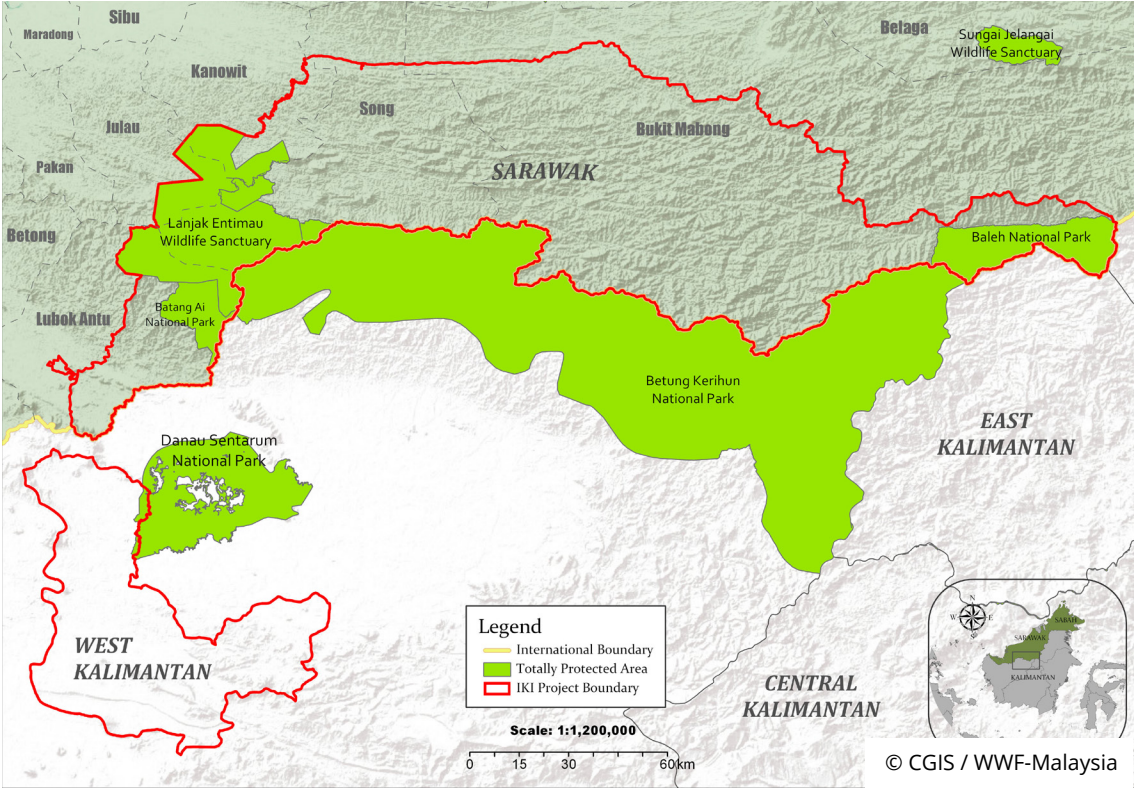
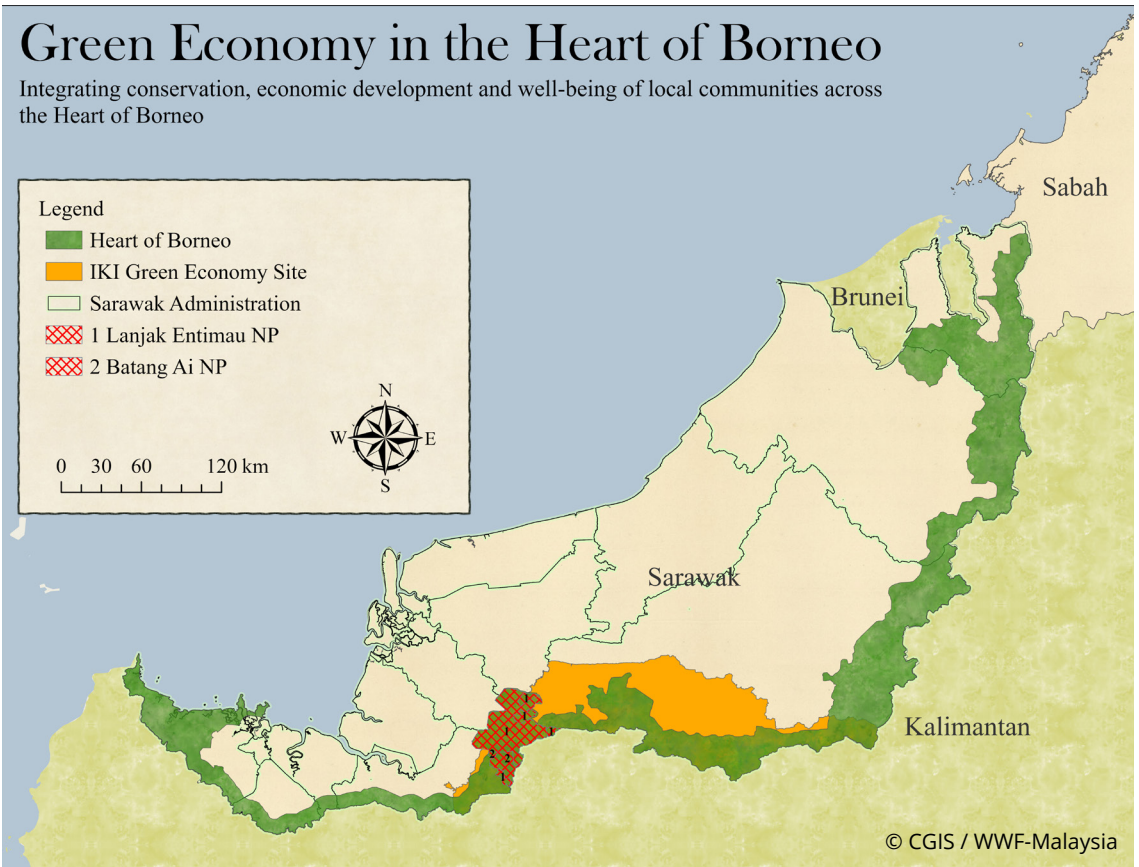
One of the many projects happening within the Heart of Borneo Initiative, GEHoB was initiated by WWF in 2016 to protect one of Asia’s last great rainforests here on Borneo, as a means to minimise climate change in the region. The project is transboundary, stretching from the heartland of Sarawak, Malaysia, across orangutan (*Pongo pygmaeus*) habitats and watersheds over to West Kalimantan, Indonesia, where the forests of the Betung-Kerihun National Park and the district of Kapuas Hulu continue.

As sustainable development becomes more and more integral to ensuring that economic development continues in parallel with how nature remains viable and sustainable, it is imperative that we, as a collective species, do our part in this grand undertaking.

Sarawak is a land of diversity not only in its natural richness but in culture as well. There are over 40 indigenous and sub-ethnic groups in Sarawak. The Iban are the largest indigenous group, with ancestral roots in central Borneo. The GEHoB area is the heartland of Sarawak’s Iban people, and they make up the core of the communities that are engaged in this project.

GEHoB is committed to safeguarding the livelihoods of the Iban communities, making sure that they continue with their age-old traditions and way of life, while undertaking these in a way that does not destroy natural resources.

Community livelihood projects, at the very heart of GEHoB, are all aimed at bringing benefits to each respective community while still conserving nature by making use of sustainable land and activities in each project area.





At the beginning of the project between 2015 and 2016, our team members conducted site visits to familiarise themselves with the landscape.



Carrying out a recce at Batang Ai in 2015.



The project area in Song-Katibas region has mixed land-uses of community settlement, farmlands, timber concessions, oil palm plantations, and primary and secondary forests.

One such project is growing agarwood or *gaharu* (*Aquilaria microparpa*). *Gaharu* trees double as forest canopy cover and as a source of tea leaves – a very recent and tasty discovery. The trees help to transform degraded land into flourishing agricultural land for communities, and extend the canopy cover for natural areas buffering orangutan habitat, such as the area immediately outside of the Batang Ai National Park.

A woody plant with large dark green leaves, the *gaharu* tree flourishes in our climate and gives locals a real incentive to grow them in large quantities due to its delectable flavour and fragrance when processed into tea. Instead of clearing more rainforests for timber or other means of profit, communities are now encouraged to grow *gaharu* trees on already degraded land, re-populating it with a native tree species that not only extends the forest cover but also provides additional livelihood potential to the communities.

Over the years, GEHoB has embarked on a journey to help revitalise Borneo’s dwindling rainforests and initiate real change for both communities and wildlife in an attempt to mitigate climate change and rapid urbanisation.

GEHoB started on the ground in Sarawak and West Kalimantan in late 2016, and resulted in the project’s acknowledgement by the Kapuas Hulu District Government, paving the way for future success.

In 2017, the *gaharu* project took off after the team partnered with the people of Menyang Taih and Forest Department Sarawak to kick-start efforts in Batang Ai, and stands as one of GEHoB’s crowning achievements in the region.

Another key activity of GEHoB is a community-based in-situ fish conservation approach locally known as *tagang*. This is a traditional form of fish conservation through zonation of a natural river. In Rumah Engsong and Rumah Gare in Baleh, *tagang* was the key community-based activity under this project. Initiated in 2018, the Kain River was divided into breeding and off-take zones, differentiated by colours (red, yellow and green). With partnership from the two communities as well as Inland Fisheries Division, selected members of the longhouses were trained to manage and conserved natural stretches of the river. Today, the fish population are thriving in the river and the communities are able to harvest the fish sustainably for their own use and small trade (where needed).



View of Upper Baleh, Kapit division.

In between, informative video projects and vlogs were created by the team, such as the sustainable pepper farming video, *Spice for Life - Bridging People With Nature*; an orangutan survey carried out by WWF-Malaysia intern Sandra Wong and Japanese intern Ayaka Kanaike, who obtained rare and valuable footage of orangutan nests; as well as a short documentary produced by intern Adela Marcella Martin on her field trips to Song-Katibas and Ulu Sungai Menyang.

Now, in 2021, GEHoB looks forward to the future upscaling and replication of its projects; ensuring that current projects continue to innovate and progress to their subsequent phases; and inspiring others to join and contribute to the projects’ endeavours.



Natural forests in Pasin, Song district.



In a social impact assessment, pepper farming was identified as a potential crop. After socialisation and consultation with communities in Song-Katibas in 2017, representatives voted pepper as a crop that needs to be further developed through the project.



The project landscape is dotted with longhouses, built on hilly terrains by the rivers.



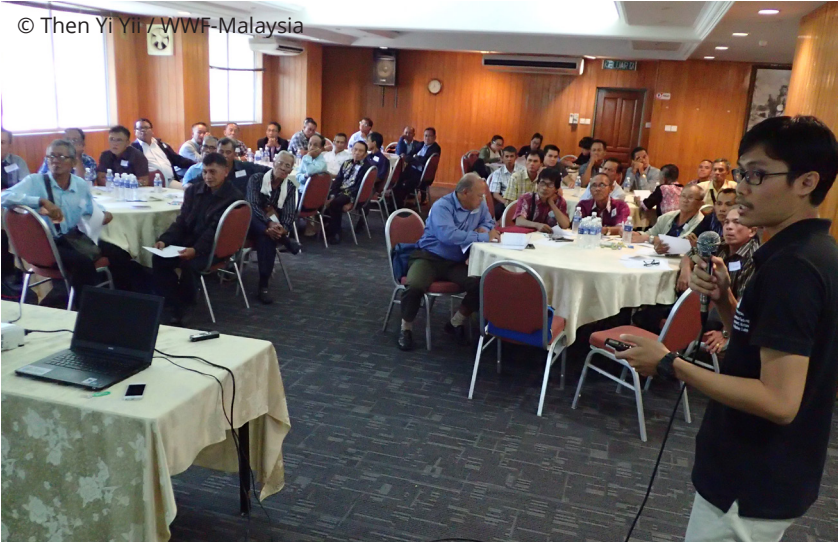
WWF staff from Germany, Indonesia and Malaysia plant *gaharu* seedlings after the project's annual regional meeting in 2017.



An industrial tree plantation in Pasin, Song district.



This project began with brainstorming sessions involving WWF officers from Germany, Indonesia and Malaysia in 2015. Since then, annual regional meetings and regular small group discussions to exchange knowledge and update on work progress are held.



Project socialisation and consultation at community-level in Kapit.

Martina Fleckenstein, Global Policy Manager, Food, WWF-Germany presented the intention of the transboundary project during the launch in Putussibau, West Kalimantan, Indonesia in April 2016.



Panda CLICK!, an interactive communication programme involving photography among participants, was carried out in selected villages to bridge the gap between WWF and communities, and prompted communities to be more aware and excited about their surroundings and conservation. CLICK! stands for Communication Learning towards Innovative Change and Knowledge.

During the launch, time was allocated to socialise the project with stakeholders from West Kalimantan.



Project socialisation with key partners from state government agencies; i.e. Forest Department Sarawak and Economic Planning Unit in Kuching.

CHAPTER 2

COMMERCIALISATION AND NATURE WITHIN THE LANDSCAPE

Logging activities have made inroads into Baleh, the heartland of Sarawak, for quite sometime now.



© Mohd Khairulazman Sulaiman / WWF-Malaysia

For as long as we have existed, humanity as a species has lived alongside nature. It is only logical then that we strive with our collective ingenuity to protect it.

GEHoB area encompasses a vast web of life that is, in a word, mind-boggling. At the heart of the matter, it is the very diversity of life on this planet that anchors human survival.

Nature in its vast, majestic glory with its complement of wild animals, plants and habitats make up life on Earth. For a long time, humans have learned to survive by depending on nature to feed and shelter us. It goes without saying that humans too are part of this web, but instead of building on what we have evolved over millions of years to do, we have moved away from nature and put ourselves in concrete jungles instead.

The project seeks not only to encourage more sustainable development, but also to celebrate the beauty of nature and the unique flora and fauna that can only be found in various sanctuaries around the world.

The economic development planned for the project area, stretching from Sri Aman and Song to Kapit and Baleh, will see increasing changes to natural areas; construction of a new road access (e.g. from Sibu to Kapit), continuation in timber extraction, oil palm development, targeted rural growth areas, such as the town of Tunoh, and hydropower dam construction in Baleh. While this is much needed progress for Sarawak, it is crucial to strike a balance

between these developments and the integrity of the natural environment and biodiversity found in the area. GEHoB seeks to mitigate the negative impacts of commercialisation and the challenges that expanding development poses to wildlife and their habitats.

Just to the east of the project area, beyond the Batang Ai National Park and Lanjak Entimau Wildlife Sanctuary, Song Katibas area and Baleh, lie large areas intended for timber extraction and oil palm plantations. Further east is the Baleh Hydropower Dam – over 200 m in height and located about 105 km upstream of the Baleh River from the confluence with the Rajang River in Kapit.

Expected negative impacts from logging include habitat destruction, dumping soil erosion into rivers which changes how fish and other marine life reproduce and spawn. There is also the possibility of loss of plant species that have no timber value but are of medicinal value and for traditional use; many of which are yet to be discovered by science.

Clearing of forests for monoculture also contributes to increase in carbon dioxide and other greenhouse gasses, and an overall loss of oxygen that is detrimental not just to wildlife, but also to humanity. Dams present a threat that includes all of the above and also the inundation of community areas. This could lead to historical and cultural memory loss for indigenous communities.



While it eased accessibility to this remote area, logging activities have to be sustainable to reduce environmental impacts.



The need to access the interior areas with land transport has led to the clearing of forests.



Farmers in the interior of Sarawak living in and adjacent to project sites, like Batang Ai, still practise shifting agriculture.



Oil palm nursery.



Murky water from upstream where land disturbance dumped soil erosion into this river.



Water levels decrease after prolonged drought in 2015. Haze throughout Borneo also caused major environmental issues in the region.

Within the project area, there are 19 licenced forest management units (FMUs) and six oil palm plantations. The growth of the timber and oil palm industries form two of the state's largest commodities that bring in a significant proportion of revenue. In the last decade or so, the push towards sustainability has seen a drive towards responsible production of these commodities in the form of timber and oil palm certification, specifically the Malaysian Timber Certification Scheme (MTCS) and Malaysian Sustainable Palm Oil (MSPO), respectively. Of the 19 FMUs, five have been MTCS certified (as of this publication); and four of the six oil palm plantations have been MSPO certified. To the east of the landscape, the 1,285MW Baleh Dam is poised to generate, at full capacity, 9,200-gigawatt hours (GWh) of electricity annually at its expected completion in 2026. These are the state's first steps towards addressing the need for sustainability. In time, the maturing of such a drive is to spearhead towards an economy that derives optimal development and benefits with minimal degradation to climate, forests and the environment – a green economy.



Recce of a planted forest where the licenced holder planted native tree species, *kelampayan* (*Neolamarckia cadamba*).



Native tree species, *kelampayan* seedlings for planted forest.

CHAPTER 3

BIODIVERSITY

A juvenile *Polypedates leucomystax*, the size of our fingernail.



© Claudia Mutek / WWF-Malaysia / Panda CLICK!



Rhinoceros hornbill (*Buceros rhinoceros*).



Sun bear (*Helarctos malayanus*).



Sunda pangolin (*Manis javanica*).



Sunda leopard cat (*Prionailurus javanensis*).



This subspecies of orangutan, *Pongo pygmaeus pygmaeus*, is found in Sarawak.

The diversity of life anchors human survival. Nature in its wholeness (i.e. with its complement of wild animals, plants and trees) makes up life on earth. Humans are part of this web of life, but because we have taken ourselves away from this and put ourselves in concrete jungles, we forget that we still depend on nature for fresh air, fresh water, climate control and more. We need to remember where we came from. This chapter celebrates the web of life in the project area by appreciating all other life that we share this planet with.

The last wild habitat of Sarawak’s orangutans (*Pongo pygmaeus pygmaeus*) lies on the western most edge of the project area in the sprawling Batang Ai National Park and Lanjak Entimau Wildlife Sanctuary. This subspecies of orangutan can only be found in Sarawak and parts of northern West Kalimantan, and is under threat of extinction due to habitat loss and encroachment.

Once found in large numbers throughout Sarawak, this rare species has been reduced and its population can only be found in a few natural forests in southwest Sarawak. The largest concentration of orangutans today are found in the Batang Ai-Lanjak Entimau forest complex, with small isolated populations distributed in Sedilu National Park, Gunung Lesung National Park and Ulu Sebuyau National Park. But more than this magnificent species, those intact forests also host a diverse range of wildlife from clouded leopards and giant squirrels to hornbills and raptors. Nevertheless, a myriad of other wild species also call this area home. Their richness in diversity reflects the teeming web of life for which tropical rainforests are famous. Sarawak is situated in one of the world’s mega biodiversity hotspots. The orangutan is king of the forest here, but his royal subjects are no less unique. They include the Bornean gibbon, leaf-eating langur, civet, sun bear, porcupine, pangolin, sambar deer, bearded pig and much much more.



Orangutans need intact forests to build nests on trees to sleep every evening.

© Usik Reba / WWF-Malaysia / Panda CLICK!



Fungus.

Further to the east is the Baleh region, which stands as one of the last great wild frontiers of Sarawak. The stretch of nature from Sri Aman to Baleh in the project area, if protected and conserved, can not only survive but also thrive. Ecological integrity can be preserved with proper conservation of the remaining corridors of habitat by ensuring that all manner of wildlife, from the tallest tapang tree (*Kompassia excelsa*) to the smallest forest-floor dwelling creature, will continue to thrive in the rainforest. All species have a part to play to keep forests healthy – crucial roles that have to be filled to ensure that mankind too can continue to live in this part of the world.

Some are pollinators, some dispersers, while others play a role in population control, clean-up and scavenging. The unique interactions between the vast array of different species and the guilds in which they function are myriad, diverse and so complex that scientists are still learning new things about ecological interactions.

© Usik Reba / WWF-Malaysia / Panda CLICK!



Black-eared squirrels (*Nannoscirus melanotis*).



© Mohd Khairulazman Sulaiman / WWF-Malaysia

Mormolyce phyllodes or commonly known as fiddle or violin bug is normally found in undisturbed forests.



© Usik Reba / WWF-Malaysia / Panda CLICK!

A school of indigenous fish species, *kepiat* (*Barbonymus collingwoodii*).



© Usik Reba / WWF-Malaysia / Panda CLICK!

Butterflies have vibrantly coloured wings to attract mates.



© Kulan Sumok / WWF-Malaysia / Panda CLICK!

Every creature like this pill millipede has a role to pay in the ecosystem.



© Zora Chan / WWF-Malaysia

Pitcher plants (*Nepenthes reinwardtiana*) can be found in some degraded parts of the project site.



Bagroides sp.



Ensurai (Dipterocarpus oblongifolius) are important trees that help protect riverbanks from erosion during floods, and fruit abundantly once every few years, providing food to fish.

CHAPTER 4

LARGE SCALE COMMODITIES IN A NATURAL SETTING

Sunset from Song wharf.



© Diana Chendai Ngadan



Locals plant pepper on well drained hill slopes.

The soul of Sarawak is intertwined with its landscape, its inherently unique ecosystem and its people – multi-layered, like a kaleidoscope of colours, living alongside one another for so many generations.

The GEHoB project area is within this landscape, a necessary part of it which reflects the soul of Sarawak where economic development, people and nature come face to face in what used to be a vast wilderness, virgin rainforests and unadulterated waterways.

For any profit or economy that has grown dependent on natural resources to be sustainable, it is absolutely essential that the goose with the golden eggs – nature and its forests, flora and fauna – must be managed, sustained and conserved.



Kapit's wet market, Pasar Teresang, lies in the heart of the town. Both locals and visitors alike frequent it looking for daily fresh produce and souvenirs.



Seasonal local fruits like durian and rambutan are widely sold in Sibü which has bigger clientele.



Express boats docked at Kapit wharf terminal. With the opening of a tar-sealed road connecting Sibü to Kapit end of 2020, express boats will see fewer passengers.



Wild ferns are one of the popular non-timber forest products sold as vegetables in Kapit and Song markets.

In the last century alone in the area spanning this project, timber has grown to become the bread and butter in Sarawak’s survival. The oil palm industry continues to enjoy unrestrained growth and is fast becoming one of the state’s most popular exports. Such large scale development, along with vast amounts of energy being harvested from dams such as Baleh to power Sarawak’s industries and income, the urgency of driving towards sustainability for the State is greater than ever. Not only sustainability in economy and development, more important is sustainability of natural resources which drive the very growth of Song-Katibas, Baleh and ultimately Sarawak.



Logs at a logpond in Song, where timber is a major source of economic development.



Completed tar-sealed road connecting Sibuan to Kapit.



Work in progress at Baleh Dam site where a diversion tunnel is being built.



The timber industry has grown to become the bread and butter of Sarawak's survival in the last century.



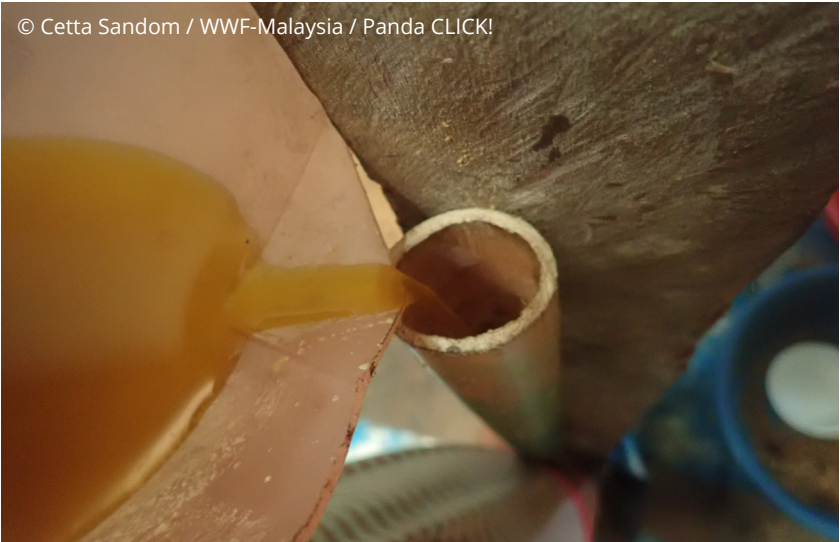
Longboats belonging to villagers who live upriver are docked at Song wharf.



Kapit water intake point. The Rajang River is an important source of freshwater for those living in Kapit town.



Although Kapit has grown from a rural bazaar to a bustling town with supermarkets to meet local demands, some old shops still maintain their charms.



Engkabang trees (*Shorea marophylla*) are native to Borneo and can grow up to 50 meters tall. In Sarawak, they are commonly found near the riverbanks of the Rajang River. Its fruits are commonly referred to as 'helicopters' as they spin gently when falling from a height. Traditionally, its fruits are collected from the wild as they are valued for having high vegetable oil contents. These fruits can be processed into a wide range of products such as *engkabang* butter, chocolates, and cosmetics. These trees also provide important food for local animals, who also return the favour by helping to disperse *engkabang* seeds, ensuring its continued survival in the wild. The tree itself is a protected species under the Sarawak Wild Life Protection Ordinance 1998.

CHAPTER 5

CALLING NATURE HOME - PEOPLE, CULTURE, NATURE

The community of Rumah Dagum plant rice as a staple food.



© Serang Uju @ Ngaoh / WWF-Malaysia / Panda CLICK!

Since time immemorial, the Iban people of Sarawak have called the central region of Sarawak their heartland; the origin of many of their myths and legends, and the lifeblood of their people and society.

A social impact assessment (SIA) was conducted to ascertain information on how people’s lives and livelihoods were impacted by logging and its associated activities, and how this project could help them better leverage on livelihoods and incomes that are sustainable for both themselves and the environment.

A total of 92 longhouses were profiled and surveyed in the Song-Katibas area. This comprised 1,857 *biliks* (or families) and approximately 14,865 people. Surveys on their current livelihoods, aspirations and expectations were conducted. The Song-Katibas area is much more populous compared to Baleh. The 92 longhouses were further filtered into smaller groups based on longhouse population, skills and interest to look at piloting of livelihood-enhancing activities that were also sustainable for the environment.

Two longhouses, Rumah Dagum and Rumah Peter, were selected to pilot pepper farming as livelihood projects in the Katibas River. A unique opportunity arose where the project was able to look at nature through the lens of local communities with an activity called Panda CLICK!. Representatives from Rumah Dagum and Rumah Peter in Song-Katibas, and from Rumah Ensong and Rantau Kendura in Baleh were given cameras and taught to use them. They then went on a shutterbug frenzy to capture the importance of nature from their perspective. As a result, a community-driven publication called *Panda CLICK! With Communities in Kapuas Hulu, West Kalimantan and Kapit, Sarawak* was produced.



Aerial view of Rumah Manggat, Lubok Antu.



Aerial view of Long Singut, Baleh.



Aerial view of Rumah Engsong, Baleh.



Rumah Dagum's ground zero after the fire in 2018 and temporary home for the next four to five years, Song.



Aerial view of Rumah Peter, Song.

© Usik Reba / WWF-Malaysia / Panda CLICK!



© Claudia Mutek / WWF-Malaysia / Panda CLICK!



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Pua kumbu, a traditional cloth woven by the Iban community at Rumah Gare, Baleh. It is a rare skill and knowledge among the younger generation today.



Rumah Engsong folks are known for making *ketapu tunjang*, a woven rattan hat with pointy tips on top.



Elongated earlobes are a sign of great beauty for Kenyah communities in days of old. They are a fading reminder of the past.



Villagers have their unique ways of separating paddy from its stalks, even if it means having to do the twist.



WWF-Malaysia team carrying out a dialogue session at Rumah Peter, as part of the continuous free, prior and informed consent (FPIC) process.



Villagers from Rumah Manggat performing the *ngajat*, a traditional dance that is usually performed during Gawai, the rice harvest festival.



Simple innovation and technology in processing pepper berries at Rumah Dagum, before the entire longhouse was razed to the ground in September 2018.



Huge boulders are uncovered when the water level is low in the upper reaches of Katibas River.

In Baleh, surveys were conducted mainly on the perception of the values of nature to the people who live there.

Overall, for both Song-Katibas and Baleh, it was clear that the most important aspects of nature and the forest to people there were the health of rivers, availability of freshwater resources and the prevention of pollution, erosion and sedimentation. The intactness of forests and the wildlife within was also important as local communities there depend on wild meat as a source of protein. So the ability of forests and animals to perpetuate themselves came as a close second to healthy rivers.

The communities recognised that the opening up of natural forests also brings with it conveniences such as better communication and access, employment opportunities and an avenue to the outside world. Indeed, in Song-Katibas, many young people have left their longhouses and moved to larger towns and cities in search of work, often leaving behind the elderly and very young in their villages.

While the modern world has taken the existence of the ever-present convenience we know as the local supermarket for granted, indigenous communities traditionally rely very much on wild animals as a source of food and protein. The forests and rivers act as their primitive form of supermarket, and in places as remote as the ones they inhabit, these very same forests and rivers spell out a crucial life-and-death scenario for their continued survival. In this respect, a healthy forest is categorised by its composition of wildlife – both flora and fauna – as it forms its own ecosystem that in turn encourages how a rural community interacts with it and how each one forms its own unique bond with one another.

A forest cannot exist without the role that wildlife, plants and insects play as pollinator, seed disperser, predator, symbiont, and untold others. The Ibans have learned that by living side by side with a forest and its inhabitants, they too can reap its benefits.

A sustainable approach, such as green economy, enables the continuation of their livelihoods without compromising modern development. This requires a balance of conservation and development instead of conquering nature. The GEHoB project approaches the question with inclusivity as key. By holding dialogues and practising Free, Prior and Informed Consent (FPIC) principles, the project seeks to build on what local communities are already skilled at or have experience in, looks at the viable options available, and incorporates sustainable measures that will manage and even enhance natural resources in perpetuity.

This ensures that future generations can continue to live much like their forebearers did – at one with nature.



Navigating upstream on Katibas River can be challenging but the pristine waterway and scenery make it worthwhile.



© Anthony Untam / WWF-Malaysia / Panda CLICK!



This huge stone along Katibas River is known as Batu Perejuk Bungai Nuing. When water level is low, the exposed rock resembles a human's shoulders. Batu Perejuk is believed to be able to decide whether a person possesses mythical powers.

© Ezen Chan / WWF-Malaysia



© Ezen Chan / WWF-Malaysia



When locals see a piece of wood or stick caught in the middle of Batu Perejuk, they believe that their hunting trip will be fruitful. They put coins in odd amounts between its cracks to ask for good luck and blessings from the spirits.

CHAPTER 6

THE VALUE OF NATURE

Batang Ai.



© Ailyn Nau Sidu

There are certain things one cannot put a price tag on, no matter how one tries to justify. The natural world is one of these. Intrinsically valuable and irreplaceable, nature simply cannot be labelled or measured with monetary value. Like how the light bounces off the leaves when the sun sets, or the majesty of the mountains that pierce the clouds or how a songbird's voice echoes through the rainforest – all these cannot and should not have a price tag.

Idealistic as it may sound, we must not allow capitalism to take precedence over preservation. In the 21st century, humanity now, more than ever, has imposed a price on labour, which can take the form of goods, services and skill sets. It is the language of a human world removed from nature and suffering from over-exploitation.

A core part of the project is to take a step back and approach a balance of the sustainability of nature that enables local communities to continue to reap nature's bountiful harvest and prosper, and keep their traditions; all the while allowing natural capital valuation studies to be conducted in the project area.

The project area is daunting, with a span of over two million hectares and divided into two sites: Song-Katibas and Baleh. Assessments were carried out to see how the timber industry and local community livelihoods impacted one another, weighed against the value of nature, ecotourism and negative impacts of erosion, sedimentation and water pollution.

In Baleh, which consists mainly of plateaus and mountain chains, biodiversity flourishes, pushed along by riverine forests, which for the most part remain untouched and pristine. The value of its biodiversity is well researched and documented in many essays, which expound upon the area's geological features and availability of freshwater due to its mountainous terrain. The project has also carried out several interviews and social surveys, helped along with available data from various government agencies and past research teams.

The potential for ecotourism is enormous and until now, has not been fully explored. It is imperative that nature remains undisturbed by future ecotourism developments.

Unfortunately, the importance and value of nature is often taken for granted. Through the benefit of hindsight, it has become increasingly clear that economics and good governance of any regional or national jurisdiction must take such valuation approaches seriously, and to incorporate mainstream sustainability into governance and policy to ensure that these areas remain untouched for future generations, and to promote sustainability in the region.



Song-Katibas area is blessed with scenic clean rivers and waterfalls as one travels upriver.



Travelling to Rumah Manggat in Ulu Sungai Menyang offers one a well-rounded journey as the trip covers land and water transportation.



How do you put a price tag on happiness that nature provides?



Batang Ai National Park is a popular destination among tourists who wish to see orangutans and have a quiet escape.



Rivers provide fish protein to people.



Villagers from Rumah Peter performing a traditional cleansing ceremony called *bedara mimpi jai*, requiring the entire village to travel to a place named Pulau Aur by the river. This cleansing ritual is held when someone from the village has a bad dream the night before the ritual.



Photo collage shows how villagers from Rumah Engsong, Baleh, harvest and transport wood from nearby forests for their own use.

CHAPTER 7

MOVING TOWARDS A GREEN ECONOMY

Pepper berries turn red as they ripen.



© Peter Jabat / WWF-Malaysia / Panda CLICK!



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Before and after *gaharu* trees were planted on degraded areas near Rumah Manggat, Batang Ai.



© Ailyn Nau Sidu

Once a degraded area tucked between Rumah Manggat and orangutan habitat, this area has turned greener with *gaharu* trees.

Moving towards a green economy is the way to go for a sustainable future for Sarawak. It requires a paradigm shift from ‘business as usual’ towards policy changes that embrace putting a value to nature. This exists in credible certification schemes for timber, palm oil and major commodities; efficient farming approaches that retain forest cover; payment for ecosystem services (PES); carbon credits which reduce carbon emissions; and green taxes and policies that encourage benefits to local communities in tandem with environmental and biodiversity safeguards.

What does a green economy look like in the local context? For the citizens on the street, it constitutes putting a value to nature in day-to-day economic mechanisms. For example, a visit to the Sarawak Cultural Village would benefit the pepper farming communities in Song and prevent further forest degradation; the price of a bowl of local noodles would contribute towards conserving orangutans; or monthly electricity bills would go towards integrated watershed management in the upper reaches of the Baleh River. This would truly reflect a mainstreaming of nature conservation and climate change mitigation into the state’s economic and developmental framework.

Green economy is the key to keeping progress and the environment intact. This delicate balance, when mastered, will become the turning point towards true progress for our society. Sarawakians from major cities or towns would not be familiar with this concept. Discussions of rising costs of living and the price of fossil fuels should eventually take a back seat and be replaced with how successful businesses are helping to conserve Sarawak’s forests.

Green economy offers a way, focusing on three main driving factors: sustaining and developing an economy that has low carbon emissions, is resource efficient and socially inclusive.



Harvesting *gaharu* leaves for tea.



Vernier caliper is used to measure *gaharu* tree growth.



Harvesting *gaharu* leaves to be processed for tea.

© WWF-Malaysia



© WWF-Malaysia



Rain or shine, before the COVID-19 pandemic, monthly *gaharu* tree monitoring was carried out by Universiti Malaysia Sarawak and WWF-Malaysia staff and interns, together with villagers.

© Melyen Manggat / Rumah Manggat



Villagers working together to separate *gaharu* leaves from twigs.



Pests, like caterpillars, on *gaharu* leaves are removed by hand in line with the green economy concept of the project. As part of Rumah Manggat's tourism activities, visitors have the option to volunteer to remove caterpillars or weeds by hand.



Villagers trimming weeds using machetes.



Gaharu leaves successfully processed, packaged and ready for consumption.



After four years of hard work, commitment and patience from Rumah Manggat, *gaharu* leaves harvested for tea by the longhouse community are showcased for the first time at the state-level International Day of Forests celebration at Bukit Siol, Kuching, in March 2021.



Gaharu tea is promoted and shared with important stakeholders at the state-level International Day of Forests 2021 celebration.



Learning is a lifelong journey and this also applies to farmers from Rumah Peter, as they learned the proper way to cut pepper from a Malaysian Pepper Board trainer.



WWF-Malaysia advocates good agriculture practices among pepper farmers in Rumah Peter, Song, utilising existing farmlands to grow and increase pepper yields without opening new land /forest areas.



Stalks of pepper berries.



Sun-dried pepper berries.



To help better communicate what we do with different stakeholders, the team has produced a few videos.



© Bessy Kho



Serenity by the lake in Batang Ai.



The mighty Rajang River is known for its tea latte-like colour since logging activities started about 50 years ago. Hopefully with more sustainable practices in place for all development activities, this once clear river will regain its healthy state.



Tagang in Rumah Engsong, along Kain River in Baleh, has started to show positive results as indigenous fish flock to the feeding zone.



Fish became tame in their own natural habitat through *tagang*.



Villagers from Rumah Engsong installing the *tagang* signboard so that residents and visitors are aware that Kain River is for fish and river conservation.



Rice in its husk.

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REFERENCES

Brander, L., Tai, B., Crossman, N., & Yeo, B. H. 2018. *Natural Capital Valuation using primary data research methods in Baleh, Sarawak Heart of Borneo Project* - WWF-Malaysia Project Report. WWF-Malaysia.

Envisar Sdn Bhd. 2018. *Social Impact Assessment of Implementing Green Economy Concepts at Logging and Oil Palm Operations within the Song-Katibas Area*. WWF-Malaysia.

Nieuwkamer, R., Ruijgrok, E., Nobel, A., Cieraad, F., Gotje, W., & Hartanto, V. 2018. *Natural Capital Valuation in the Heart of Borneo: Song-Katibas Technical Report*. WWF-Malaysia.

Online

Bapna, M. 2011. Q&A: *What is a “Green Economy?”*. Retrieved from <https://www.wri.org/blog/2011/04/qa-what-green-economy>

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. *Green Growth in the Heart of Borneo: Integrating conservation, economic development and well-being of communities across a transboundary landscape*. Retrieved from https://www.international-climate-initiative.com/en/details/project/green-growth-in-the-heart-of-borneo-integrating-conservation-economic-development-and-wellbeing-of-communities-across-a-transboundary-landscape-16_III_068-447

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. *International Climate Initiative (IKI)*. Retrieved from <https://www.international-climate-initiative.com/en/projects>

Francis, A. 2019. *How to get everyone to care about a green economy*. Retrieved from https://www.ted.com/talks/angela_francis_how_to_get_everyone_to_care_about_a_green_economy

Gore, M. 2018. *What on Earth is a ‘non-timber forest product’?*. Retrieved from <https://www.conservation.org/blog/what-on-earth-is-a-non-timber-forest-product>

Koumoundouros, T. 2019. *We Just Used Up All of Earth’s Resources For The Year, And It’s Only July*. Retrieved from <https://www.sciencealert.com/we-just-used-up-all-of-earth-s-resources-for-the-year-and-it-s-only-july>

LEAP Spiral. *Project Gaharu Malaysia*. Retrieved from <https://www.leapspiral.org/projet-gaharu-malaysia>

Portalewska, A. 2012. *Free, Prior and Informed Consent: Protecting Indigenous Peoples’ rights to self-determination, participation, and decision-making*. Retrieved from <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/free-prior-and-informed-consent-protecting-indigenous>

SarawakForestryCorporation. *FloraAttraction*. Retrieved from <https://piasaunaturereserve.com.my/flora-attraction/#:~:text=In%20Sarawak%2C%20Tapang%20trees%20are,the%20height%20of%2080%20metres>

WWF. *Heart of Borneo social and economic values*. Retrieved from https://wwf.panda.org/discover/knowledge_hub/where_we_work/borneo_forests/borneo_rainforest_conservation/greeneconomy2/?



OUR MISSION IS TO STOP DEGRADATION OF THE PLANET'S NATURAL ENVIRONMENT AND TO BUILD A FUTURE IN WHICH HUMANS LIVE IN HARMONY WITH NATURE.



Working to sustain the natural
world for the benefit of people
and wildlife.

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