INSPIRATION FROM WALLACEA

A Compilation of Biodiversity Conservation Stories

Burung INDONESIA

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A Compilation of Biodiversity Conservation Stories

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The Critical Ecosystem Partnership Fund is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation.

Serindit sangihe (*Loriculus catamene*), endemic bird Sangihe Island.

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The fishermen in Lamatokan Village are preparing their nets before leaving to catch fish.

© Donny Iqbal / Rekam Nusantara Foundation

TABLE OF CONTENTS

Residents of Lamatokan Village is carrying corn harvest with the background of Ile Ape Mountain.

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Fisherman from Lamatokan Village, Loweleba Bay, Lembata Regecy.

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INTRODUCTION CRITICAL ECOSYSTEM PARTNERSHIP FUND

The Critical Ecosystem Partnership Fund (CEPF), a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, and the World Bank, is designed to help safeguard the world's biodiversity hotspots. As one of the founding partners, Conservation International administers the global program through a CEPF Secretariat.

CEPF began working in the Wallacea Biodiversity Hotspot - covering the Indonesian regions of Sulawesi, Maluku, and the Lesser Sundas, plus the whole of Timor-Leste - in early 2015 with a focus on conservation of priority geographies that provide the habitat to globally threatened species. The fundamental premise of CEPF in Wallacea, as everywhere we work, is that conservation results are more lasting and far-reaching when we facilitate the engagement of civil society as a partner with government and the private sector.

In the almost five years since CEPF started working in the region, working together with Burung Indonesia, the Regional Implementation Team, we made 100 grants to 66 different organizations. The organizations that implemented those grants

A lady from Bubu Atagamu Village, South Solor District, East Flores, is weaving the Flores traditional cloths.

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made incredible progress when measured by hectares of land and sea under improved management, species better protected, and human livelihoods improved. However, there are more than measurements or individual success to consider. The CEPF and Burung Indonesia grantees learned some things along the way. While CEPF celebrates success, we also celebrate what our grantees have learned. We call these learnings: best practice.

When CEPF speaks to its grantees around the world asking them to identify "best practices," we often advise, "What is one thing you would tell someone who wants to replicate your work in another part of the country?" or, "What is one thing you would do differently if you could do this project again." The book that follows highlights best practices from grants in Wallacea. The experience of our grantees - our partners - points the way forward for all of us.

Daniel Rothberg
Grant Director
Critical Ecosystem Partnership Fund
Conservation International
Arlington, Virginia, USA

Sunset panorama at Solor Selatan, Flores Timur.

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INTRODUCTION
BURUNG INDONESIA

Raja-udang bengkaratu (*Cittura sanghirensis*), one of the endemic birds of Sangihe Island.

© Rifky / Rekam Nusantara Foundation

The Wallacea region is famous for its biodiversity with high levels of endemism. This region is also a center of unique cultures, in which abundant resources are integral to people's daily lives. This natural wealth, however, brings along with it the challenges of protection amid rapid, even at times destructive, development. Indeed, in many parts of Wallacea the biodiversity is degrading or is under threat of extinction.

Since 2015, Burung Indonesia has collaborated with the Critical Ecosystem Partnership Fund (CEPF) to enhance the capacity and roles of civil society organizations, educational institutions, community groups, and the private sector in biodiversity and ecosystem conservation in Wallacea.

Through the Wallacea Partnership Program, many natural resources management initiatives and models were strengthened benefitting communities and the environment. To ensure their sustainability the models were institutionalized through revitalization of community-based institutions, the formulation of new regulations at different levels of government and, they were also integrated into ongoing government programs.

The Wallacea Partnership Program was implemented in line with its strategic objectives to strengthen endangered species conservation, site protection, community-based terrestrial and marine resources management, and private sector engagement in biodiversity conservation.

The collection of narratives in this book are drawn from best practices in natural resources conservation and sustainable utilization in the Wallacea Region. Various stakeholders share how they have benefitted from the Wallacea Partnership Program. Burung Indonesia hopes that these stories can become an inspiration for Indonesia.

Conserving Nature with You!

Dian Agista
Executive Director, Burung Indonesia

Cerulean paradise flycatcher (*Eutrichomyias rowleyi*), the endemic species that is merely exist in the protection forest of Sahendaruman.

© Rifky / Rekam Nusantara Foundation

PROLOGUE

Natural karst landscape of Maros, Bantimurung Bulusaraung National Park.

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WE SEE THAT **WALLACEA** IS OF GLOBAL SIGNIFICANCE FOR THE WORLD'S BIODIVERSITY

DIAN AGISTA - BURUNG INDONESIA

Alfred Russel Wallace (1823-1913).

© Pandu Wijaya / Rekam Nusantara Foundation

Alfred Wallace's *The Malay Archipelago* (1869) was one of the most popular books of scientific exploration of the 19th century and it is still in print today. His description of the people, geography, nature and history of the region continues to fire the imagination of readers to this day.

One of Wallace's legacies is his identification of the faunal divide, now termed the Wallace Line, which separates the Indonesian archipelago into two distinct parts: a western portion in which the animals are largely of Asian origin, and an eastern portion where the fauna reflect Australasia.

Wallacea, as it is now known, is one of the world's 35 biodiversity hotspots. It is a distinct biogeographical region, located in central Indonesia covering Sulawesi, Nusa Tenggara, Ambon, Halmahera, Seram, and surrounding small islands along with Timor-Leste. With a total land area of 33.8 million hectares the region's thousands of islands support highly diverse marine and terrestrial biological communities with many unique species.

Although Wallace's work opened the world's eyes to the archipelago's rich biodiversity, it is only in the last 30 years or so that Wallacea has begun to receive the attention it deserves. Scientific studies on Wallacea's flora and fauna, climate, geology and of course, on its diverse peoples are now more widely available.

In 1992, Bird Life International published *Putting Biodiversity on Map: Priority Areas for Global Conservation* which identifies global biodiversity conservation priorities. "The essence of the research is about where the important sites for biodiversity are located. Indonesia is one of the highest priority countries, and Wallacea is the center of Indonesia's biodiversity," explains Dian Agista, Burung Indonesia's Executive Director.

This is the central reason for Burung Indonesia's decision to focus its work on protecting Wallacea's biodiversity which dates to 2002 when the organization was first established. "We see that Wallacea is of global significance for the world's biodiversity."

OBSERVING WALLACEA THROUGH BIRDS, COLLABORATING WITH COMMUNITIES

Wallacea covers 7,452 islands and more than half of the mammals, 40 percent of the birds and 65 percent of the amphibians found in Wallacea do not occur outside this biodiversity hotspot. Among the 813 bird species, 359 species or 44.15% are endemic, or are only found in this region. In addition, 201 local mammal species (other than whales and dolphins) and 188 reptile species have been recorded in the region.

The protection of 259 bird species in Wallacea is mandated by law. Nevertheless, as many as 13 species are critically endangered, 28 are endangered, and 37 species are listed as vulnerable.

Indonesia is a nation with the most Endemic Bird Areas (EBA) in the world. Indonesia has 23 EBAs, 10 of which are located in Wallacea while the rest are distributed throughout the eastern and western parts of Indonesia. EBAs are applied as a reference in identifying global biodiversity with birds as indicators. By examining a certain taxon, abundance of other taxa in the same area can be detected.

"Areas with high avian diversity indicates a high diversity of other taxa. Wallacea's incredible endemicity, biodiversity, and exceptional uniqueness are evident."

Focusing only on avian species, the importance of Wallacea for bird diversity cannot be underestimated. Indonesia ranks fourth in countries with the highest number of bird species. In other words, Indonesia has the highest number of bird species among non-South American countries.

Sangihe scops owl (*Otus colarii*), the endemic species in Sangihe Island.

© Rifky / Rekam Nusantara Foundation

The water area in Lamatokan Village, Hadakewa Bay, Lembata Regency, which is a part of natural wealth within Wallacea.

© Rifky / Rekam Nusantara Foundation

As of 2019, there are 1,777 recorded bird species in Indonesia, of which 515 are endemic. Indonesia has the most endemic birds in the world, and 65% of Indonesia's endemic birds are found in the Wallacea region. Ironically, Indonesia also has the highest number of endangered bird species in the world.

In addition to the unique flora and fauna, Wallacea's ecosystem diversity is no less impressive. Its unique karst ecosystem and volcanic lakes receive little of the spotlight. As populations expand and pressure increases on the natural resource base, however, the region is rapidly transforming with land conversion to mines or plantations and other development projects. The shrinking habitats and fragmentation of landscapes is threatening the region's unique biodiversity. Wallacea now provides livelihoods for almost 30 million people and contributes to economic activities that are global in scope.

Given Wallacea's importance as a biodiversity hotspot, Burung Indonesia is now focusing its work on protecting the biodiversity in partnership with communities, civil society organizations, government, universities and the private sector. "For 17 years we have worked in the Wallacea region and we cannot work alone. Many parties are needed to collaborate in Wallacea."

"Partnerships are critical to achieving the common mission of protecting Wallacea's biodiversity, while promoting sustainable development to improve the prosperity of communities living in and around areas of high biodiversity. This is key."

1 FROM THE COMMUNITY FOR THE PRESERVATION OF WALLACEA

Landscape aerial Haruku island, Maluku.

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PROTECTING HARUKU THROUGH RHYMES AND LOCAL WISDOM

THE ***KEWANG'S*** DUTY IS TO PROTECT BOTH THE **FORESTS** AND THE **SEA**, WHILE SAFEGUARDING THE **CUSTOMARY INSTITUTIONS** IN HARUKU VILLAGE

ELIZA KISSYA

Eliza Kissya, Head of "*Kewang*" (nature's guardian) from Haruku Island, Maluku.

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Waves crash along the Haruku coastline. The breeze blows lightly on fallen leaves underneath trees along the Laerisa Kayeli River. Haruku village, or locally referred to as Negeri Haruku, is located on Haruku Island, Central Maluku.

Emil Kissya, Hendri Musamu, Tessa Kissya, Yapi Musamu, and Varen Enko are having fun digging holes along the beach. Just a few feet away, mangrove tree seedlings sit ready for planting in the holes that these adolescents are preparing.

This is not the first time Emil and his friends have planted mangrove along the coast near his grandfather's house. For the past few years, planting has become part of their routine. If mangrove seedlings are available at the home of the *Kewang* or forest steward, they will plant them in sites suitable for mangroves.

Emil's grandfather is head of the *Kewang* customary institution in Haruku. He taught Emil to care for the environment since Emil was young. Now, Emil is a junior high school student and is the leader of the Young *Kewang* group in Haruku.

Eliza Kissya is well-known in Haruku as the man behind the Young *Kewang* initiative. Uncle Eli, as he is known, who has an impressive of record environmental activism during the past 40 years.

"And now the night has fall'n,
to Sanana we will stop by,
When using natural resources we shall
do so with wisdom in our minds."

The above verse recounts Uncle Eli's story about his journey protecting the environment. This rhyme reflects the essence of the Haruku community's ancestors. They understand that their lives depend on nature, and as such it is their obligation to protect nature.

The institution of *Kewang* has been around since the 1600s, as Uncle Eli explains. *Kewang* is a set of customary laws established by representatives of each Soa or heads of major ethnic groups.

In the Maluku language, Ewang means forest; meanwhile, *Kewang* is the person whose duty it is to protect the forest. "The *Kewang*'s duty is to protect both the forests and the sea, while safeguarding the customary institutions in Haruku village," notes Uncle Eli.

There are 40 *Kewang* appointed in Haruku consisting of representatives of the five Soa or clans in Haruku villages. Though this may seem like a good number, but as Uncle Eli explains, not all *Kewang* carry out their duties. Engaging the next generation to continue this tradition will be difficult under these circumstances.

"I wish that the community had a better understanding and awareness about protecting our environment," says Uncle Eli.

For that reason, the 70-year-old Uncle Eli wants to pass on his love and stewardship of Haruku. Indeed, he has received numerous awards over the years such as the prestigious Kalpataru environmental award (1985), Satya Lencana Medal of Merit (1999) and Coastal Award (2010). In 2012 the National Disaster Management Agency recognized his inspirational leadership in disaster relief efforts.

Besides Moluccan megapode, the house of nature's guardian has been doing the conservation efforts of hawksbill sea turtle.

© Donny Iqbal / Rekam Nusantara Foundation

Moluccan megapode (*Eulipoa wallacei*) living in Haruku Island, Maluku Province.

© Donny Iqbal / Rekam Nusantara Foundation

"I am not looking for recognition. This is a burden for me. What else must I do to protect this land?" Uncle Eli continues. In order to prepare the younger generation Uncle Eli has allocated space near his home for learning about the environment.

Next to the *Kewang*'s home is a library with books on the environment. The library was built for children who want to learn about the environment and how to protect it. Moreover, Uncle Eli also keeps a mangrove nursery or Haru Ukui Kalesang located next to the library.

Behind the library is a Moluccan scrub fowl (*Eulipoa wallacei*) hatchery and rearing area. The Moluccan scrub fowl is increasingly rare in the wild. In the facility are three one-year-old scrub fowls. Once they've reached adulthood, they will be released into the wild. Next to the Moluccan scrub fowl enclosure is a sea turtle hatchery.

The Moluccan scrub fowl is a megapode commonly found in Maluku and North Maluku. The species once had a greater distribution but is now found in Haruku in Maluku province and in Kao and Galela in North Maluku. The scrub fowl went extinct in some areas due to egg collection, land conversion and coastal abrasion.

FIGHTING BACK WITH RHYMING VERSES AND LOCAL WISDOM

"Come ride to the mountains my Lady,
with a carriage driver and his horse that neighs.
If one day mines are the chosen commodity,
don't you dare send the Haruku people away."

This verse takes us back to when Uncle Eli and the local community drove the mining industry out of Haruku. Back in 1997, Uncle Eli picked up arms and protested, but nowadays, rhymes and ukulele are his weapons.

"At every opportunity where I am a speaker I'd always slip in a few rhymes about the environment and indigenous peoples. I believe that today is not the time to get into shouting matches against the government anymore. Instead, we must remind them with gentler ways," he adds, as he strums his ukulele and begins to sing.

After hearing about Uncle Eli's experiences, Burung Indonesia through the Baileo Maluku Foundation provided financial support to promote forest and coastal ecosystem sustainability and conservation in Maluku.

"The program we're running here is based on the customary prohibition known as *Sasi* for coastal ecosystem protection," explains Stefanus from the Baileo Maluku Foundation, who feels that the progress in Haruku and Uncle Eli's work so far is astonishing. "Baileo is only here to facilitate and strengthen. The community is the implementer".

Strengthening community-based action will ensure species, coastal forest and marine protection. Integrating the values of sustainability found in local wisdom (*sasi*) in village development planning and institution will create greater community ownership.

The Haruku program has three objectives: the incorporation of *sasi* wisdom into village regulations to ensure that village and coastal development are based on sustainable natural resources management systems.

The second objective is to rehabilitate the Moluccan scrub fowl nesting ground in the Learisa Kayeli river basin. Finally, the third objective is to share the results and of the program with other villages throughout Maluku.

Eliza Kissya standing on the location in which the Moluccan megapode is nesting in his backyard of nature's guardian house.

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The white sands in Laerisa Kayeli Riverbank is a natural nesting ground for the Maluku scrub fowl. During the floods, the nesting ground is often damaged when the flood washes away the sand. The sand eventually naturally accumulates elsewhere, but this causes the estuary to always shift.

During 2015, the Moluccan scrub fowl nesting ground was heavily damaged, including the Haruku *Kewang*'s home next to it. The Maluku province government constructed a breakwater structure around the *Kewang*'s home and the scrub fowl nesting ground in late 2015. However, the construction project forgot to fill the scrub fowl nesting ground with sand. The Baileo Foundation through the *Kewang* institution allocated funds for filling approximately 0.25 hectare out of one hectare area with sand. As a result, the Moluccan scrub fowl nesting ground's function has been restored. Hundreds of scrub fowl eggs have hatched in the Haruku *Kewang* hatchery. The eggs come not only from wild Moluccan scrub fowls but also from locals who find scrub fowl eggs in areas outside of the monitored hatchery.

"The villagers no longer eat Moluccan scrub fowl eggs. The eggs that they find will be taken to hatch at Uncle Eli's. Even the children give their eggs to hatch," says Pieter, a Haruku villager.

Pieter adds that the community is proud of Uncle Eli's work. "In addition to being known for our *sasi* for the lompa fish, we also hatch Moluccan scrub fowls," he says. Pieter owns a speed boat running the Ambon-Haruku route, and he can see how Haruku has become a familiar name because of its *Kewang*, *sasi* lompa, and Moluccan scrub fowl.

Sasi lompa is traditional wisdom in Haruku upheld by the *Kewang*. The community is prohibited from harvesting the lompa fish (*Trisina baelama*), a species of sardine, until a certain date is determined to 'open the *sasi*'. At this time, everyone can gather in the ritual to harvest the lompa fish.

In addition to controlling lompa fish population, *sasi* is a way to fairly distribute the wealth to the entire community. "When we distribute our lompa catch, the widows and orphans are the priority," Uncle Eli elaborates.

The egg of Moluccan megapode within the sand located in the backyard of nature's guardian house, in Haruku Island.

© Rifky / Rekam Nusantara Foundation

The thousands of harvested fish are not sold. Every community member processes, dries and store the fish in their homes for their own use. "Our people never experience a fish shortage," Uncle Eli points out.

Local wisdom like *sasi* is being incorporated into regulations on coastal environmental management.

In addition to conducting training on drafting village regulations, the villagers now have a better understanding of how traditional institutions can be used to protect their environment.

Benito Kissya shares a story about how the children learn about the environment. "We make the *kewang*'s home a place to play and learn about the environment for schoolchildren. They will be the young *Kewang*. There are now more than 20 children participating."

The young *Kewang* are given basic in-class explanation on topics such as; the importance of mangroves, the Moluccan scrub fowl, waste management, and lompa fish conservation. These sessions are followed by outdoor excursions to get some hands-on practice related to their in-class learning.

"We hope they will grow up to be young *Kewang* like me, following my father and my footsteps," adds Benito, who is now ready to take his father's place, Uncle Eli, as head of Haruku village *Kewang*.

The efforts implemented in Haruku village to conserve nature is an example that can be scaled up in other areas. "I want *Kewang* to be restored throughout all of Maluku," Uncle Eli declares.

Uncle Eli concludes the discussion with a message for us all.

"Off to the north we raise our sail,
with unpredictable storms that bring no mirth.
Kewang of Haruku, we loudly wail,
Calling out to save our dearest mother Earth."

Children in Haruku Island who are going to plant mangrove trees around the nature's guardian house.

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The aerial landscape image of Lompobattang Bawakaraeng Mountain, South Sulawesi.

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IN BANTAENG, COFFEE CULTIVATION BEGINS WITH A SUSTAINABLE FOREST

The aerial image of Pattaneteang Village, Tompobulu District, Bantaeng Regency, South Sulawesi.

© Rifky / Rekam Nusantara Foundation

BANTAENG WAS KNOWN AS **BONTYNE** AND AS A COFFEE-PRODUCING REGION. TO THIS DAY BANTAENG IS FAMOUS FOR ITS **BUGIS COFFEE** WHICH CAN BE FOUND IN PATTANETEANG.

After a night of rain, the daybreak is clear and crisp. Mount Lompobattang is visible with Mount Bawakaraeng looming in the back. Further off in the distance is Mount Tanette Tappalang which is the site of the Pattaneteang village forest.

Ramli, a 32-year-old coffee farmer from Pattaneteang village, explains that "Pattaneteang" comes from the word 'Tanette', meaning a vast field in the mountains. The landscape stretches from the mountaintop down to the coast." The village is situated along a ridge, blanketed with coffee farms and rice fields with forests overlooking the ridge.

"This area used to be barren, with no large trees." The community cleared the land to cultivate corn which made it prone to landslides. After realizing the negative impacts of their farming practices they began planting trees in the landslide-prone areas.

Haji Mambua, the 62-year-old coffee farmer and village elder in Pattaneteang, echoes Ramli's comment. "Coffee has been around a long time, dating back to Dutch colonial times, although we haven't cultivated it well."

Haji Mambua's account concurs with Alfred Russel Wallace's notes during his visit to Sulawesi in 1857. Back then Bantaeng was known as Bontyne and as a coffee-producing region. To this day Bantaeng is famous for its Bugis coffee which can be found in Pattaneteang.

Ramli, a coffee farmer from Pattaneteang Village, Bantaeng Regency.

© Rifky / Rekam Nusantara Foundation

The communities in Pattaneteang Village are nurturing their own coffee plants.

© Rifky / Rekam Nusantara Foundation

"Back in the 1960s and into the 1970s, we relied on corn; we were very poor. Now things have Improved." Although coffee has a long history in Pattaneteang, it is only in the late 1970s that the commodity became one of the drivers for villagers to protect the forest around their farms.

"I plant coffee to protect the land. When we planted corn, the soil was vulnerable to landslides. Praise to God that now the forest is protected and the soil is no longer landslide-prone."

Similar to Haji Mambua's story, Ramli speaks of the time when most of Pattaneteang was planted with corn. "Not only was it prone to landslides, but the bare land also caused flash floods (in the city) below," says Ramli.

Haji Mambua, Ramli and the other villagers planted coffee and other hardwoods in the critical soil. Gradually the land became green again. Since the late 1980s the forest in Pattaneteang is protected. The once-barren land is now green with coffee and hardwood species.

In addition to rehabilitating critical land, villagers protect water sources. "It is not difficult to protect our water sources. We just plant hardwoods that the community won't use and we prohibit logging".

Tarsius can be noticeable in the Lompobattang Mountain's forest, Pattaneteang Village.

© Rifky / Rekam Nusantara Foundation

Sulawesi dwarf cuscus (*Strigocuscus celebensis*) is one of the mammals which can be seen in the Lompobattang Mountain, Pattaneteang Village.

© Rifky / Rekam Nusantara Foundation

PLANTING COFFEE, PROTECTING PEOPLE, NATURE, AND WILDLIFE

Along with their coffee trees, the community also plants hardwoods as coffee shade crops. "We are replanting surian (*Toona sureni*), batai (*Falcataria moluccana*), and coraltree (*Erythrina variegata*). There is also Lutu wood which similar to the Borneo ironwood, if we find the seedlings." Although the community had little knowledge about coffee, they understood the need for shade trees. This is why they plant hardwoods among their coffee trees as shade crops. "Unknowingly, this practice helped improve the soils.

Endemic wildlife inhabits the village forest and coffee farms in the Bawakaraeng-Lompobattang mountain range. The Lompobattang bunomys (*Bunomys coelestis*) is a Critically Endangered (CR) species and the Lompobattang Flycatcher (*Ficedula bonthaina*) is listed as Endangered (EN) in the IUCN Red List. Meanwhile, the elusive tarsier (*Tarsius tarsier*), with its bulging eyes, long fingers and long tails can be found in the trees around Pattaneteang village.

Coffee farming, however, has not been without its challenges. In the late 1990s, there were numerous boundary conflicts between the community's land and the state forest, which is designated as protection forest. In addition to clearing forest for farm land, back then the community collected timber for construction material. The community was afraid to enter the forest area. If anyone wanted to collect forest products, they did it while sneaking behind the rangers.

Pattaneteang was one of the first villages to participate in the central government's social forestry program in 2009 along with Laboo and Campaga villages in Bantaeng district, South Sulawesi.

The conflict subsided following implementation of the Village Forest scheme in Pattaneteang, though problems did not end there. Unsustainable natural resources use and limited opportunities to develop viable livelihoods became the primary factors pressuring the forest's biodiversity.

A lady from Pattaneteang Village is taking firewood in the garden nearby the village's forest.

© Rifky / Rekam Nusantara Foundation

Balang Institute, a partner of Burung Indonesia in Pattaneteang, worked to build community and indigenous people's capacity through agriculture management and agroforestry development. "We saw that the community awareness was already there. We wanted to bring them added value. We looked for the commodity with the greatest potential to improve their economy while implementing conservation measures," explains Adam Kurniawan, Director of Balang Institute.

Coffee requires shade trees to be productive. The forest in and around coffee farms provide direct benefits to the community's coffee farms. But coffee farmers in the village were not getting a good price for their coffee crop. Balang Institute carried out a coffee market chain research for its capacity building program and found that the coffee prices in Bantaeng were very low.

To raise coffee prices and provide greater benefits for the community, programs such as farmer capacity building and coffee farm mapping in and around forest areas were conducted.

The program also worked on increasing coffee production and identifying select markets.

"If the coffee can reach a standard and good price, we hope that the community will maintain

Coffee seeds which are picked from the plantation in the Pattaneteang Village's forest.

© Rifky / Rekam Nusantara Foundation

their coffee farms and shade trees, which will automatically protect their forest."

"We found the pattern through this Burung Indonesia program." We didn't come out and say that this is a conservation program. But in result their farms are now habitat for endemic wildlife, such as tarsier and Lompobattang Flycatcher."

Balang Institute was surprised with their findings in the forest and coffee farms managed by farmers. "We didn't know that there are tarsiers here. Our background is social sciences. We were surprised to see that our program protects the forest as well as the endemic species living here," says Adam.

The next step is to develop ecotourism in Bantaeng. The breath-taking nature and endemic wildlife are promising attractions. "Most importantly is how we protect our forest, but with the community as primary beneficiaries of forest sustainability. They are at the forefront of forest protection".

The Wallacea Partnership Program's seeks is to develop alternative livelihoods while ensuring that the community is no longer dependent on environmentally exploitative practices. The experience in Bantaeng is a good example where livelihoods and conservation are mutually supportive.

Maleo senkawor (*Macrocephalon maleo*) *living upon Towuti Lake.*

© Rifky / Rekam Nusantara Foundation

PROTECTING THE MALEO IN TOWUTI

Maleo egg is found in the sand around Towuti Lake, East Luwu, South Sulawesi.

© Rifky / Rekam Nusantara Foundation

MALEO EGGS WEIGH UP TO **240** TO **270 GRAMS** PER GRAIN. WITH AN AVERAGE SIZE OF 11 CM OR CAN REACH **EIGHT TIMES** THE SIZE OF A **CHICKEN EGG**.

Working swiftly yet carefully, Jafar's agile hands scatters the warm beach sand on the shore of Towuti Lake in his search for Maleo eggs to bring home. Not to eat them however; he is on a mission to protect the Maleo bird, classified as Endangered (EN) by the IUCN. Shrinking and degraded habitats along with excessive egg consumption are driving the bird to the edge of extinction. The Maleo population has declined by more than 90% since 1950. Currently, an estimated 5,000 individuals remain in the wild.

Maleo eggs are a local delicacy. During his visit to Sulawesi in 1859, even Alfred Russel took part; "When quite fresh, they [Maleo eggs] are delicious eating, as delicate as a fowl's egg, but much richer, and the natives come from more than fifty miles round to search for them."

Now 50 years old, Jafar's transition from a consumer of Maleo eggs to the bird's most dedicated protector occurred when he realized why the Maleo needed protection. After seeing media reports Jafar realized the Maleo bird will become extinct if action wasn't taken. "That's why I decided to protect them".

Since 2004, Jafar has been digging up Maleo nests to hatch the eggs at home. His late grandmother passed on her Maleo nest-hunting skills. "My grandmother taught me how to find, dig, and poke for Maleo eggs." I hatch as many eggs I can, and then release the chicks back into the wild," Jafar explained from his home Pekaloa village, East Luwuk district, South Sulawesi.

At the outset, however, it was not all smooth going. The Maleo eggs were collected and then transferred into sand nearby his home. However, the eggs failed to hatch after three months. Learning from his mistakes, he hatched the eggs in sand gathered from the nest site. In addition to placing them in the sand, Jafar incubated the eggs in an oven with lamps as a heat source. The hatched chicks are placed in an enclosure for a week before they are returned to the collection site. "I release them because I think once they're released back into the forest they can breed and lay eggs".

Jafar is digging the sand to look for maleo eggs in Towuti Lake.

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Covering 56,108 hectares, Towuti Lake is the second largest lake in Indonesia. It is part of the Malili Lakes complex which comprises five lakes of which Towuti Lake is the largest, while Matano Lake is the deepest lake in Southeast Asia. The others lakes are Mahalona and two smaller lakes, Massapi and Wawantoa.

The Malili Lakes complex is a Key Biodiversity Area (KBA) in the Wallacea region, unique for its freshwater species. Forty-one endemic species have been recorded in the lakes which are not found elsewhere. The forest surrounding the lakes not only provide a habitat for the Maleo, but also it acts as a water catchment, providing clean water for neighbouring communities.

In 2016, the Faculty of Forestry at Andi Djemma University in Palopo conducted a forest survey with Burung Indonesia to assess the biodiversity in the Malili Lakes complex. "We found Maleo nests and tracks in the Tominanga Protection Forest," said Hadijah Aziz, Dean of the Faculty of Forestry. "When we found the Maleo it was a surprise since the

The aerial landscape of Towuti Lake region.

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species has become increasingly rare in the area". The university sponsored program in Pekaloa village aims to protect and conserve endemic vegetation species while raising awareness about globally threatened species, including the Maleo.

In December 2016, as part of the Burung Indonesia program in the Malili Lakes complex, Nuha and Matano village governments issued a village regulation to protect three plant species. By protecting the habitat of the three plant species, the Maleo's habitat is also protected. "We'd like to do a study and assessment of the current Maleo population size. This is imperative for the protection of the species and its habitat". Hadijah hopes that the communities with the support of the local governments will take the lead in protecting the Maleo. "Habitat protection is important. To ensure its sustainability, the university cannot work alone, but needs strong public participation because they are key to protecting the Maleo and its habitat".

Maleo is searching for his spawning place in Towuti Lake.

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A fisherman is looking for his catch within muro area in Lamatokan Village, Lembata, East Nusa Tenggara.

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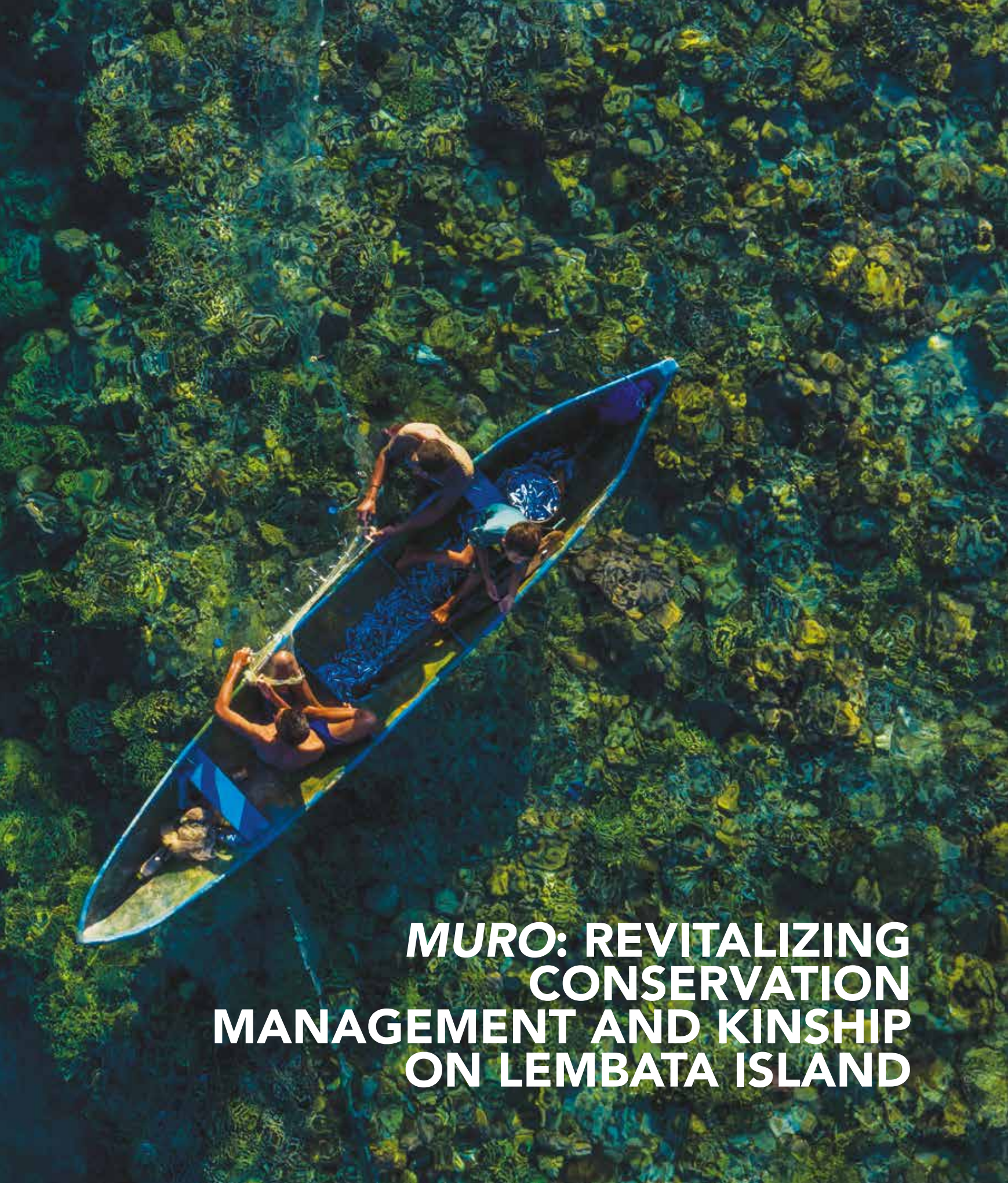

MURO: REVITALIZING CONSERVATION MANAGEMENT AND KINSHIP ON LEMBATA ISLAND

Marine biological diversity within *muro* area in Lamatokan Village, Lembata, East Nusa Tenggara.

© Wahyu Mulyono / Rekam Nusantara Foundation

OUR **OCEAN** WAS DESTROYED BECAUSE OUTSIDERS CAME WITH THEIR **BOMBS** AND **POISON**. THEY TOOK THE FISH AND WE GOT NOTHING.

BENEDIKTUS BEDIL

The women are shouting in awe and delight while watching the underwater video. They cannot believe that they are looking at underwater scenery located in their front yard, that is, Hadakewa Bay, on Lembata Island in East Nusa Tenggara Province. For the women in Lamatokan village the video gave them a brief insight into the ocean's biodiversity. But for the past decade, it is as if the ocean had put a limit on the villagers' catch.

The aerial landscape of Lamatokan Village, Hadakewa Bay with Ile Ape Mountain, Lembata, as a background.

© Rifky / Rekam Nusantara Foundation

The villagers had to travel far out to sea to fish, even outside Hadakewa Bay due to blast fishing which had destroyed the coral. Benediktus Bedil, an indigenous leader in Lamatokan, shares a story of how blast fishing and the use of potassium to stun fish devastated their fishing grounds in Hadakewa Bay. "Our ocean was destroyed because outsiders came with their bombs and poison. They took the fish and we got nothing," recalls Ben, as he is known.

Setting up the signs on the water area of Lamatokan Village, which become *muro laut* (restricted area).

© Rifky / Rekam Nusantara Foundation

This concern led Ben and the indigenous leaders in Lamatokan to revive the customary institution, *Muro* that had once protected their natural resources. "We are once again enacting *Muro* Lewa, our ancestors' way to wisely use our marine potential".

Muro means prohibition, and Lewa means sea, therefore *Muro* Lewa means customary protection of the sea. The area designated for protection is closed to all fishing activities for a certain period of time. The objective is to create a reserve and provide an opportunity for natural regeneration. The *Muro* principles are similar to those of Sasi that is commonly found in in eastern Indonesia. All agreements are done as part of a multi-stakeholder process based on customary rituals.

The implementation of *Muro* has had the hoped for impacts. "The fish have returned. The people do not need to travel far to fish in the open seas. And, this has a great impact on our income". Yet, at first Ben was accused of attempting to destroy the community livelihoods. Barakat, the community based organization that he heads, was reported to the District Head, Fisheries Agency and the District House of Representatives.

Ben, a Lamatokan native, was not discouraged. Active in diocesan organizations since his youth, he continued to patiently share information with fellow villagers on the role of *Muro*. His persistence paid off with the signing of a customary agreement by 14 village heads to protect Hadakewa Bay in 2017. The agreement received the endorsement of the Lembata district government officials and the East Nusa Tenggara Province Fisheries Agency, customary institution representatives and village councils.

The traditional ceremony for *muro laut* decision in Lamatokan Village, Hadakewa Bay, Lembata.

© Rifky / Rekam Nusantara Foundation

Getting agreement was only the first step. Selecting the location of the *Muro* required participatory mapping and many rounds of deliberation since all parties had to agree on a location that had significant cultural, economic, and environmental values. After reaching a consensus, the *Muro* was launched on 30 January 2017, covering a total of 54.49 hectares of marine area. Facilitated by Barakat, the site selection was based on an assessment that took into account the ecology, social-economic and social-cultural aspects of the area.

The *Muro* contains several stipulations, including a ban on eight marine species groups: dugong, dolphins, sea turtles, manta rays, hump head wrasse, sea horses, corals, and mangroves. This overlaps with this area's designation as a Key Biodiversity Area (KBA) because the waters are home to globally endangered marine species, including the humphead wrasse, dugong and numerous coral species.

The agreement also decided on the designation of a fish spawning ground, areas threatened by abrasion and culturally significant sites for certain ethnic groups. Unique coral formations such as table corals in the Welo Mate waters in Tapolangun village came under protection. The same applied to dugong habitats. Dikesare village, where many protected species are found such as giant clams, crabs, and sea cucumbers, is also protected.

The community agreement also led to the designation of an oring nele nekin, which translates into a sustainable fisheries zone. In this site, the community can fish for sustenance, as long as they use environmentally friendly gear such as fish traps like bubu from rattan and nere from palmyra palm leaves, and a floating fish cage (*rumah apung*).

Women and children who cannot go too far out to sea can fish in the ika berewae, an area set aside for fishing for daily needs.

"One area in Rubuh Kuja was established as tahi tubere (soul of the sea). This area is permanently closed because it is critical for fish breeding". On 27 April 2019, the *Muro* area was expanded to 549.5 hectares with the support of the District Marine Affairs and Fisheries Agency.

SUPPORTING THE ECONOMY

After the *Muro* was established through customary rituals, roles were assigned according to customary institutions. One ethnic group was appointed as the customary leader responsible for designating and opening the *Muro*, while another was responsible for preparing requirements of the customary rituals, and yet another was responsible for protecting the *Muro*.

With the implementation of the *Muro*, Taran, along with his fellow fishermen no longer need to go out to sea as far as they once did. Fishing is only allowed outside of the *Muro*. "On average we can get 100 kg fish. We fish in teams of seven to nine people. If we split the profits, each person earns IDR 100,000".

Ursula Sae, a woman farmer, often looks out for whales to pass through the bay. "If the whale swims here, then planting season is here. The customary elders will instruct us to work the land, looking for signs from nature. If the whale comes, then the westerly season is coming soon," she notes.

Philipus Anakoda, the Lewotana tribal elder, explains that *Muro* will be opened for three months of the year. The community can fish but only using environmentally friendly fishing gear. During the *Muro* opening, the Balawaheng (ritual leader) leads the ceremony by offering food to the ancestors that are known as, "*Pau boeama opo koda kewoka*", with the hope that their offerings can bring blessings and that they are kept safe from all trouble and danger that threatens their lives and work. When the *Muro* is officially opened, other villagers will be invited to catch fish together".

Farmers will then bring some of their produce such as bananas, sweet potatoes, coconuts to eat together after fishing.

Several villages in the bays of Hadakewa and Lewoleba have revived the *Muro* to reinforce their kinship. Ancestral traditions emphasized the need to manage the land and strengthen kinship bonds, but this wisdom had been allowed to lapse. Through the elders' memories supported by community initiatives this local wisdom was revived and incorporated into resource management practices.

The benefits of the revival of the traditional institutions are already apparent. According to Ben, the government's trust is key to the continuation of these efforts. The *Muro* revival program has now been adopted by the government and formalized through Decree of East Nusa Tenggara Governor No. 192/KEP/HK/2019 11 June 2019, concerning Hadakewa Bay's inclusion into the Lembata District Local Marine Conservation Reserve.

Fresh fish caught in the water area of Lamatokan Village, Lembata.

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INSTITUTIONALIZATION AND INTEGRATION WITH GOVERNMENT AGENCIES

The *Muro* not only has customary authority, but now it has legal authority as well. The *kapitan sari lewa* customary institution was formalized as the Community Oversight Group under the provincial Marine Affairs and Fisheries Agency with supporting equipment and funding for marine patrols. The *kapitan sari lewa* reporting system is also linked to a number of authorities: the provincial Marine Affairs and Fisheries Agency; Lembata District-Lembata-Sikka regional KDC in Larantuka; the Kupang Marine and Fisheries Resources Surveillance Station; Larantuka Marine and Fisheries Resources Surveillance Post/ Monitoring Unit; Lembata District and Water Police; and Navy/Lembata navy base, through an SMS gateway.

"This program completed all intervention strategies, from creating an effective local conservation model through the *Muro* revival, then proving that the model can be replicated and formalizing the model into policy," states Adi Widyanto from Burung Indonesia.

The women's amazement at the underwater beauty and abundance of fish is a good sign for the future well-being of these coastal communities.

Children of Lamatokan Village are able to catch the fish near their village.

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2 SMALL HEAVEN IN WALLACEA

Landscape aerial of Buano island, Seram Bagian Barat, Maluku.

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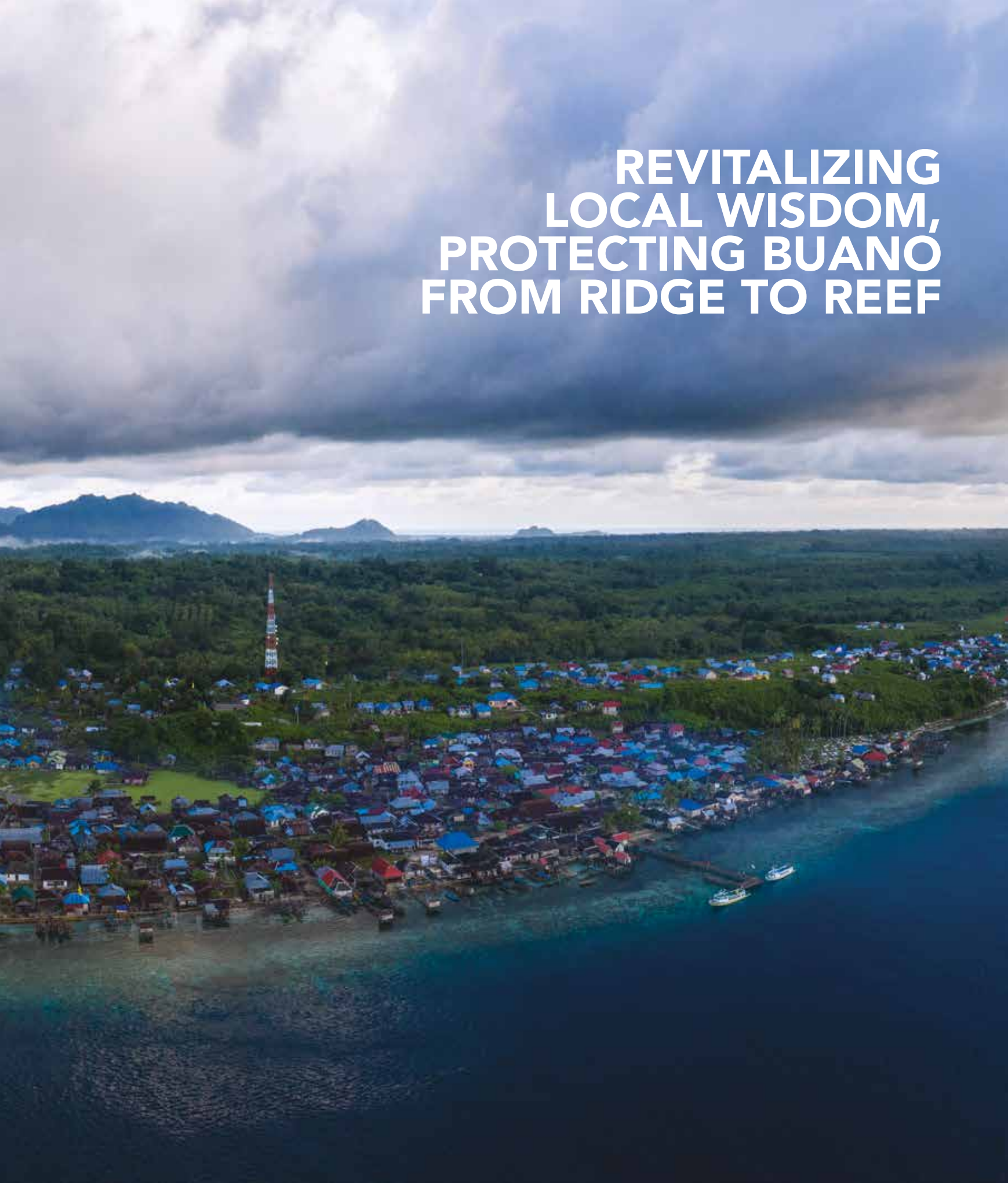
REVITALIZING LOCAL WISDOM, PROTECTING BUANO FROM RIDGE TO REEF



Sudin Mahelatu, the head of nature's guardian in Buano Island of West Seram, Maluku.

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I PUNCHED
A MAN ONCE.
I WAS FURIOUS!
HE SAID HE
WAS JUST
SPEARFISHING,
BUT I SAW THE
COMPRESSOR
AND **FISH POISON**
IN HIS BOAT

SUDIN MAHELATU

"I punched a man once. I was furious! He said he was just spearfishing, but I saw the compressor and fish poison in his boat." Sudin Mahelatu angrily recalls the 2011 incident when he was patrolling the Buano waters. Sudin is not a policeman or a government official rather, he is a Kewang (forest steward) on Buano island responsible for monitoring the village's terrestrial and marine resources.

Sudin has spent the last 20 years as a Kewang in Buano in West Seram, Maluku province. At one point, he quit his position as Kewang, but when the NGO, Community Development Participation Agency (Lembaga Partisipasi Pembangunan Masyarakat/LPPM) came to Buano in 2016, Sudin returned to his position and is now even more motivated.

Sudin's encounter with the fisherman is symptomatic of ongoing tensions on how to sustainably manage natural resources in Buano and the surrounding islands. Although the island is only 135.73 km2, the bio-diverse rich terrestrial and surrounding marine area are under threat from over exploitation, destructive fishing practices, illegal hunting and trading. The finest timber in the Buano's protection forest has been cut down to make boats with the remaining forest cut for firewood to process melaleuca oil from leaves.

LPPM's Director, Piet Wairisal attributes some of the problems of resource destruction and degradation to poor community awareness. Yet, there is a tradition of environmental protection embedded in customary laws, but they have fallen out of use. Indeed, Abdul Karim Tamalene recounts how Buano community's customary law has traditionally played a role in managing resource use. There were stewards for the entire Buano, from the highest peak down to the sea ensuring the resources were sustainably used.

Soa is a collection of clans or families, who established a set of customary institutions and rules to maintain village stability. "The five Soa in North Buano, including Soa Ani, have strong customary beliefs in the forest and the sea. There was a great sense to care and protect everything from the coast to the open sea. The same applies in the forest, all the way from the mountain tops that are sacred and embedded with ancestral values. We believed that this cannot be interfered with and no one can enter the area for just any purpose," explained Tamalene, the chief of Soa Ani.

But to revitalize the traditional institutions and practices, LPPM had to navigate a complex social-economic and political context on this island of 18,000 people. Buano comprises

Red-cheeked Parrot (*Geoffroyus geoffroyi*).

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Marine biological diversity is well conserved around Buano Island.

© Wahyu Mulyono / Rekam Nusantara Foundation

two Negeri (village-level governments): North and South Buano. North Buano has a larger population than South Buano and has a higher level of resource exploitation compared to South Buano. "Things were difficult when we first arrived. The communities were suspicious and traumatized from past conflicts. We had to slowly build a relationship with them," Piet remembers.

The revitalization of customary practices provided an entry point. This necessitated bringing all the stakeholders together because if customary practices were to be instituted both village communities had to cooperate, otherwise this ridge-to-reef management model would not succeed. Buano is a small island and the effects of upstream problems are immediately felt downstream.

As part of the confidence building process LPPM worked with the communities to identify the natural resources especially in North Buano village. They found that the coral reefs, mangrove forests, and sea grass, three vital coastal ecosystems for marine species, are in relatively good condition. Buano's Coral Fish Diversity Index (CFDI) is ranked third after Halmahera and Banda islands. The sea grass ecosystem, consisting of seven sea grass species stretches the entire island's coastline, from north Buano to the south.

The communities gained a better appreciation of their natural wealth which provided the motivation to revitalize customary environmental protections. Based on the assessment's findings, the Soa identified a protected area along the Buano coastline and established a community-based Marine Sanctuary (Daerah Perlindungan Pesisir/DPL) and beach and marine sanctuary in North Buano. The marine sanctuary is located around two surrounding islands, Nusa Esuna and Nusa Mananaut, comprising a six hectare core zone and twenty-three hectare buffer zone. The beach sanctuary extends 100 metres inland and 50 metres offshore from Buano's coastline. Another nearby island, Nusa Tea is designated as a one hectare marine tourism area. With the agreement destructive natural resource exploitation community practices along the coastal ecosystem are being curbed. For example, blast fishing and cyanide used to stun fish has stopped; sea turtles and their eggs are no longer collected and mangroves are now being revitalized because of new awareness about the risks of abrasion and seawater intrusion.

Achieving agreement was by no means an easy task. Once they finished getting agreement between the villages they had to work with government agencies to agree to the concept of ridge-to-reef to develop the Buano Island Management Action Plan. "Therein lies our colleagues' strength in community in government-level organizing, which in turn was able to produce the first community and traditional wisdom-based ridge-to-reef model in the Wallacea Region," comments Vivin Widyasari, Burung Indonesia's Maluku Islands Partnership Coordinator. Work didn't stop there however, in 2017, the Maluku provincial government through its Marine Affairs and Fisheries Agency set aside Buano island coastline as a marine protected area covering 30,454 hectares. This designation was included in the Maluku Province Coastal and Small Island Zoning Plan.

LPPM is currently facilitating the island action plan that integrates inter-sectoral planning to ensure that all stakeholders are part of the process. The action plan involves a number of agencies, including forestry, marine affairs and fisheries, food security, regional development planning, community empowerment.

Information board that was made by the head of soa (nature's guardian) in Buano Island.

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THE REVITALIZATION OF COMMUNITY MANAGEMENT

LPPM applied three approaches to revitalize traditional wisdom in Buano. The first was to redefine the values embedded in local wisdom. "For example, previously Sasi values was limited to local resources utilization, such as farm or marine resources. These have been broadened to include environmental conservation," LPPM program coordinator in Buano, Noni points out. Secondly, the institutionalization of values in the state's legal framework. Customary law such as Sasi has endured as unwritten norms, and must be validated as written law and acknowledged in the state law through village regulations, regional regulations, or other forms of legality. The third is customary institutions capacity building. "Kewang, for example, must be equipped with understanding of the customary law. They also require adequate communication and transportation support to monitor the villages under their guardianship."

Harvesting the leaves of Eucalyptus in Buano Island.

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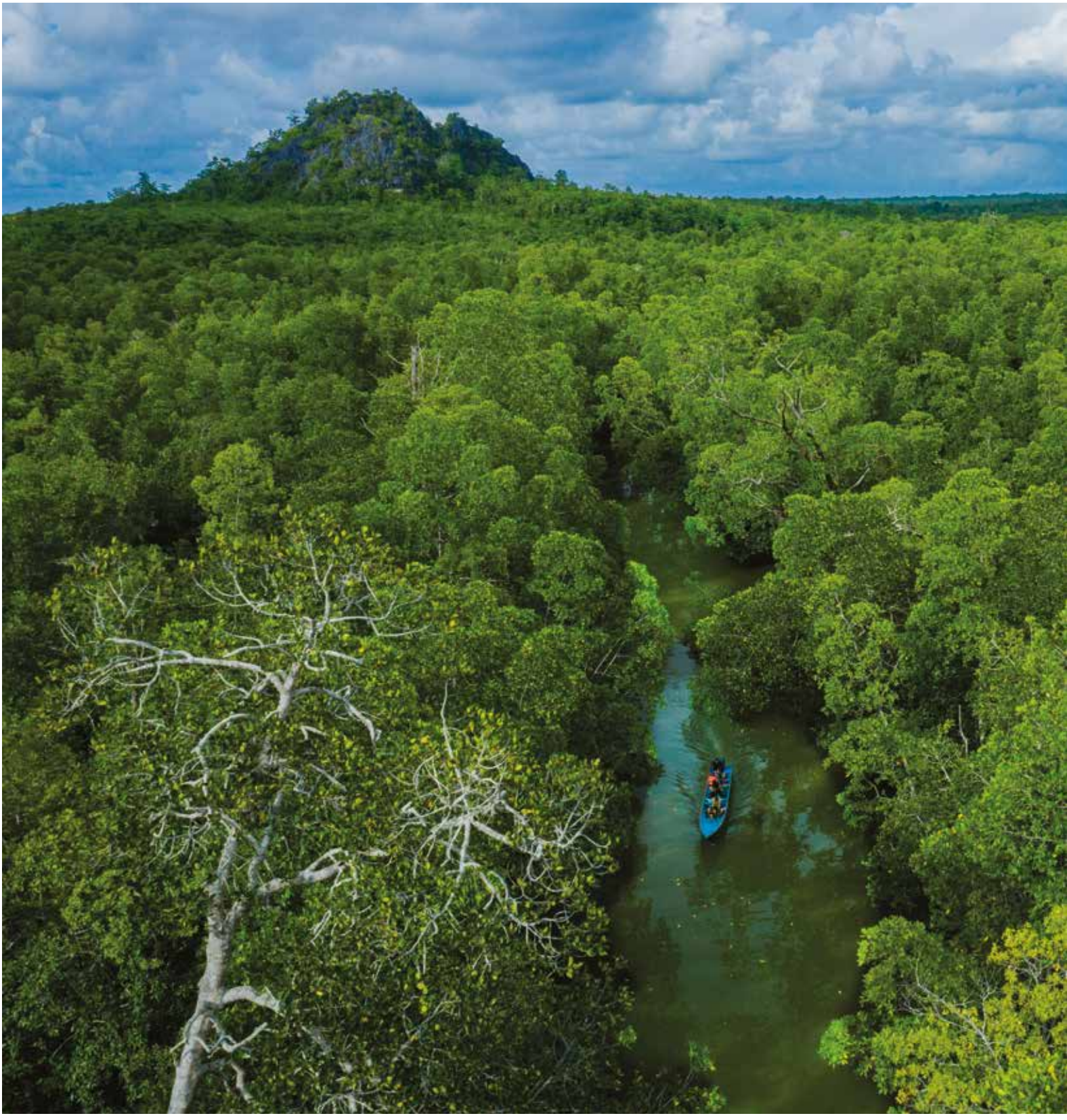
NEW
YORK
CITY



PROTECTION FROM RIDGE TO REEF

Although there is still much work to be done especially in reconciling the north and south, progress is being made. Each Soa strengthened its rules, especially toward their clans. "There will be penalties for violators, and some violations must be reported to the local police or authorities. Development in Buano should not threaten the landscape, but instead ensure the prosperity of the people of Buano. Such is Ayub's wish to see his village sustainable. "If not us, then who else is going to protect our village? From the ridge of Mount Eliopit to the reef, we must protect them," declares Ayub.

A panoramic view of Buano Island from the sea up to its mountain.

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Yuvenalis Anumerang, a resident from Bubu Atagamu Village, South Solor, East Flores.

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ENDING BLAST FISHING IN SOUTH SOLOR

AT THE OUTSET THERE WAS ONLY A SENSE OF **POWERLESSNESS** TOWARD **BLAST FISHERS**, BUT WITH TIME, IT GRADUALLY TRANSFORMED INTO A JOURNEY TO **SAVE THE CORAL REEFS**

Two fishermen in Bubu Atagamu Village is looking for fish.

© Rifky / Rekam Nusantara Foundation

At the outset there was only a sense of powerlessness toward blast fishers, but with time, it gradually transformed into a journey to save the coral reefs.

The man sat in the gazebo facing the South Solor beach. Wearing a t-shirt and shorts, Nicholas was on the lookout for unknown boats entering Bubu Atagamu village waters in South Solor sub-district, East Flores district.

The weather was fine that first week of May. The sky was blue and the breeze delivered the waves onto the rocky shores. This stretch of the coastline was clearly visible from the gazebo that doubled as a guard post. The perfect lookout.

"It's safe so far. The blast fishing boats rarely come now," he said calmly as he looked out onto the waters.

For years, boats had been entering their waters using explosives to catch fish.

Loud booms day in and day out echoed along the coastline.

"The blasts hurt my head. Explosives went off nearly every hour."

Once, on his way back from farming, Nicholas counted nearly forty fishing vessels who had entered their waters.

"I lost count a number of times as they threw their explosives. Hundreds, maybe. The blasts created plumes of water two meters into the air".

The Bubu Atagamu villagers had to swallow their anger. They could only witness these illegal activities and do nothing.

"We'd be putting our lives on the line, if we challenged them. They had dynamite and all we had were our sampans and oars, nothing else".

The ensuing destruction was no surprise. Not only were the fish difficult to find, the constant bombing had severely damaged the coral reefs which support the fish and other species.

Agriculture and fishing are the mainstay of the Bubu Atagamu villagers in East Flores.

Bubu Atagamu has less than 1,000 inhabitants and is classified as a poor village. The soils are poor in nutrients and there is little rain so they rely on drought tolerant crops; kidney beans and corn.

Several fish are caught from the fish net in Bubu Atagamu Village.

© Donny Iqbal / Rekam Nusantara Foundation

Bagang is used by the fisherman in the water area of Bubu Atagamu Village.

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Nicholas' primary occupation is farming and goes out to sea once the harvest is done in July or August.

Nicholas's transformation from an angry bystander to a marine activist began with a meeting in 2017 with the Social Studies and Development Foundation (Yayasan Pengkajian dan Pengembangan Sosial/YPPS), an organization for coastal community empowerment, and the Tana Ile Boleng Foundation (Yayasan Tana Ile Boleng/YTIB).

The waters off of the coastal villages of Bubu Atagamu, Bubu Watanhura, and Lebao are part of the south Lebao coastline, a Key Biodiversity Area (KBA) in South Solor. The area is a habitat for various sea turtle and coral species.

As a follow-up to the meeting a community group for marine protection was established, the Laskar Bahari or the Ocean Troops. But Nicolas was alone, it was hard to find people who would stand up to the blast fishers.

Though discouraged, he decided to give it a try. One day, before heading to his farm, he monitored the boats blast fishing. The information was then shared with the facilitating NGOs and with the East Flores District Marine and Fisheries Agency.

With hard evidence, they decided to conduct a sting operation.

The blast fishing was taking place within a 4,212 hectare core zone in South Solor waters and in the northern Flores coast in Tanjung Bunga sub-district. This is an important site for fish spawning. Their efforts paid off when Laskar Bahari successfully seized a blast fishing boat, through a coordinated operation with the army and police.

News of the blast fishing boat seizure along with the arrest of the crew spread quickly through the coastal communities.

SUSTAINABILITY

From that point on Nicholas was no longer alone. Villagers who were at first apathetic, now didn't hesitate to join. Laskar Bahari is now 10-members strong.

The Laskar Bahari has built on this momentum to organize the community, formulate a protection zone (lumbung ikan, or no-take zone) and work on fisher group economic empowerment by developing fish aggregating devices (FAD) and conducting surveys of the coral reef.

But Nicholas was still worried. These efforts could evaporate in the blink of an eye with the end of funding for the marine protection and conservation program with the two NGOs in 2019.

Fortunately, the village government was able to step in with funding. Benediktus Basajawan, head of Bubu Atagamu, allocated IDR 48 million from village funds for conservation purposes.

In his opinion, the ocean is important for the village's livelihood. "The farmland provides food on the table, while fish can be sold for their children's school and other needs".

Economic conditions have improved and villagers have realized the need to protect the ocean's resources. With the end of the bombing, fish have now returned.

This was enough to convince the community that conservation is important. They volunteered to transplant corals to restore the fish spawning ground.

A village fish bank was established, comprising a zone of two blocks, each measuring 100 m long and 50 m wide.

Benediktus Basajawan, the Head of Bubu Atagamu Village.

© Rifky / Rekam Nusantara Foundation

"One block will be opened once every three years, while the other will be closed. Zoning was done based on an assessment with YPPS and YTIB".

The conservation measures are supported by customary law to encourage mutual commitment and stimulate community awareness. Social sanctions are applied to anyone who violates customary law. They must slaughter pigs and cattle and share the meat with other villagers.

"This punishment is for the good of the community". Entering the no-take zone is prohibited, as well as littering at sea.

As the evening approached, Yuvenalis Anumerang and other villagers were busy spreading their nets out on the beach. Yuvenalis smiled upon seeing the catch.

"It makes me happy that it's so easy to fish now, not like it was before. I got 10 kilos in just a few hours. I'm going to sell my catch and eat the rest with my family". Yuvenalis hopes that the improving conditions will bring more prosperity. The ocean is the future.

The aerial view of water area in Bubu Atagamu Village, South Solor.

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3 LIVE AND DEPEND ON WALLACEA

DIVERSIFYING THE COMMUNITY BASED ECONOMY AROUND BANTIMURUNG-BULUSARAUNG NATIONAL PARK

A resident of Tompobulu Village, Balocci District, Pangkep Regency, South Sulawesi, will be harvesting the sugar-palm (*nira*) water.

© Rifky / Rekam Nusantara Foundation

NOWADAYS, THE NUMBER OF **SUGAR PALM** HAS DECREASED, BUT IN FACT SUGAR PALM IS ONE OF THE MAIN SOURCES OF **OUR INCOME**

The creation process of palm sugar from its water in Tompobulu Village.

© Rifky / Rekam Nusantara Foundation

The natives plant tobacco among the rocks. Sugar palm grows well here. In the evenings the saguer brewers harvest their ingredients from inaccessible sources. They call out to each other in distinct calls as their way of communicating. (Swedish naturalist and ethnologist Paul Sarasin, 1895)

If Sarasin, visited this area today, he would be dismayed. The thriving sugar palm stands (*Arenga pinnata*) around Bulusaraung that he recorded are a distant memory.

"In the early 2000s, Tompobulu village could produce 1,000 bamboo tubes (7.6-13 cm long) of sao from aren palm flowerbuds. Now we can produce only 10 bamboo tubes a day," says Karno B. Batiran, Director of the Payo-Payo Association in South Sulawesi.

Today, after years of neglect, the sugar palm stands are being revitalized in villages around Bantimurung-Bulusaraung National Park as part of a strategy to reconcile conservation and livelihood needs. The park is part of the unique Maros Pangkep karst ecosystem.

Payo-Payo Association, in collaboration with Burung Indonesia identified four program targets. First, to ensure that the national park and the communities share the same vision about conservation and development. Second, to improve community welfare through developing sustainable livelihoods. Third, raise public awareness about the value or forest and the environment for livelihoods. Fourth, develop a conservation strategy.

"Sugar palm is part of the livelihood and conservation program". Alternative sources of income are vital because the community's land cannot expand; meanwhile the population continues to increase. There is an urgent need for diversification and the creation of added value from the non-timber forest products such as honey and rattan. The majority of villagers around the national park plant rice for their subsistence needs, as well as cultivate peanuts as a secondary crop.

The molding process of palm sugar in Tompobulu Village.

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Palm sugar produced by the farmer's group in Tompobulu Village is ready to be on the market.

© Rifky / Rekam Nusantara Foundation

As part of the program, 7,500 sugar palm seedlings were planted in three villages: Tompobulu, Bontu Masunggu and Bonto Birao villages. These palm seedlings are expected to increase the number of sugar palms for harvest.

Palm sugar, the final product of sugar palm, has promise in the market place. "We cannot meet the demands of the Makassar market; not even that of Bantimurung and Bulusaraung because demand is high".

Karno's statement is supported by Mansur, a farmer and sugar palm processor from Tompobulu. The palm sugar is never stored for a long time due to high demand. But with fewer and fewer palm trees, it's harder for farmers to keep up with the demand.

"Nowadays, the number of sugar palm has decreased, but in fact sugar palm is one of the main sources of our income".

The sugar palm trees in Tompobulu, Bonto Masunggu and Bonto Birao are under threat from population growth, encroachment as well as from livestock that eat the palm seedlings or saplings. The community's preference for dishes made of palm shoots has also contributed to the palm's decline in the Bantimurung-Bulusaraung landscape.

In addition to having economic value, sugar palm is a native species with numerous ecological benefits. It grows alongside other trees in stands or among shrubs and can be planted without having to clear the forest. Also, it can grow on flatlands and hillsides and with roots extending six to eight meters deep, it can absorb and hold water while preventing erosion.

Conservation activities also include assistance for fence construction to prevent livestock from munching on palm shoots. To address the community's habit of eating young sugar palm shoots, Bonto Masunggu village passed a village regulation prohibiting consumption of young palm shoots during village feasts.

Oyster mushroom cultivation is another alternative livelihood program for communities around the national park. Communities were trained in mushroom cultivation and crispy mushroom production. Currently the community is waiting for their home industry production license that will allow them to expand their market.

"Orders for oyster mushroom is pretty good; not only for crispy mushrooms, but we get lots of orders for fresh mushrooms as well. However, we get better value if we process the mushrooms into crisps," explains Badriah, head of the women's group in Tompobulu.

"We make more for crispy mushrooms, though we have to process it first. Fresh mushroom sells for IDR 20,000 per kg, but after they're cooked into crispy mushrooms, they can go for IDR 10,000 per 125 g".

Badriah states that the current training and capacity building programs assist women. When women are not working on their farms, they can earn additional income from the mushroom cultivation.

Mushroom cultivation developed by the woman's group in Tompobulu Village.

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SUSTAINABLE TOURISM VILLAGES

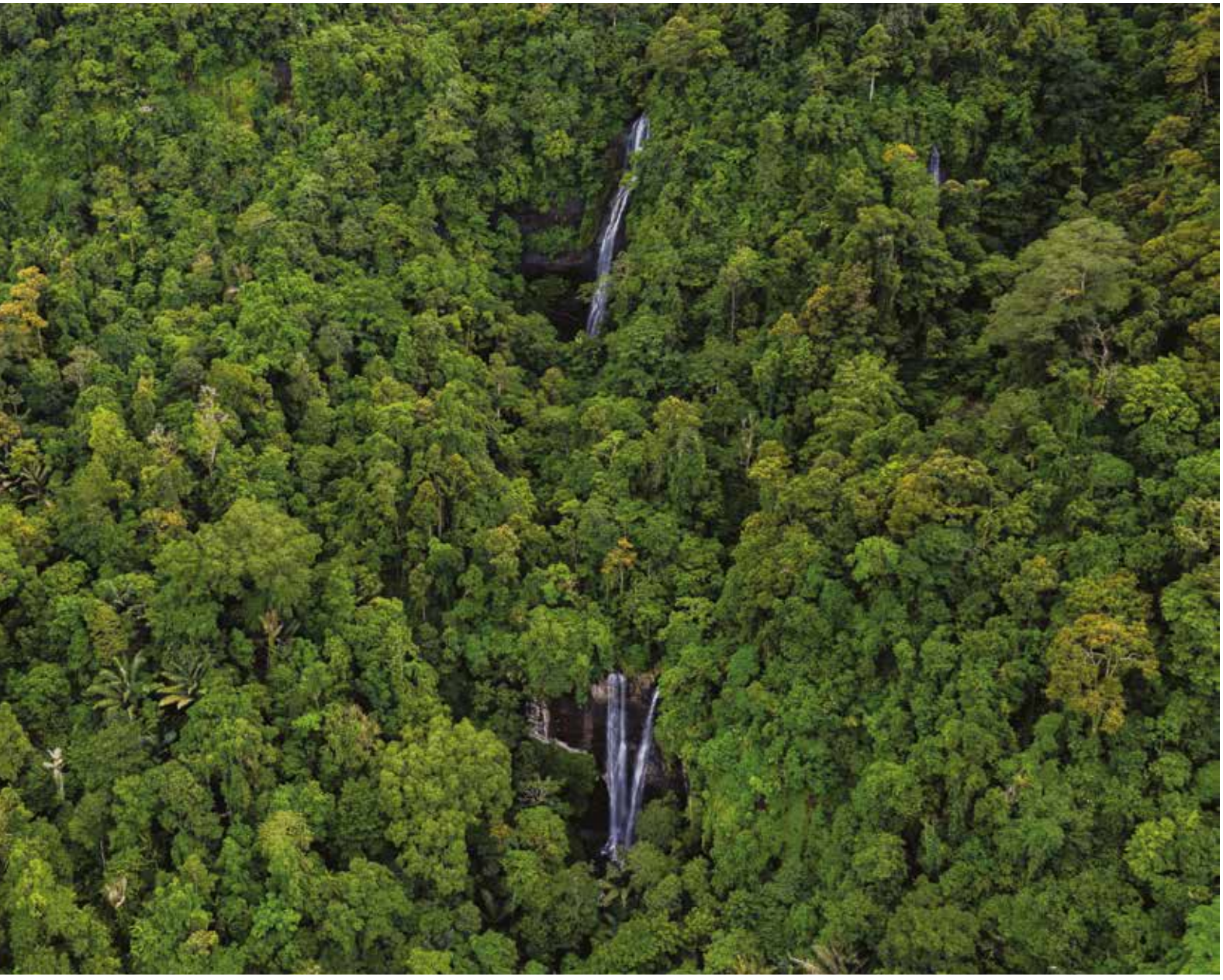
The natural scenic beauty of villages in and around the Maros Pangkep karst ecosystem is akin to a buried treasure that has yet to be discovered. Writing about the beauty of Bantimurung-Bulusaraung landscape, Sarasin declared that it was; "Like a sea of green, fields of paddy stretch on the beach. Magnificent rocky cliffs on the foot of the mountain. They look like gigantic coral flowers. They vary in shapes: round, conical, and pockmarked. Many are covered in lowland forest. The summit of Mount Bulusaraung is 1,375 m above sea level."

According to Najamuddin, the Head of Bonto Masunggu village, this scenic landscape is part of the villagers daily routine and as such they did not see it as something extraordinary.

This began to change when visitors from the national park, Payo-payo as well as tourists came to see the waterfall and the area's natural vistas. They were mesmerized and recommended that Bonto Masunggu become a Tourism Village. "We are currently drafting a village regulation to establish a Tourism Group, including its executive board. This includes reparations of facilities such as homestays and improved road access for tourist attractions".

Bonto Masunggu village is located in Tellu Limpoe Subdistrict in Bone District. The village is home to a picturesque landscape and is the highest point in Bantimurung-Bulusaraung National Park with Mount Tondong Karambu or Bull Mountain.

Majestic waterfalls crash down from the cliffs of Mount Tondong Karambu. More than 14 waterfalls garland the cliffs around the village during the rainy season. Only four remain flowing during the dry season.



The aerial image of waterfall in Bonto Masunggu Village, Tellu Limpoe District, Bone Regency.

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Lamasua and Tarung-tarung waterfalls are the two largest waterfalls that attract visitors to Bonto Masunggu. Lamasua means handsome or alluring. This was the name that the village selected following their meeting with the national park to discuss plans for Bonto Masunggu village to be classified as Tourism Village.

"We met with the village officials and promoted Bonto Masunggu village," states Iqbal Abadi Rasjid, Head of Section I of Bantimurung-Bulusaraung National Park. "We took 12 photographers from Makassar to document the beauty of Bonto Masunggu."

A panoramic view of Bonto Masunggu Village, Tellu Limpoe District, Bone Regency, South Sulawesi.

© Rifky / Rekam Nusantara Foundation

The karst panorama, emerald valleys and sunset are other potential tourism attractions. Furthermore, there are fishing ponds, traditional Bugis culinary delights, and visitors can see forest honey harvested from the wild. All these provide additional attractions for visitors to the national park's buffer village.

The community can harvest non-forest timber products such as sugar palm, honey, rattan, and other non-timber forest products. The forest remains protected because the community are at the frontline of protecting their forests which is also beneficial for the national park.

One of the processed snacks from palm sugar in Tompobulu District.

© Rifky / Rekam Nusantara Foundation

There are approximately 48 villages around Bantimurung-Bulusaraung National Park. The work done in the above villages is expected to be scaled up to other villages.

"This is in line with one of the 10 management approaches for Indonesia's national park and conservation areas that calls for the empowerment of local communities as a means to improve their economic condition".

When the community enjoys the direct benefits, there will be no more encroachment. Such is the case for Bonto Masunggu and Tompobulu villages, where the communities are actively protecting park area boundaries.

Villages in the Wallacea Partnership Program have remarkable potential. Community empowerment along with supporting programs and policies will put these communities on the frontline of biodiversity conservation, as well as act as green economic drivers in their villages. Governments must respond to this movement. The people are ready to collaborate!

Arabica coffee of Pattaneteang Village, Tompobulu, Bantaeng, South Sulawesi.

© Rifky / Rekam Nusantara Foundation

SPECIALTY COFFEE FOR FARMERS' PROSPERITY IN BANTAENG

Haji Mambua's smile broadens as he reminisces about his coffee farm. The 62-year-old remembers well how his land was once bare and infertile as a result of planting corn. Now, it is flourishing coffee farm located on the border of Pattaneteang village forest.

Haji Mambua, one of the coffee plantation's pioneers in Pattaneteang Village.

© Rifky / Rekam Nusantara Foundation

Pattaneteang village lies at the foot of Mount Lompobattang-Bawakaraeng in Tompobulu subdistrict, at the edge of Bantaeng district in South Sulawesi. The village sits at 670-1,760 m above sea level and borders the Bulukumba, Sinjai, and Gowa districts.

During his travels in the archipelago, the English naturalist Alfred Russel Wallace already noted that Bantaeng was a coffee producing region. In 1856 a coffee and opium trader named William Mesman owned a coffee plantation in Bontyne (now Bantaeng).

Indonesia's coffee fever has now reached Bantaeng, especially Pattaneteang. Coffee farmers like Haji Mambua, Edli, and Ramli are benefitting from the consumer demand for coffee.

Haji Mambua recalls how they used to plant and sell coffee beans at cheap prices. "Only IDR 2,500 per liter. Nowadays we can sell for at least IDR 18,000, even IDR 19,500 per liter." The current price is the highest that the farmers have ever earned in Pattaneteang and surrounding villages.

High coffee bean prices in Bantaeng did not happen overnight. Coffee demand increased, but in addition, the farmers produced better quality coffee beans. This gave them a competitive edge resulting in higher coffee prices.

Improved farmer knowledge and skills were key to higher quality coffee beans and production. Burung Indonesia through its partner in Bantaeng, the Balang Institute, trained farmer groups in Pattaneteang village and in neighboring Labbo village.

Edli, a 28-year-old farmer from Pattaneteang recounted his experience; "We were careless with our coffee plants. We didn't maintain them and weren't selective in our harvest. This coffee program taught us to care for the coffee plants, harvest only the cherries as well as other techniques to improve productivity."

Pattaneteang's coffee potential is promising. From the village's 913 ha, around 379 ha consists Arabica and Robusta coffee farms. There are 380,600 coffee trees, in which the majority (266,420 trees) are Arabica while the rest (114,180 trees) are Robusta.

The Balang Institute's study estimates that annual coffee production can reach 8,180 coffee cherries or 3,272 tons before processing. The estimated coffee bean production is 355,277 kg Arabica and 85,600 kg Robusta. If the harvest is well managed, there is a tidy profit margin for the farmers.

AGROFORESTRY AND SPECIALTY COFFEE

"It began with a coffee market value chain study in 2013. Coffee in Bantaeng was very cheap. From that starting point we learned how to increase the coffee price," explains Adam Kurniawan, Director of Balang Institute.

Capacity building and agroforestry coffee management were the first steps. "We discovered that if we process the coffee into specialty coffee, it fetches a much higher price".

But this was no easy task for Balang Institute. They were accustomed to conducting studies on social issues and handling forest boundary conflicts between farmers and the government, but now they had to learn about not only the business side of the coffee production but also about conservation.

Pattaneteang village is located on the border of Mount Lompobattang protection forest which is a key biodiversity area. Mount Lompobattang protection forest, however, is being degraded due to the expansion of farmlands in surrounding villages.

It is no secret that the farmers seek the fertile soils in the forest when the soils outside the forests are eroding and its fertility is declining. If this goes unchecked, the forest will disappear, water flows will decline, while floods and landslides loom. With this threat, the Balang Institute conducted a farmer livelihoods study villages surrounding the forest. It would be impossible to urge them to protect their forest if their livelihoods were not secure.

Adam recounts that they first learned about how to increase coffee prices when Burung Indonesia's program was introduced. "Through Burung Indonesia's program, we strengthened farmer institutions, mapped farms and improved land management practices."

Every farmer group manages approximately 25 hectares. The Balang Institute and the community then mapped Pattanetenang village. The mapping produced accurate data on the village coffee potential and the volume produced. "This data is important for, amongst others, attracting investors and buyers. We obtained a loan from the district government of IDR 1.8 billion to assist with training, facilities and marketing. The district government also provides coffee processing centers as part of their commitment to improving farmer livelihoods."

Ramli, a 32-year-old coffee farmer from Pattanetenang is now an instructor for other farmers. "The agroforestry management training aims to increase farmer knowledge and skills, from coffee agroforestry management to post-harvest practices."

The agroforestry concept that is being applied in Pattaneteang Village, one of the coffee resource's plants.

© Rifky / Rekam Nusantara Foundation

The arabica coffee plant from Pattaneteang Village.

© Rifky / Rekam Nusantara Foundation

Before the farmers received training in coffee management techniques, little or no effort was put into maintaining their coffee farms which resulted in low productivity and low quality beans. Ramli now recognizes that poor planting practices, limited access to fertilizers, lack of pruning and coffee borer beetles all contributed to low productivity and quality.

Farmer concerns were addressed in the trainings held on their farms. Furthermore, Ramli allocated part of his own farm for a coffee nursery for the community.

The key to specialty coffee, in addition to maintenance, is the harvest and post-harvest. "By harvesting the red cherries only, and processing the cherries to green beans, we can produce high-quality specialty coffee".

Improvements in the coffee value chain also opened up new opportunities for coffee farmers. Farmers are now able to deal directly with major coffee traders in Makassar. This in turn cut out the middlemen, who bought the coffee beans at lower prices.

"Now there we have the Grassroot Farmer Cooperative that buys coffee berries or beans from farmers with good prices. Later on, we want to develop an advanced and collaborative village-owned enterprise".

COFFEE AND CONSERVATION

Coffee and forests are closely linked. Coffee requires shade trees to grow for optimal production. This ensures good coffee, while protecting the surrounding forests.

There are ten principles of sustainability found in the coffee cultivation including; social, ecosystem, water conservation, and occupational health and safety principles.

"This is what we use. We are not calling this a conservation program, instead we are promoting coffee. Coffee only needs 40% sunlight, and therefore it needs shade trees. By promoting coffee, we are also supporting conservation."

In addition, shade trees are important to give a sweetness to the coffee beans. Shade trees lend to a variety of flavors, aroma, and sweetness, especially shade trees that are close by. For example, orange shade trees will give orange flavors or aroma to the coffee beans.

Through coffee, the communities along the forest's boundary are expected to be at the frontline of conservation forest protection and conservation. Sustainable alternative livelihoods is an effective strategy for conservation in the Wallacea Region, carried out by increasing farmer incomes while ensuring forest habitats for endemic wildlife, the pride of Sulawesi.

Villages in the Wallacea Partnership Program have a remarkable potential. Community empowerment along with supporting policies will make these communities the frontline of biodiversity conservation, as well as drivers for green economy in their villages. The government must respond to this movement. The people are ready to collaborate!

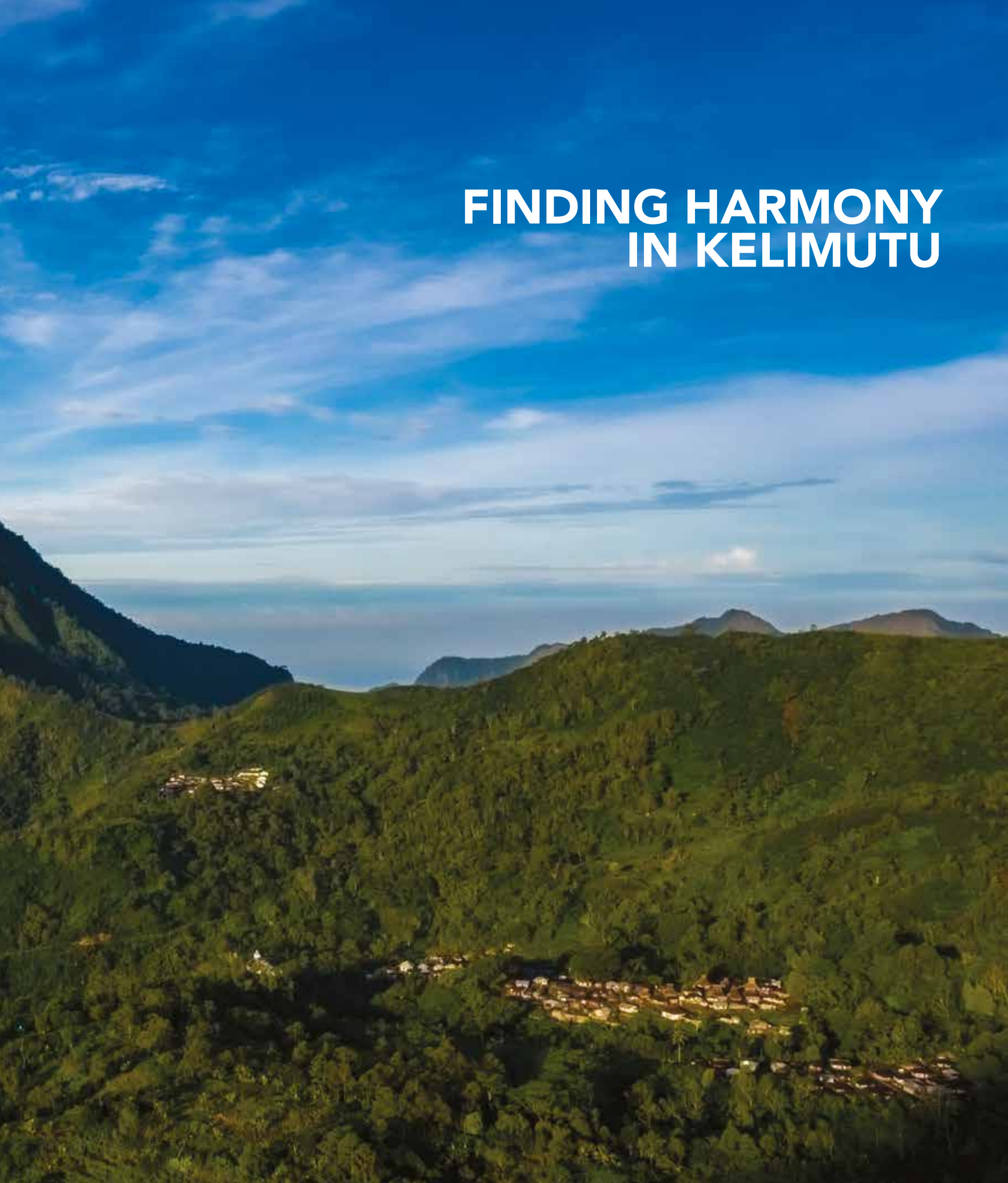
The aerial landscape of coffee plantation's landscape in Pattaneteang Village.

© Rifky / Rekam Nusantara Foundation

The aerial landscape of Roga Village, a traditional village located in East Ndona, Ende, bordered with Kelimutu National Park.

© Rifky / Rekam Nusantara Foundation

FINDING HARMONY IN KELIMUTU



A panoramic sunrise in the three-colored lake, Kelimutu National Park.

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THE **LIO PEOPLE** BELIEVE THAT **KELIMUTU** IS THE PLACE WHERE THE GODS RESIDE AND WHO ALSO **PROTECT** THE AREA

The early morning chill seeped into the bones. On the mountaintop, the sun had yet to show itself; the orange dawn was hidden in a fog that was reluctant to dissipate from the world-famous volcano, Kelimutu.

Wearing a loose military-type jacket, Markus Lawa Raja greets the tourists who had made the trek up to the summit, 1,630 metres above sea level. Smiling and shaking hands, he offers his guests hot coffee and instant noodles.

The tourists sit quietly, watching the sun slowly rise while silently hoping for the fog to clear.

Some appeared to be enjoying the anticipation. On the summit, there is an open area where tourists can look out over the three crater lakes.

"Come on, Kelimutu, everyone is waiting. Time to wake up," Markus shouts, breaking the silence.

Markus is a native of the nearby Pemo village and knows Kelimutu well.

"In the lake," Marcus explained, as he hands me a cup of coffee, "spirits of the deceased will rest". He points to the three lakes. In front of me is *Tiwu Ata Mbupu*, (Lake of Old People). To the right is *Tiwu Ko'o Fai Nuwa Muri* (Lake of Young Men and Maidens). Lastly, off to the side is *Tiwu Ata Polo*, (Bewitched, or Enchanted Lake). "The colors change, it's unpredictable".

The tourists are enjoying the sunrise view upon the three-colored lake, Kelimutu National Park.

© Donny Iqbal / Rekam Nusantara Foundation

Bare-throated whistler (*Pachycephala nudigula*), in the area of Kelimutu National Park.

© Dubi Saphiro

As the sun rose higher the cool air warmed. With the sunrise, an amazing natural phenomena came into view; two of the lakes had a turquoise color, while the third was a darker green color. The cup of locally produced coffee completed the experience of enjoying the tri-colored lake view hidden in Mount Kelimutu's summit.

Along the guardrails, several tourists are busy taking pictures; while others are still sitting preferring to take in the view, rather than take photos.

People say that Kelimutu is a combination of two words in the Lio language: "keli" meaning forest, and "mutu" meaning boiling or hot. Markus explained that the Lio tribe who live around the lakes believe that Kelimutu is the boundary between the worlds of the living and the dead. It is as if everyone has their physical and spiritual selves. I decided to start the descent, satisfied that I have enough pictures of Kelimutu on my hand phone. The chat with Markus convinced me that Kelimutu is in good hands.

The Lio people believe that Kelimutu is the place where the gods reside and who also protect the area. Every August 14th the community slaughter pigs and cows to express their gratitude. They pray for Kelimutu to give blessings not only for the surrounding communities but for the nation and the world. This procession ritual usually begins in Pere Konde, the gateway to Kelimutu, and makes its way to the summit to present offerings to Kelimutu.

As I descended the staircase, I stopped at the arboretum, a miniature forest of 4.5 hectares that stores Kelimutu's biodiversity. There are 78 tree species plus endemic plant species such as the uta onga (*Begonia kelimutuensis*), turuwara (*Rhododendron renschianum*), and arngoni (*Vaccinium varingiaefolium*). The Lio people regard arngoni as a food of the gods.

Along the way, I met Djafar, who sells hand woven cloth from his village known as *tenun ikat*. The ikat fabric is an integral element of all cultural ceremonies in Flores.

As we bargained under a tree we were accompanied by the songs of the garugiwa, or the bare-throated whistler (*Pachycephala nudigula*) bird. "The garugiwa, has 14 different calls. The garugiwa bird is also called the spirit bird because people can hear its song but not see its form. It has a black head and yellowish-green body, wings, and tail. It usually sings only from 6:00 -10:00 a.m".

RECONCILING CONSERVATION AND DEVELOPMENT

Designated as a national park in 1992, Kelimutu covers 5,356.50 ha. Classified as a Key Biodiversity Area (KBA) it is home to various endemic flora and fauna, some of which endangered. There are nineteen bird species including the endangered the Flores Hawk-eagle (*Nisaetus floris*) and the Wallace Scops-owl (*Otus silvicola*).

Conservation efforts in Kelimutu National Park (KMP), however, were initially stalled by boundary conflicts between the central government and local and indigenous peoples whose use and management of the land predate the park.

In order to end the impasse, the Wallacea Partnership Program, through its local partner the Tananua Flores Foundation, worked with Niowula and Pemo villages as well as with the Kelimutu National Park to find common ground.

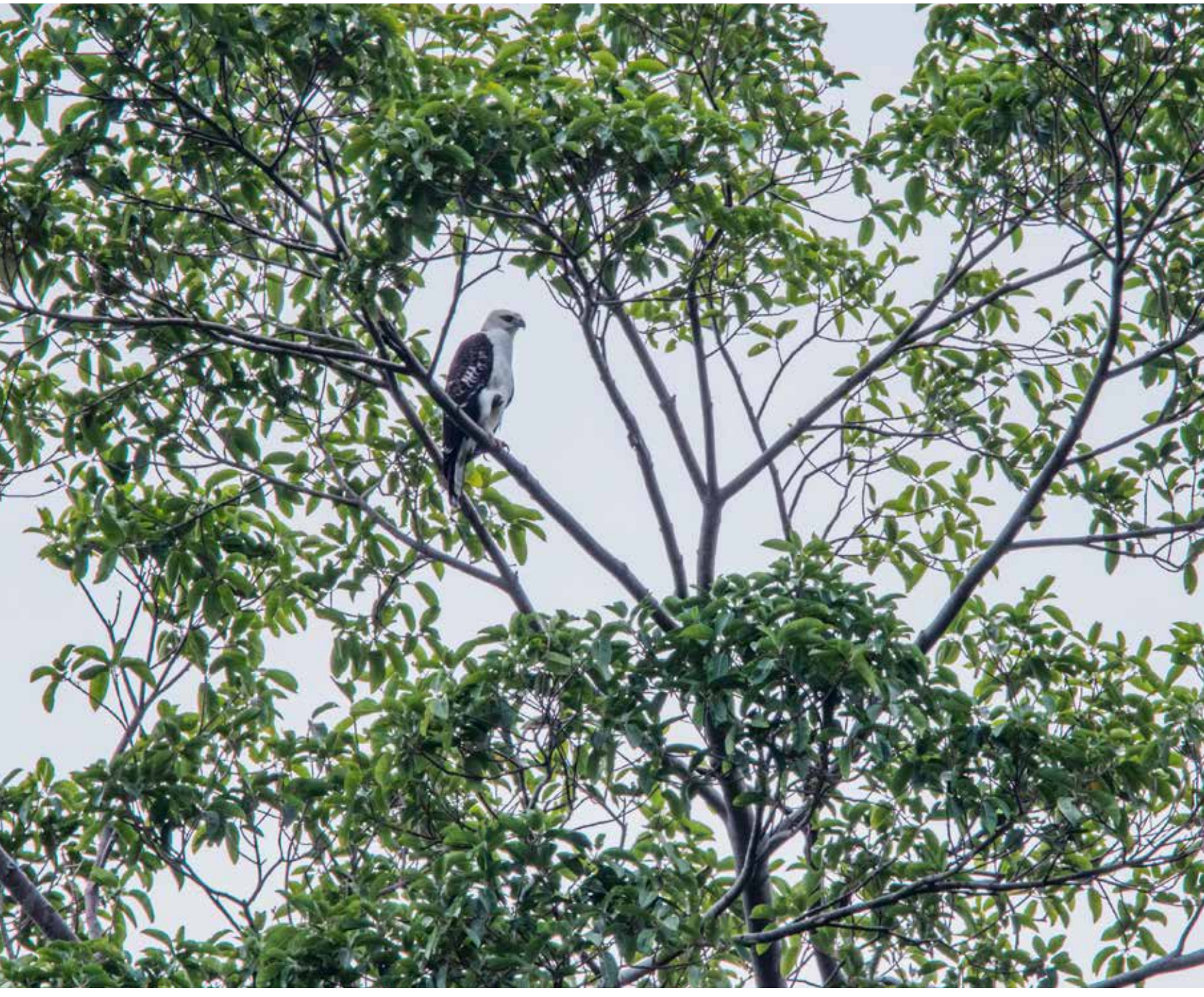
After a series of meetings that involved participatory mapping exercises to demarcate resource use boundaries and create access regulations, an agreement was finally reached between the community and KMP. Now the communities have the right to harvest their coffee plants that are located within the national park. But as part of the agreement, they are prohibited from expanding their coffee plantations inside the park.

The KMP management also offers a community capacity building programs to develop entrepreneurial skills so that the local communities can benefit from the eco-tourism and culture tourism.

Kelimutu's 5,356.50 ha is divided into four zones: intensive zone (96.5 ha) and core zone (350.5 ha) around the lakes, wilderness zone (4,351 ha), and rehabilitation zone (558.5 ha). This zonation aims to maximize Kelimutu's multiple functions; nature tourism, cultural activities, education, and research and development.

Flores hawk-eagle (*Nisaetus floris*), in the area of Kelimutu National Park.

© Rifky / Rekam Nusantara Foundation



The head of Kelimutu National Park, Agus Sitepu, believes that the park's health and prosperity is closely tied to that of the surrounding communities. As such, the communities play the most important role in the park's management.

In the past three years Kelimutu has become an increasingly popular tourist destination, averaging 235-250 per day. Last year Kelimutu attracted 87,000 visitors.

However, Agus believes that there is more potential for growth. The national park head wants tourists to come not only to view the tri-coloured lakes, but also to participate in cultural activities with neighboring communities.

Kelimutu is regarded as a sacred site by surrounding communities. This provides an opportunity for communities to engage with the tourists to show how local wisdom is integral to nature conservation.

"It's synergizing nature and culture, so that Kelimutu would not be the only site with tourists. We want to promote the unique culture in this area to increase tourism in and outside the park".

Sevarius Tabe, the head of Flores hawk-eagle watcher's group in Wolojita, Ende, East Nusa Tenggara.

© Rifky/ Rekam Nusantara Foundation


TAMAN NASIONAL KELIMUTU
ENDE - FLORES

Mutolo'o art's studio group in Waturaka Village, Ende, East Nusa Tenggara.

© Rifky / Rekam Nusantara Foundation

This plan has driven the communities around the park to take up the challenge so that they don't get left behind. Slowly but surely, they are gaining the courage to develop their villages.

One example is Waturaka village located right at the foot of Mount Kelimutu. The village boasts 15 community-owned homestays. What's unique about this is that the community takes turns hosting tourists, rather than competing with one another. "We don't want to compete because we are family here. Every guest is family to us," said Ferdinandus Watu, a homestay owner.

In addition to being a place to rest, Waturaka village shows how its cultural values and traditions are expressed through art. This is a way for tourists to appreciate the local culture. Waturaka was selected as a Tourism Village for the entire Ende district. "We wanted to show how culture can contribute to tourism."

I ended my travels in Kelimutu with a better understanding of how harmony between nature and culture in Kelimutu are required to create a sustainable balance.

Grandma Lintje is preparing the chilli seeds in Ambela Village, Talaud Islands.

© Rifky / Rekam Nusantara Foundation

PERMACULTURE: INTEGRATING LAND, RESOURCES, PEOPLE AND THE ENVIRONMENT

Ambela village is an unlikely location for experimenting with a new approach to agriculture. Located in Melonguane sub-district, Talaud Islands district, it is north of Sulawesi Island. The Talaud Islands are the northernmost region of Eastern Indonesia.

Beginning in mid-2016, Oma (grandmother) Lintje's gardening practices began to change. "I used to go to my farm that's far from here where I planted chilies and vegetables. But now there is no need to travel that far, I can get more from my garden," says Oma Lintje.

It never once crossed Oma Reholintje Maarisit's mind that her garden could produce so much for her family. Every morning, she can be found working in her yard. "Oma Lintje's gardening is part of a practice called permaculture. Permaculture (permanent culture and permanent agriculture), as defined by IDEP Selaras Alam Foundation, is a system designed for environmental management within the community. Hence, it is more than just organic farming, it seeks to utilize local resources by using environmentally sound methods that are both energy efficient and take into account local wisdom.

Practicing backyard permaculture, however, is not a simple task since the soils need to recover their fertility. "It is satisfying once it has become productive, but it requires extra patience. Liquid compost and other organic matter initially require time. Land preparations and organic fertilizers application must be done diligently. "We have to work patiently to make compost or organic liquid fertilizer, and then we'll see the results".

One of the benefits of permaculture is that all of the materials come from around the house and there is no need to buy them. These include coconut shells or plastic bottles that can be turned into borders or decorations for planting beds. Materials for organic fertilizer are readily available, from leaves and fruit and vegetables. By using organic materials in the entire process, there is a greater sense of security in the produce because there no chemicals.

Permaculture is viable and low cost, low input approach to creating healthy organic farms. The permaculture vision also calls for efficient village spatial planning and design of systems that produce alternative energy while reducing pollution and waste.

The harvested chillies from permaculture garden.

© Rifky / Rekam Nusantara Foundation

© Rifky / Rekam Nusantara Foundation

I USED TO GO TO MY **FARM** THAT'S FAR FROM HERE WHERE I PLANTED CHILIES AND VEGETABLES. BUT NOW, I CAN GET MORE FROM **MY GARDEN**.

OMA LINTJE

PROTECTING THE ENVIRONMENT AND ENDEMIC WILDLIFE

The permaculture program in Karakelang Island in Talaud Islands is part of an effort to protect the environment. Karakelang Island is the last habitat of the Talaud Lory (*Eos histrio talautensis*), a subspecies of the Red-and-blue Lory (*Eos histrio*). The Talaud Lory is endemic to the Talaud Islands.

Since the 19th century, the bird locally known as sampiri has been traded to the point where it is now an endangered species. Hunting and trading, however, are not the only causes for the population decline of the species. Habitat loss is another threat. Talaud Lory habitat loss is caused by, among others, encroachment and clearing for new agriculture land.

The excessive use of chemical fertilizers and pesticide on commodities such as coconut, clove, and nutmeg have severely disrupted the ecological balance. For example farmers used to inject pesticides into the coconut trees to kill infestations to the point where the coconuts were contaminated with pesticides.

Upon observing the conditions in Talaud the IDEP Selaras Alam Foundation, supported by Burung Indonesia, introduced permaculture as a means to address the environmental and livelihood issues on Talaud Island. "Our work began with threats to the Talaud Lory and forest loss," says David Ch Jullinar from IDEP Selaras Alam Foundation.

Permaculture is taught in the villages directly adjacent to North and South Karakelang Wildlife Sanctuaries. By providing an alternative source of income through organic farming means that they do not have to rely on poaching the sampri for their livelihoods. Also the organic farming slows encroachment into the Lory's forest habitat thus giving the Talaud Lory a better chance of survival.

The aerial landscape of Bengel Village, Melonguane, Talaud Islands.

© Rifky / Rekam Nusantara Foundation

Permaculture garden in Bengel Village.

© Rifky / Rekam Nusantara Foundation

Initially there were three permaculture pilot project villages (Bengel, Ambela, dan South Rae Villages) which expande to 25 villages replicating the garden program by 2019. “The request came from the villages. There was no program, no funds, only their interest,” David explains.

The local government responded positively to the permaculture initiative. In August 2019, the Talaud Island District Agriculture Agency held a permaculture competition for all villages in Kalakelang. The winner received the Talaud Island District Head trophy. “This shows that in addition to having successfully developed a community-based conservation model, this initiative is replicated on a larger scale by villages and their communities, and has been adopted into a district government program. This is the perfect achievement of a program cycle,” Adi Widyanto from Burung Indonesia responds.

IDEP also facilitates the community to process their products, and for an independent and sustainable market.

REAPING THE BENEFITS

To provide better income in Karakelang, trainings were held on garden product processing. The community received trainings on processing banana chips, vegetable crisps, and virgin coconut oil (VCO).

The community's permaculture products are enough to provide for their families' needs. Chili, mustard greens, spinach, yard long beans, and peppers are some of the crops harvested from the garden. Other plants from their garden include tomato, turmeric, lemon basil, eggplant, lemongrass, and ginger.

"We had to buy these in the past. Now we can pick vegetables for our families from our gardens. If we harvest more, we can sell them and make some money," Oma Lintje resumes. Once harvested and sold, some vegetables can even sell for IDR 500,000 to 1 million.

The VCO training has brought positive changes for the community as well.

This began with changing the community's coconut farming practices. In the past they used to inject pesticides into the plants, but not anymore. By salting, they can better exterminate the pest coconut sexava treehopper eggs. Salt also provides additional nutrition for coconuts. Pesticides are no longer applied in the facilitated villages.

Adrian Tamarengki, a farmer from Ambela Village shares how he and the community were assisted by the VCO production. "The coconuts here were contaminated by pesticides, so they were no good. But since we have stopped using pesticides, we can process the fruits into VCO, among others."

According to Adrian, most of the Ambela community as well as Karakelang community in general are farmers. They own clove, nutmeg, and coconut groves. This additional VCO processing skill has helped the community economy.

The creation process of virgin coconut oil in Ambela Village, Melonguane, Talaud Islands.

© Rifky / Rekam Nusantara Foundation

Virgin coconut oil from Ambela Village, Melonguane, Talaud Islands.

© Rifky / Rekam Nusantara Foundation

"We can make 800 ml VCO from ten coconuts. We sell 10 ml VCO for IDR 25,000. IDEP found us a market," Adrian continues. In fact, Adrian and the VCO farmers are now overwhelmed with demands.

"We get a lot of local orders. We are also working with a pharmacy in Manado. We're swamped," Adrian adds.

Biodiversity protection is not limited to endangered species, because every species is interdependent. Vegetables and other agriculture commodities, are no exception. Production and protected landscapes mutually interact and influence, and therefore both must be wisely managed. The Wallacea Partnership Program focus on biodiversity conservation in production landscapes, by promoting environmentally sound utilization and management models.

Efforts seeking the best economic solution in synergy with nature for communities is a great example of how the community must utilize their environment. Transforming communities from poachers into permaculture farmers, along with other benefits it brought, can help protect the land and endemic wildlife in Talaud Islands.

Karakelang has an abundance of natural resources potential. It is only a matter of using them wisely and in harmony with nature. The community is ready to work and ready to collaborate.

4 MELINDUNGI SATWA ALSI WALLACEA

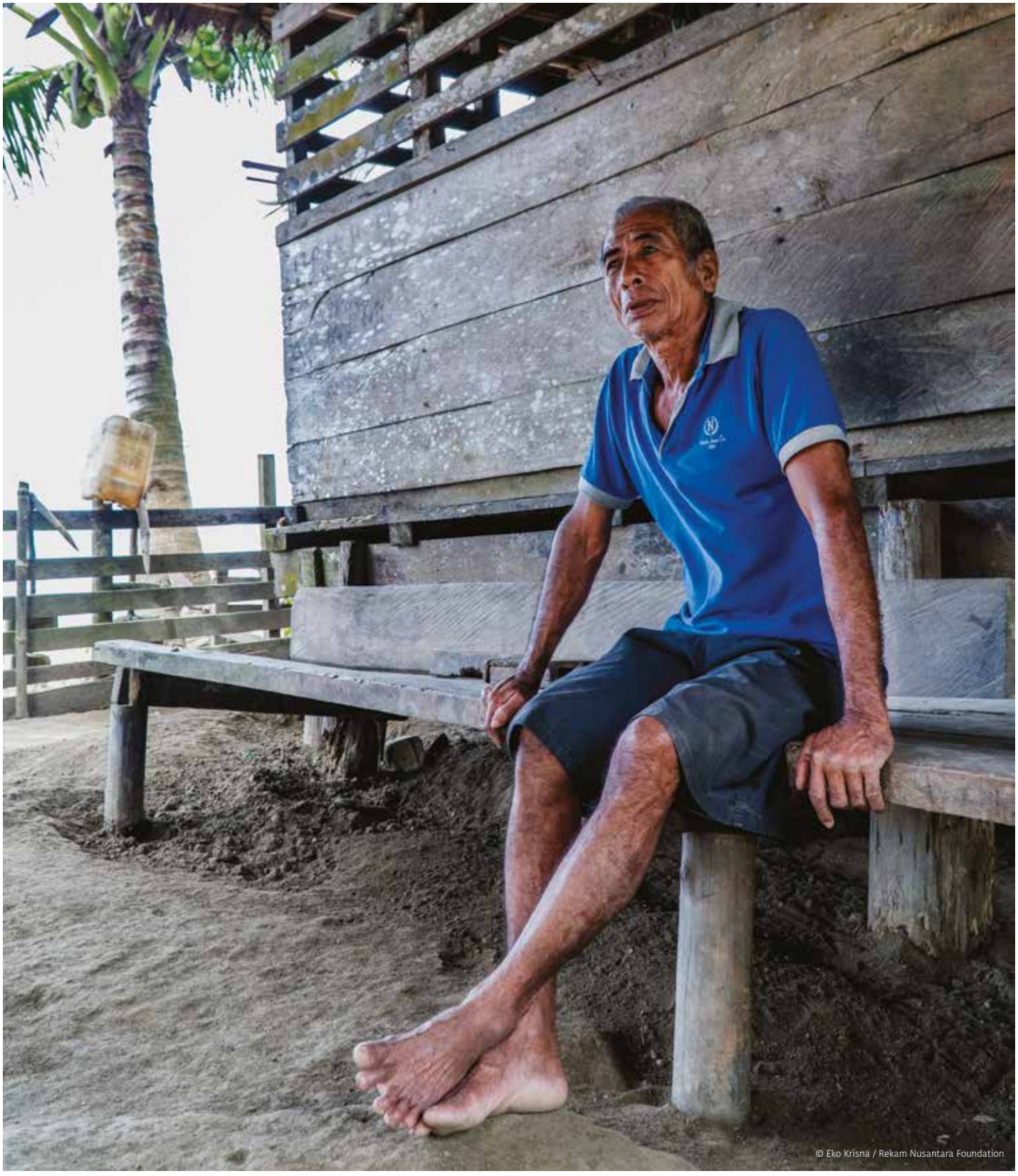
A couple of red-and-blue lory (*Eos histrio talautensis*).

© Rifky / Rekam Nusantara Foundation

THE TALAUD LORY'S LONG ROAD TO FREEDOM

I DEEPLY REGRET THIS. I REMEMBER WHEN WE USED TO CATCH THESE **LORIES**. THEREFORE NOW ONLY ONE GOAL, I'M GOING TO HELP **SAVE IT**.

ZAKARIAS MAJUNTU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"I deeply regret this. I remember when we used to catch these Lories. 'Therefore now only one goal, I'm going to help save it," Zakarias Majuntu recalls, smiling bitterly as he remembers the *sampiri*, as it is known locally.

A strong southern gust accompanies Zakarias' story about the Talaud Lory (*Eos histrio talautensis*).

In his simple hut on the Tabang beach in Bantane village, along the eastern shore of Karakelang Island in Talaud Islands District, Zakarias shares his *sampiri* hunting experience.

"I hunted *sampiri* in the forest almost every day. I could catch hundreds a day". Zakarias began poaching in the early 1980s when he was 30 years old. "They sold for only IDR 2,000 each, but back then it was pretty good," says the now 69-year-old man.

The Talaud Lory is an endemic Lory found only in the Talaud and Sangihe Islands. Their beautiful red and blue plumage makes them a lucrative target of the pet bird trade.

Karakelang is the largest island in the Talaud Islands. Karakelang, along with Sangihe Island are unique in their biogeography. These islands contain birds and biodiversity not found in other parts of Indonesia or even the world. Although the land area is small, it classified as an Endemic Bird Area (EBA).

Red-and-blue lory (*Eos histrio talautensis*).

© Rifky / Rekam Nusantara Foundation

The aerial landscape of red-and-blue lory's habitat in Karakelang Island.

© Rifky / Rekam Nusantara Foundation

Rampant poaching has led to only one Talaud Lory subspecies remaining in the wild in the Talaud Islands. Other subspecies in the Sangihe Islands are now extinct in the wild.

The *sampiri* trade began can be traced as far back as the 1800s. Sidney J. Hickson, an English zoologist who travelled to Talaud in November 1885 recorded the abundance of the marvelous Talaud Lory.

During his first visit in Talaud, the community sold or gifted several Talaud Lories to the crew. Hickson himself received three birds.

But it was not until late into the 1900s that the Lory trade was conducted on a massive scale. In 1993, S.V. Nash noted that 500 Talaud Lories arrived in Singapore from April to December 1992. The peak of *sampiri* trade took place in 1995.

Large-scale Lory poaching in Karakelang Island and other islands resulted the decline in numbers or the outright extinction of this species.

Ironically the trade in the Talaud Lory has a legal basis in the Wildlife Utilization Permit issued by the Directorate General for Forest Protection and Nature Conservation in 1991. Permits were issued several villagers from Tuabatu to catch Talaud Lories to meet a demand for 1,300 Lories.

EFFORTS TO PROTECT THE LORY BACKFIRE

Government Regulation 7/ 1999 on the Preservation of Plants and Wildlife Species declared the Talaud Lory as a protected species.

"Issuance of the regulation protecting *sampiri* in fact only led to an increase in the Lory trade," explains Michael F. Wangko from IDEP Selaras Alam Foundation. Michael notes that at the time, Talaud Lory demand and prices actually went up.

Michael is an environmental activist who has worked on the Talaud Lory for years. He has a strong bond with the species. "I often saw the Lory when I first went to the Sangihe-Talaud forest beginning in the early 1990s. They are such exquisite birds, and I fell in love then and there''.

It didn't take Michael much convincing to work with several organizations including Burung Indonesia to promote the importance of Talaud Lory protection. He went from village to village to talk about the species.

But this was not enough to stop the illegal Lory trade. The Talaud Lory continued to be smuggled by ferry to Manado and then shipped to other parts of the world. Other trade routes relied on Philippine fishing vessels.

According to the Action *Sampiri* report, in 1999 a Philippines fishing vessel crew admitted to having collected Talaud Lories from Apan village in Essang sub-district and Tuabatu village in Rainis sub-district.

The Lories also came from other villages and were taken to Apan to wait for the vessels to arrive. Most Lories were traded for household needs such as, cooking utensils, fish and alcohol. Lories in Apan were sold for IDR 25,000 each according to the collectors.

Michael, who is also the head of KOMPAK (Karakelang Nature Enthusiast Group), recounted that in 2003, 76 Talaud Lories were seized by the Essang Subdistrict Police. But the case was pursued by the Essang Police.

Michael Wangko, an environmental activist from IDEP Selaras Alam Foundation who creates Sampiri Information Center to socialize the conservation efforts of Sampiri.

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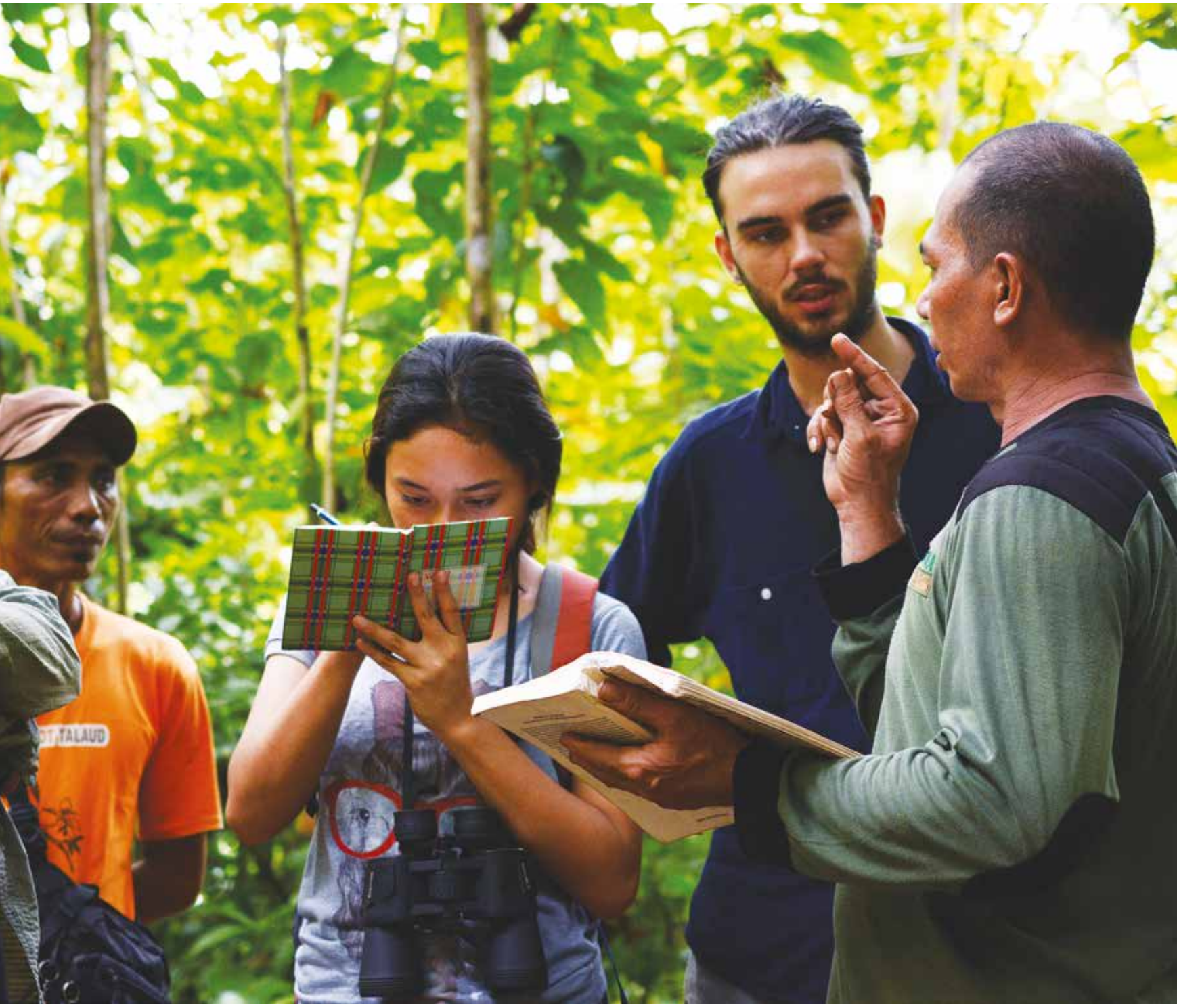

Talaud pitta (*Erythropitta inspeculata*), an endemic bird in Talaud Islands.

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In 2005, a joint operation involving the Manado Natural Resources Conservation Agency, Talaud District Police, Talaud Government, Burung Indonesia, Wildlife Conservation Society (WCS), and Tasikoki Wildlife Rescue Center seized 119 birds from nine villages serving as Talaud Lory's collection points.

"In addition to patrols, we raise community awareness about *sampiri* poaching and their importance to the environment and community". On 13 November 2013, a joint police operation successfully prevented 111 Talaud Lories from being smuggled out of Bowombaru village in East Melonguane sub-district.

"The conviction in the 2013 case was satisfactory. The smuggler was a Philippines citizen and was sentenced to 1 year and 4 months in prison and IDR 1 million fine."

Although the sentence was lighter than the 2 years and 6 months prison time demanded by the prosecutor's office it proved to be an effective deterrent.

CREATING AWARENESS

Raising public awareness for the *sampiri* cause takes patience. Public outreach was done through the church, meetings with village officials and through government extension services.

Muksin Sambe, a resident of Tuabatu Village in Tampan'amma sub-district, recounts the impact of the outreach programs; "Back then we went to the forest to catch *sampiri*, but we stopped once we had a better understanding. We now know that *sampiri* has a greater benefit living in the forest".

Muksin, who is now the village treasurer, didn't realize the Talaud Lory is a natural predator of the sexava treehoppers, a coconut pest. "From the farmer extension services, we learned that the Lories eat the treehoppers. They are useful in the wild".

Due to the drastic decline in the *sampiri* population, Talaud continues to suffer from a treehopper infestation. Its distinctive sound can be heard in villages and farms throughout Karakelang Island. The pest is so difficult to exterminate that even a helicopter pesticide drop was attempted. But the treehoppers survived and become more resistant to pesticides. Coconut farmers then tried to inject pesticide into holes bored into coconut tree trunks, only to find that the treehopper population bounced back more resilient than ever.

Environmentally friendly agriculture was introduced by IDEP Selaras Alam Foundation, where the community learned to naturally control pest populations. Farmers must make use of these natural predators, and protect the *sampiri*. After learning about sustainable agriculture, the farmers became aware of the need to protect the ecosystem and everything in it, including wildlife such as *sampiri*. This is not just for the *sampiri*, but also for the people whose lives depend on a healthy ecosystem.

The existence of red-and-blue lory can control the sexava pest population that is disserving the coconut farmers in Talaud Islands.

© Rifky / Rekam Nusantara Foundation

The habitat of red-and-blue lory is getting decreased by many cases of land clearing in Talaud Islands.

© Rifky / Rekam Nusantara Foundation

This is one of the factors that made Zakarias quit along with several of his protégés in other villages.

"Because of that I only one want thing, which is to end *sampiri* hunting," Zakarias declares. He is often called upon by Burung Indonesia and its Talaud partners such as IDEP, KOMPAK, and others to speak about the importance of protecting the *sampiri*.

In late 2018, a major step forward was taken in the protection of the Lory, with the passage of the Talaud Islands District Regulation No. 1/2018. The regulation protects the Lory while recognizing the importance of community participation in protecting the birds.

Through this local regulation, Michael believes it will build the commitment of all stakeholders to participate in ensuring the protection of the Lory. The community will have better understanding of *sampiri* as a part of their lives, and understand that the species must be protected.

"The effects on the ground are already evident. We don't see Lories in people's homes anymore. However, there are still a few Lories being caught because there is still a demand. We know this still happens and we will continue to monitor".

Community participation to protect the *sampiri* is key to ensuring that the local regulation is effective. Karakelang Island is home to the Karakelang Wildlife Sanctuary, which was established in 2000 covering 24,669 ha. The sanctuary is one of the Lory's last habitats and the surrounding villages play a key role in protecting it from poaching and encroachment.

The Talaud Islands district government plans to promote *sampiri* as its local mascot as a means to create awareness and support for the Lory species.

"I am very happy. I'd be even happier if the mascot idea can be realized, and built into a monument, for example. And when I pass away, I'd like to be remembered as a *sampiri* conservationist, not a poacher," declares Zakaria as Michael listens and smiles.

Yellow-backed Lory (*Lorius garrulous*)

© Hanom Bashari / Burung Indonesia

WORKING HAND IN HAND FOR PARROT CONSERVATION

Muhammad Meisa & Vincentia Widyasari

White cockatoo (*Cacatua alba*).

© Hanom Bashari / Burung Indonesia

The midday sun is high above Ternate, the city where Alfred Russell Wallace wrote his theory of evolution through natural selection. A Chattering Lory (*Lorius garrulus*) hops from one small branch to another along with a number of Purple-naped Lories (*Lorius domicella*). Nearby, the distinct cackle of a white cockatoo (*Cacatua alba*) is heard. Maybe it is already their feeding time.

"The chatters of these seized birds are part of the staff's daily routine," explains Abas Hurasan, Head of the Ternate Conservation Area (Seksi Konservasi Wilayah 1 Ternate) in his office. All of these birds are being held in transit shelters in the Ternate Conservation Area of the Maluku Natural Resources Conservation Agency (Balai Konservasi Sumber Daya Alam/BKSDA).

North Maluku is a biodiversity hotspot in the Wallacea region. It is home to nine parrot species, three of which are endemic to North Maluku. These birds have long been targeted for the illegal wildlife trade in Indonesia and overseas.

"We've worked with the law enforcement to arrest these traders and held awareness campaigns to stop hunting and trading. However, people are still carrying out these illegal activities arguing that it supports their livelihood," added Hurasan.

The illegal trade has pushed the parrot population closer to extinction. A survey in 1991-1992 found that there are 43,000 - 183,000 of white cockatoo individuals in the wild; dropping to 8,630-48,393 individuals in 2000-2009. In just over a decade there has been an 80% decline in the white cockatoo population.

According to Benny A. Siregar, Burung Indonesia's Biodiversity Officer, the illegal bird trade is thriving because collectors are offering lucrative prices, despite the fact that the hunters and traders understand it is illegal. Take the white cockatoo as an example. In 2009, the price of white cockatoo at the hunter level ranged from IDR 50,000 to 150,000 each. In 2018, the price has multiplied by 300% to IDR 150,000-450,000. At the collector level in the domestic market such as Surabaya, Manado and Jakarta, the price is in millions of rupiahs; while overseas it is hundreds of millions of rupiahs.

In 2018-2019, Burung Indonesia identified a number of villages that are at the centre of the illegal bird trade in Morotai Island, Halmahera Island and Bacan Island. The study was a follow-up of a previous survey conducted in 2008-2009. Unfortunately, the hunting and trading issues remain the same, now, however, there is a larger variety of the species traded.

Chattering lory (*Lorius garrulous*) as a result of operation within the transit cage of Natural Resource's Conservation Agency in Maluku.

© Hanom Bashari / Burung Indonesia

SHARED PROBLEM, SHARED WORK

The illegal parrot trade is putting the viability of the population in the wild at risk. To reverse this trend law enforcement agencies and government departments have stepped up their coordination efforts with CSOs by sharing data and resources to combat the illegal trade. Joint law enforcement operations along with outreach campaigns are targeting source villages in an effort to stop the supply of birds. National agencies including Indonesia National Police, Army, prosecutors, and courts have stated their commitment to combating the illegal wildlife trade through "Indonesia says no to illegal wildlife trade". "We hope that this shared work can lead to behavior change and can influence other villagers to stop hunting birds," Benny says.

In North Maluku, the commitment is apparent through multi-stakeholder cooperation and coordination involving the Maluku BKSDA, Aketajawe-Lolobata National Park, law enforcement agencies, army, Agriculture Quarantine Agency, North Maluku Province Government, universities and NGOs.

A joint action plan was developed by several concerned cross-sectoral groups, including government, academics and NGOs to conserve North Maluku's biodiversity. Burung Indonesia facilitated a number of meetings with Maluku BKSDA, Aketajawe National Park, the police, province government and NGOs to exchange information and coordinate for better law enforcement. Prosecutors and the courts have also participated in these meetings so that they better understand the impacts of hunting and trading. Their participation is expected to result in harsher sentences for the traders.

Cooperation between BKSDA Maluku, the police and Balai Gakkum (Forestry Law Enforcement Agency) resulted in the creation of a guard post in Sofifi, Halmahera, one of the gateways for wildlife trafficking.

Law enforcement by itself is not enough to stop the illegal trade; it must be supported by community outreach to raise awareness and change behaviours. To this end religious leaders, universities, and districts government are all playing a role. Protestant church leaders from North Maluku have been enlisted to appeal to their congregations to conserve the parrots and remind them of the

The coordination meeting for enhancing commitment within related stakeholders about illegal plants and wildlife animals in Ternate, North Maluku.

© Muhammad Meisa / Burung Indonesia

evils of the illegal trade. The University of Halmahera and Khairun are active in public campaigns encouraging the districts governments to commit to biodiversity conservation. A delegation from Burung Indonesia, BKSDA Maluku and Aketajawe Lolobata National Park received a commitment from district governments to stop the trade in parrots and other wild species.

THE YOUTH MOVEMENT AGAINST EXTINCTION

In Labuha, Bacan Island, the district capital of South Halmahera, the youth are often involved in hunting birds from a young age. They shoot birds such as Blyth's hornbill (*Rhyticeros plicatus*), Cockatoos, and Standardwing bird-of-paradise (*Semioptera wallacii*).

Mahmud, a young man from Gandasuli village admits that he started hunting birds in elementary school. It began with using a slingshot to shoot sun bears in the forest and backyard. As a teenager he moved on to air guns.

"I used to hunt Pombo (Imperial Pigeon) or come with my friends to hunt Taong or Hornbills," remembers Mahmud, who has now left these pastimes behind. Now, Mahmud is working to protect wildlife in Gandasuli village along with other youths.

Organic farming was introduced as a means to lessen dependence on chemical fertilizers and thus bring down production costs allowing the money to be allocated to other household needs. Farmers no longer feel the pressure to hunt birds to supplement their income.

Standardwing bird-of-paradise (*Semioptera wallacii*).

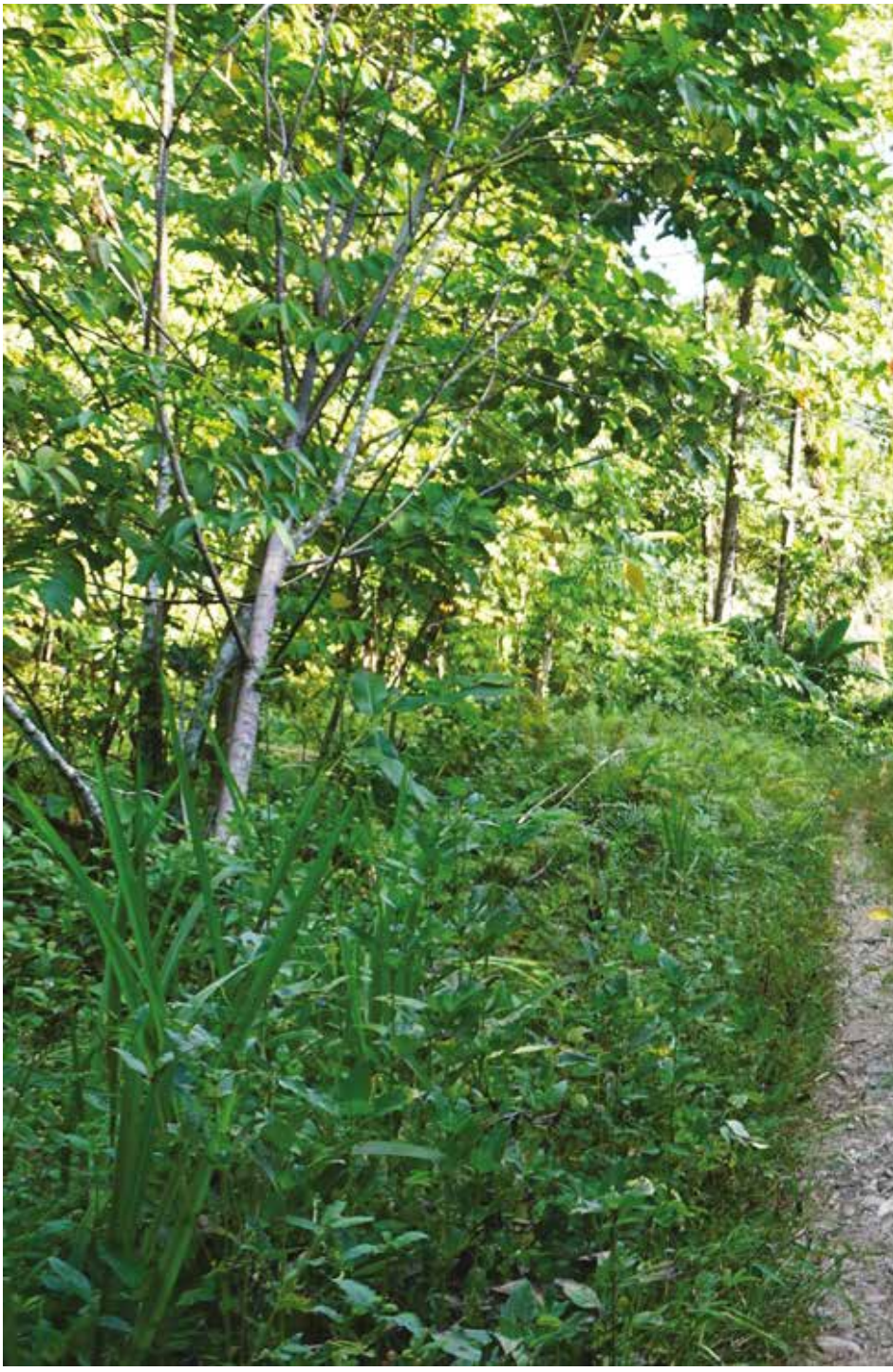
© Riza Marlon

A natural resources assessment by the youth of the village for ecotourism development received the support of the village head who issued a decision letter on environmental conservation and protection of rare wildlife.

Mahmud and his friends are also promoting alternative education where children and the youth can learn about topics not taught in schools such as nature conservation. Together they built a library, 'Jendela Baca Sibela' (Sibela Reading Window) as a place for the children and youth to learn about nature conservation. It is an oasis for natural conservation in Gandasuli, a village surrounded by illegal Lory and Parrot hunters and traders.

At Jendela Baca Sibela youth organizations can discuss topics such as ecology, nature conservation and wildlife protection. As a result of these discussions the village government issued a Village Decree on village conservation which they hope will become a village regulation.

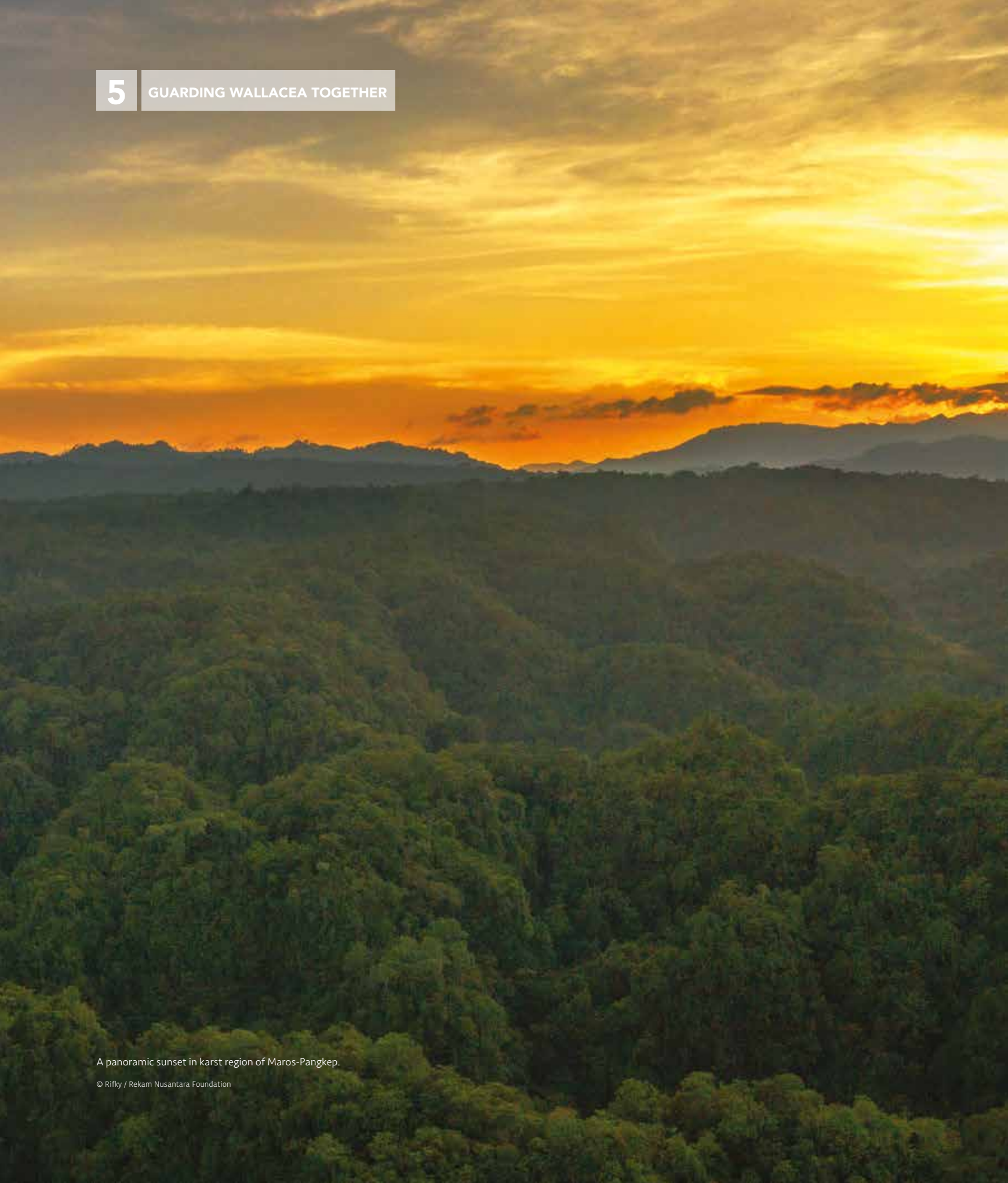
The example of the Gandasuli village youth has spread to other community groups. Such is the case with stakeholder commitment, which has also spread to other villages, districts and provinces. Putting an end to the illegal parrot trade will need the support of all elements in the society.



Eco-camp activity in Aketajawe-Lolobata National Park for youths to maintain Loriini's preservation.

© Muhammad Meisa / Burung Indonesia

5 GUARDING WALLACEA TOGETHER



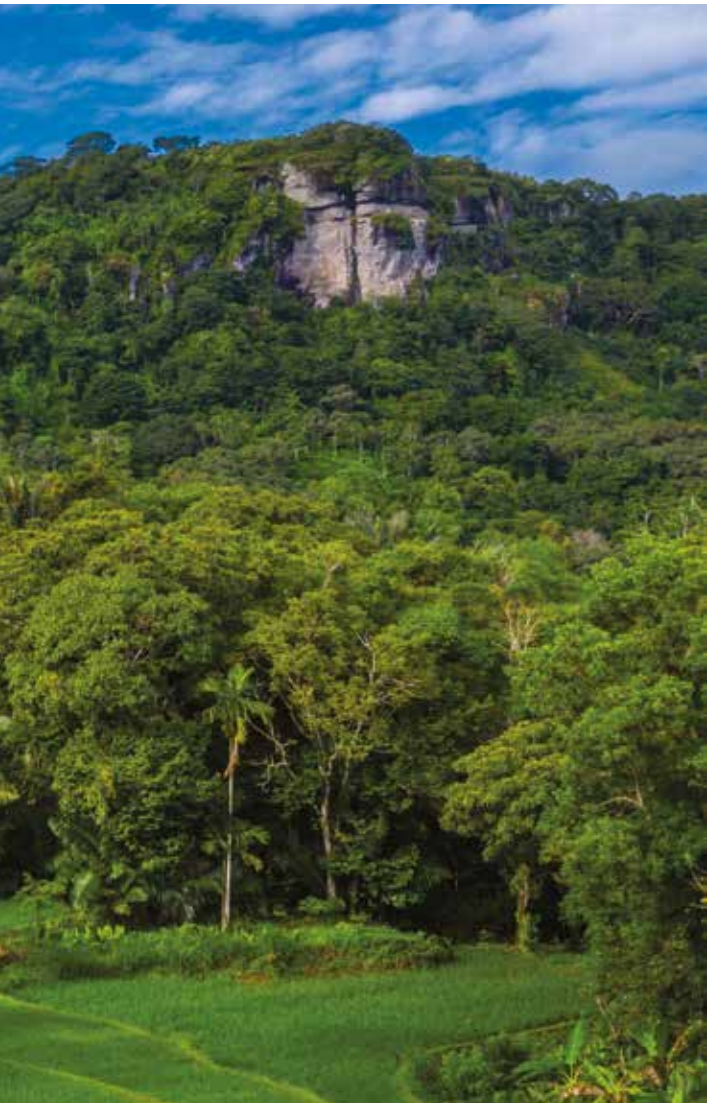
A panoramic sunset in karst region of Maros-Pangkep.

© Rifky / Rekam Nusantara Foundation

SAFEGUARDING THE MAROS-PANGKEP LANDSCAPE

The farming area of Bonto Masunggu Village's community bordered with Bantimurung-Bulusaraung National Park.

© Rifky / Rekam Nusantara Foundation



ONLY ONE THING THEY KNEW ABOUT THE **NATIONAL PARK** THAT THEY ARE PROHIBITED FROM ENTERING, LOGGING, OR CARRYING MACHETES.

"Such gorges, chasms, and precipices as here abound, I have nowhere seen in the archipelago. A sloping surface is scarcely anywhere to be found, huge walls and rugged masses of rock terminating all the mountains and enclosing the valleys. In many parts there are vertical or even overhanging precipices five or six hundred feet high, yet completely clothed with a tapestry of vegetation." Alfred Russel Wallace, The Malay Archipelago (1869).

To this day the natural beauties of the Maros karst landscape in South Sulawesi continue to inspire the intrepid explorer and weekend visitor alike. Part of the Maros-Pangkep Karst Landscape (MPKL), the MPKL has the second largest and most beautiful karst tower in the world after the South China karst ecosystem.

The Maros-Pangkep karst ecosystem covers approximately 46,200 ha, of which nearly 22,800 ha lies within the Bantimurung Bulusaraung National Park (BBNP). This national park was gazetted as a conservation area in 2004 but site-level implementation only began in July 2007. In addition to the national park, the Cenrana Bone Forest Management Unit (FMU) manages the protection forest in MPKL.

As well as being a unique geological formation and rich in biodiversity, the MPKL is critical for communities living in and around the area. The region is a source of irrigation water and clean water for Pangkep, Bone and Maros districts. MPKL also regulates the climate for the surrounding areas.

Similar to other areas natural areas in Indonesia, the MPKL is under threat by population growth and the expansion of agriculture into forested areas. The forests are being cleared to plant cloves, peanuts, corn, and coffee. Trees and other hardwoods that help hold water and prevent erosion have also been cut down.

When the FMU began operations in the MPKL, it was just a matter of time before there would be conflicts between the community and the park management. The communities had been there before the park was gazetted and conflicts occurred over land tenure and boundaries between the park and farmlands.

In order to address these issues, a local NGO, Payo-payo Association in collaboration with Burung Indonesia proposed a multi-stakeholder collaboration as a means to reconcile livelihood and conservation needs in the MPKL.

"Initially we worked in Tompobulu and Bonto Masunggu villages," Karno B. Batiran, Director of Payo-payo recalls. As far back as 2004, when Payo-payo Association first began with their literacy program, they had heard about conflicts between the BBNP and local communities. "Community members were

The authentic landscape of karst hills in Bantimurung-Bulusaraung National Park.

© Rifky / Rekam Nusantara Foundation

arrested for clearing land and planting rice. A park ranger was chased by a machete-wielding villager".

For that reason, Payo-payo saw Burung Indonesia's arrival in the conservation area as an opportunity to bring the park and the community together. "The first thing we thought of was how to reconcile the perspectives of the community and the national park".

Candlenut from Tompobulu Village, Balocci District, Pangkep Regency.

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The village discussion series was an eye opener for all parties. A survey was conducted prior to these discussions to capture the perceptions of all the stakeholders. One result that stood out was that many community members did not know the national park officers and, even the existence of the national park.

"Only one respondent knew about the national park. Others knew that they are prohibited from entering, logging, or carrying machetes. That was all they knew". The community did not understand about the zoning and that some areas are in fact designated for utilization.

With Payo-payo as facilitators, the park explained to the community about their work, zoning, and zoning revisions, if needed. "The community and national park officials were able to come to a common understanding. The target of the village discussion series was not only the facilitated groups, but all community members needed to understand this information".

Najamudin, Head of Bulu-bulu Subvillage in Tompobulu village, Balocci Subdistrict, Pangkep district, echoes Karno's statement. "We used to refuse to acknowledge the national park, because all we knew was that this has been our land for generations. We could collect timber, rattan, honey, and clear land. But then one day all that was prohibited," he recalls.

From the numerous cases, we learned that conservation area designation and management must prioritize the human element, not only the physical and biological aspects. The wildlife and plants can take care of themselves, but local communities have managed the land for generations for their sustenance.

They must be included in the discussion about what is best for their wellbeing without destroying the environment. Therefore, conservation work is mainly about working with people, not only the forest and animals.

After going through the mediation process, the community realized the benefits of the national park. Their land has improved and erosion is no longer a threat. "We understand now that we can utilize certain areas. We don't cut down timber anymore, but we collect non-timber forest products. We collect sugar palm, honey, and rattan," Najamudin points out.

COMMUNITY LEADING SITE-LEVEL CONSERVATION AREA MANAGEMENT

Burung Indonesia's program in collaboration with the Payo-payo Association has provided tangible results. During the two year program, Tompobulu and Bonto Masunggu villages experienced positive changes. "The work done in Tompobulu and Bonto Masunggu are excellent examples of community empowerment," states Iqbal Abadi Rasjid, Head of Conservation Section I in BBNP.

"By community empowerment and recognizing communities as site managers, we hope that the community can reap the benefits of the park management. Once the community realizes the benefits from the park management, then they themselves will protect the surrounding areas".

Due to good communication with the community, safeguarding and awareness raising is now easier. This is illustrated in Bonto Masunggu village where the community actively participates in patrols with the park rangers. "During the patrols with the community, we explain that the park functions not to take over community land, but how to manage and protect the environment so that the community can reap the benefits from the national park management".

Firman, a resident of Bonto Masunggu village in Tellu Limpoe Subdistrict, Bone District, can attest to the ongoing collaboration between the community and the national park. "Now I know the boundaries of the protected area. We used to be afraid of getting caught for entering the park area. But once we understood about the forest zones, we know where we are allowed to utilize the land. I can still collect forest honey".

For Firman, the forest is important for his livelihood. Since timber collection is prohibited, Firman and other villagers have planted hardwood species outside of the park area. However, he can still gather non-timber forest products from the protected forest in the park.

The harvested forest honey in Bonto Masunggu Village, Tellu Limpoe District, Bone Regency.

© Rifky / Rekam Nusantara Foundation

Firman, a forest honey seeker from Bonto Masunggu Village.

© Rifky / Rekam Nusantara Foundation

Firman acknowledges that now there are more honey bee hives when the trees are left standing. "We also collect sugar palm in addition to honey. We plant rice for household needs. We make additional income from the forest honey and sugar palm". During the honey season, Firman can harvest twenty 500-600 ml bottles of honey.

Visit Bonto Masunggu, and you'll be even more certain that the best approach for such villages is people's wellbeing. If they are ignored, conditions will force them exploit the environment to be able to live.

One of the Wallacea Partnership Program's strategy states that conservation objectives can be achieved if the quality of conservation area planning and management improves. A key strategy is stakeholder collaboration.

According to Andi Faisal, Burung Indonesia's Sulawesi Program Officer, an effective collaboration requires conflict mediation in order to find the middle ground for all, not just on paper. "The middle ground for Bonto Masunggu is the people's wellbeing, which requires concrete contributions from all parties".

Collaboration in Bonto Masunggu has led to plans to for turning the village into a tourism destination. "The national park and Payo-payo Association are actively promoting this village for its beautiful scenery and nature," notes Najamudin, the village head.

Bonto Masunggu is known for its waterfalls. During the rainy season, more than 10 waterfalls decorate the cliff walls. Four of these ten waterfalls have large water flows.

Improved forest conditions mean that the water supply has increased. "We can see the benefits of the national park facilitation program. For example, we had little water around July in past years, but thankfully now we still have water, even in November during the dry season".

He believes that placing communities at the forefront to protect the forest is the right decision. "Collaboration is needed. The village now knows and applies proper development plans in line with the environment. They will also continue to gain direct benefits from protecting their forest," Najamudin concludes.

The aerial image of forest in Lompobattang Mountain, Pattaneteang Village, Tompobulu District, Bantaeng, South Sulawesi.

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INNOVATIVE VILLAGE FOREST MANAGEMENT FOR CONSERVATION AND LIVELIHOODS

Andi Kurniawan halts at the Pattaneteang village forest. "Up there is the Mount Lompobattang summit and there further away is Mount Bawakaraeng," pointing to our right where the Lompobattang-Bawakaraeng ridge extends. The Pattaneteang village forest covers 339 hectares and is located at the foot of Mount Lompobattang-Bawakaraeng, both of which are just over 2,800 m above sea level (asl).

Today's journey is led by Andi, who leads one of the nature groups in Bantaeng district. Three other youths on the hike from Pattaneteang are learning about nature guiding. The journey takes one hour from Pattaneteang village to the village forest.

We wanted to see for ourselves the endemic wildlife in the village forest. The critically endangered (CR) Lompobattang bunomys (*Bunomys coelestis*), the endangered Lompobattang Flycatcher (*Ficedula bonthaina*), and the tarsier all live in the forest, as does the rarely sighted anoa (*Bubalus depressicornis*).

Andi knows where to find the Poce or Lompobattang flycatcher, Lompobattang bunomys, and tarsier. He has hiked to the summit of Mount Lompobattang-Bawakaraeng numerous times, passing through the Pattaneteang village forest where the trees are dense and the atmosphere is pleasant.

Lompobattang flycatcher (*Ficedula bonthaina*), an endemic bird existing in Lompobattang Mountain.

© Mikael Bauer

VILLAGE FOREST AND LAND MANAGEMENT CHALLENGES IN PATTANETEANG

The village forest was established in 2009 as part of the government's Social Forestry program to broaden community access to Bataeng's forest resources. The recognition of the village forest, allows the community access the protected forest, which makes up 2,773 hectares of the 6,222 hectares forest area in Bantaeng. Before the village forest was established, there used to be conflicts over access and use of forest resources since community rights to use the forest the protected forest were not recognized under the law.

The community forest has multiple functions: source of non-timber forest products (NTFPs), timber for household needs, biodiversity conservation and, as a water catchment. Gaining recognition of their access and use rights was only the first step. According to Adam Kurniawan, Director of the Balang Institute, updated spatial data is needed to better manage forest use. Villagers are being trained in participatory mapping and it is expected that the mapping will be done by the end of 2019. The community has already agreed to designate 54 hectares of the village forest as a protected zone specifically for anoa protection. The remaining village forest area will be classified as utilization zone for planting coffee under the shade of large trees.

The aerial landscape of Pattaneteang Village with its forest background and Lompobattang-Bawakaraeng Mountain.

© Rifky / Rekam Nusantara Foundation

MULTI-STAKEHOLDER INNOVATION AND COLLABORATION

There is still considerable potential to develop Pattaneteang's NTFPs, including honey and rattan. Better management of the coffee agroforests will improve the quality and productivity. Hardwoods such as surian, sengon, albisia can function as coffee shade trees inside and outside the village forest while at the same time regulating water supply and preventing landslides. On the forest floor, red ginger or porang (*Morphopallus onchopillus*) can provide additional income for farmers. Finally, village youth are being trained to lead ecotourism activities such as hiking and wildlife viewing.

Lukman, the Head of Pattaneteang Village, is encouraging the communities to be active and to promote the village's top product. One of those is Bantaeng coffee.

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THE ROLES OF PRIVATE SECTOR AND LOCAL GOVERNMENT

To maximize the forest resource use, the Village-Owned Enterprise (Badan Usaha Milik Desa/BUMDes) will play a central role. The community is the principal shareholder with assistance from local NGOs such as the Balang Institute, private sector and district government.

One of the BUMDes' main activities is promoting coffee. "We are promoting the local Daulu coffee as a specialty coffee. The conservation-based coffee will be Pattaneteang's trademark. "We'll package the coffee under different names; Sikatan Lompobattang (*Lompobattang flycatcher*) Coffee, Tarsius (tarsier) Coffee, and maybe Anoa Coffee, as a means to create awareness about the endemic wildlife".

The unique brands and the stories behind them will attract buyers that are looking for coffee beans with added value. They're not only buying coffee; they are also contributing to forest conservation and protecting endemic wildlife and biodiversity. Indeed, there is still more work to be done to market the coffee. Prices have increased ever since they started to market their coffee through the Grassroot Farmer Cooperative. The government is supporting these initiatives with a coffee center in Tompobulu sub-district, where Pattaneteang village is located.

The innovations underway in forest management in Pattaneteang village bode well for the future. The steps taken to protect forest resources while strengthening commodity development, village institutions and the capacity of the farmers will ensure the sustainability of the forest resources.

Arabica coffee that has been harvested by the resident of Pattaneteang Village.

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A panoramic view of Nuha Village (Matano Lake), East Luwu Regency, South Sulawesi.

© Rifky / Rekam Nusantara Foundation

PROTECTING AN ANCIENT LAKES COMPLEX FOR THE FUTURE

"In the village we still uphold the rules of our ancestors. Some places are prohibited. Our ancestors have protected the area from being destroyed, and we still live by these rules," explains Sultaman, Chair of the Nuha Village Lake Forum.

"If the region is degraded, our lives in the village will suffer". Sultaman's comments about Nuha village local wisdom is not without reason. These

Aerial landscape Matano lake.

© Rifky / Rekam Nusantara Foundation

days there are numerous threats to the forest around Lake Matano. If the large tract of forest around the lake is degraded, the lake will be affected, causing further negative environmental impacts.

Nuha village is located north of Lake Matano in Nuha sub-district, East Luwu district in South Sulawesi. The name Nuha has its origins in a small island in Lake Matano that is visible during low tide.

For centuries, the Nuha village access road has connected two provinces: Nuha in South Sulawesi province and Morowali in Central Sulawesi province. From the lake boundary to the mountain ridge, a large portion of the village is situated in the protected forest.

Lake Matano, the largest in Southeast Asia, is part of the Malili Lakes Complex. The area is referred to as a complex because it comprises several lakes. Malili itself is the estuary of a network of rivers that pour into the lakes and empty into Bone Bay.

There are four lakes other than Matano: Mahalona, Towuti, and two smaller lakes, Massapi and Wawantoa. In several discussion forums, the Malili Lakes Complex has been proposed to be renamed the East Luwu Ancient Lakes Complex.

Matano, Mahalona and Towuti lakes are ancient lakes. Tectonic activities millions of years ago resulted in a rich, unique and beautiful landscape.

But now the lakes complex and its water catchment are under threat from mining exploration, deforestation, environmentally unfriendly agriculture and lack of conservation support from communities.

Beginning in the early 2000s, many local communities shifted their farming practices to cultivating Black pepper (Piper nigrum) for its fruit, known as a peppercorn. It is a flowering vine that can grow up to 4 m in height on supporting trees or poles. The farmers converted hectares of the protected forest into pepper farms, using rare endemic timbers for supporting poles for the pepper vine.

The shift to pepper cultivation resulted in erosion and lake sedimentation. After the harvest, many farmers threw waste from pepper processing into the lakes.

The aerial image of pepper's garden in Nuha Village.

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Sultaman, a resident of Nuha Village that is taking care of forest and endemic plant in Matano Lake.

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In addition, illegal sawmills used to operate on the edge of the lakes. Where else would the timber come from if not from the Feruhumpenai forest at the edge of Lake Matano? These practices have severely damaged the forest and lake ecosystems, undermining their environmental services.

In an effort to reverse these trends, Burung Indonesia, through the Wallacea Partnership Program, collaborated with its partners to protect this prehistoric lakes complex. At the site level, the Wallacea Association and the Andi Djemma University (ADU) Faculty of Forestry developed a plan to stop encroachment into the forests.

The Wallacea Association conducted participatory mapping and spatial planning with the community in Nuha and Matano villages.

"We invited the community to identify their area or village through participatory mapping and plan future land use strategies," states Basri Andang, the Executive Director of Wallacea Association.

"The hard part is raising awareness. Prior to mapping, we explained the importance of the forests for the community," Basri elaborates. The community was invited to plan their area for settlements, production, and protection. Through this process, they realized the dangers of encroachment. Sultaman is aware of this pressure on the forest. As one of the pepper farmers, he began to think about how the forest will disappear if the trees are cut down to be used as supporting poles. In the past, the villagers only cut down timber for constructing their homes. However, the demand for timber drastically increased with pepper cultivation.

"So, I got to thinking that the forest may disappear. When the Wallacea Association arrived to conduct awareness raising and participatory mapping training, Sultaman and the community welcomed the organization.

"With participatory mapping, we can now plan how the land will be allocated. We can determine and agree on the areas for pepper cultivation and also designate protected zones".

The mapping also led to the community agreeing to create a Community Protection Area (CPA). Although the CPA is located within the area designated for cultivation and settlement, their decision is a recognition of the importance of the area for the region's function in protecting water sources, preventing landslides and erosion, and as a habitat for protected plants and wildlife.

Within the first year, the program slowed down encroachment by half. The community members even expelled people from outside the village who attempted to clear farmland in the forest. In the past, the community would not do this because they believed they had no right to take such actions. Now the community is aware that the village can regulate the forest in its administrative boundary.

The community's motivation to protect the forest is also driven by a new awareness about the important role played by the endemic tree species in the ecosystem. According to Hadijah Aziz, Dean of the Faculty of Forestry from ADU, three endemic tree species, Hopea celebica, Vatica rassak, and V. flavovirens are threatened due to over exploitation for poles to support pepper plants. "These endemic tree species are known for their strong timber, are termite resistant, and have good commercial value". They are popular with communities because they can last for 35 years as pepper poles.

"The good thing is that the community is now aware and knows about these endemic tree species. We must do more than just protect them but also assist by propagating them in nurseries".

"We are now a creating nursery for the endemic species as well as for economically valuable jengkol (Archidendron pauciflorum) where the seeds are a popular dish. These will be planted between the pepper vines, or planted along farm boundaries so that we can harvest pepper and jengkol. Currently our jengkol seedlings are 3 months old and are ready for planting". Sultaman notes.

The seeds of Sulawesi endemic plant in Nuha Village, East Luwu Regency, South Sulawesi.

© Rifky / Rekam Nusantara Foundation

"We got help for the nursery site from the Faculty of Forestry in ADU, and the jengkol seedlings are from Wallacea Association".

In addition, when the Nuha community members learned that their forest contained endemic tree species, they allocated 10 ha of land just for replanting these tree species. They are proud that their forest contains such unique species not found elsewhere.

The community no longer uses the endemic tree species as poles for the pepper vines. So far, 50,000 seedlings have been planted during the community facilitation work since 2016. In collaboration with the Local Environmental Agency and Forest Farmer Group in Nuha, the community has planted endemic tree seedlings on critical land and on the edges of Lake Matano.

This good news from Nuha is being replicated in other villages in the East Luwu Ancient Lake Complex. The village regulation on the protection of the three endemic species in Nuha and Matano villages is a good example of the benefits of community management.

In addition to endemic plants, the endemic fish in the ancient lake complex are also a focus of conservation efforts. ADU's Faculty of Forestry is working with communities around Lake Towuti to protect the Sulawesi harlequin shrimp (Caridina woltereckae), buttini (Glossogobius metanensis), and Celebes rainbow (Telmatherina celebensis), all of which are endemic species. The threats to these three endemic freshwater species include destructive cyanide fishing and overexploitation. Furthermore, lake quality and habitat degradation due to community waste and garbage is also a threat.

During the year-long program cyanide fishing decline drastically and the community's habit of throwing garbage in the lake also decreased.

Udang kumis putih

© Rifky / Rekam Nusantara Foundation

One of the endemic prawns in Towuti Lake.

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Cardinal Sulawesi Shrimp (*Caridina dennerli*).

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MULTI-STAKEHOLDER COLLABORATION

The work, however, didn't end at the site level. Alignment among stakeholders is still poor, and support is lacking from a multi-stakeholder agency that can organize and promote synergy among stakeholders.

With this in mind, the Wallacea Association and Wallacea Partnership Program invited all stakeholders to take part in the protection of East Luwu Ancient Lakes Complex ecosystem.

The East Luwu Ancient Lakes Complex Community-based Natural Resources Management and Spatial Plan Program is now under review by the various stakeholders. Its grand objective is the sustainable management of East Luwu Ancient Lakes Complex but achieving a common vision takes time.

As part of this process Malili Lakes Complex Observer Forum (Forum Pemerhati Kompleks Danau Malili/FPKDM) of East Luwu District was formed. This forum will push for better management of the East Luwu Ancient Lakes Complex.

"With Wallacea Association's assistance, we are formulating a District Regulation to protect the water catchment with the support of all stakeholders. The primary stakeholders are the Natural Resources Conservation Agency, Watershed Management Agency, PT Vale Indonesia, and provincial government," stated H. Zainuddin, Chair of FPKDM and Head of East Luwu District Settlements and Land Agency.

Zainuddin noted that the community's achievements must become a source of reflection for other stakeholders on how to improve the management of the East Luwu Ancient Lakes Complex. "The community has provided a great example, and now each village and lake has a coordinator. This should provide an incentive."

The East Luwu District Head regulation on Malili Ancient Lakes Complex Management Coordination is now in its final stages.

Zainudin, the Head of Malili Lake Watcher's Forum.

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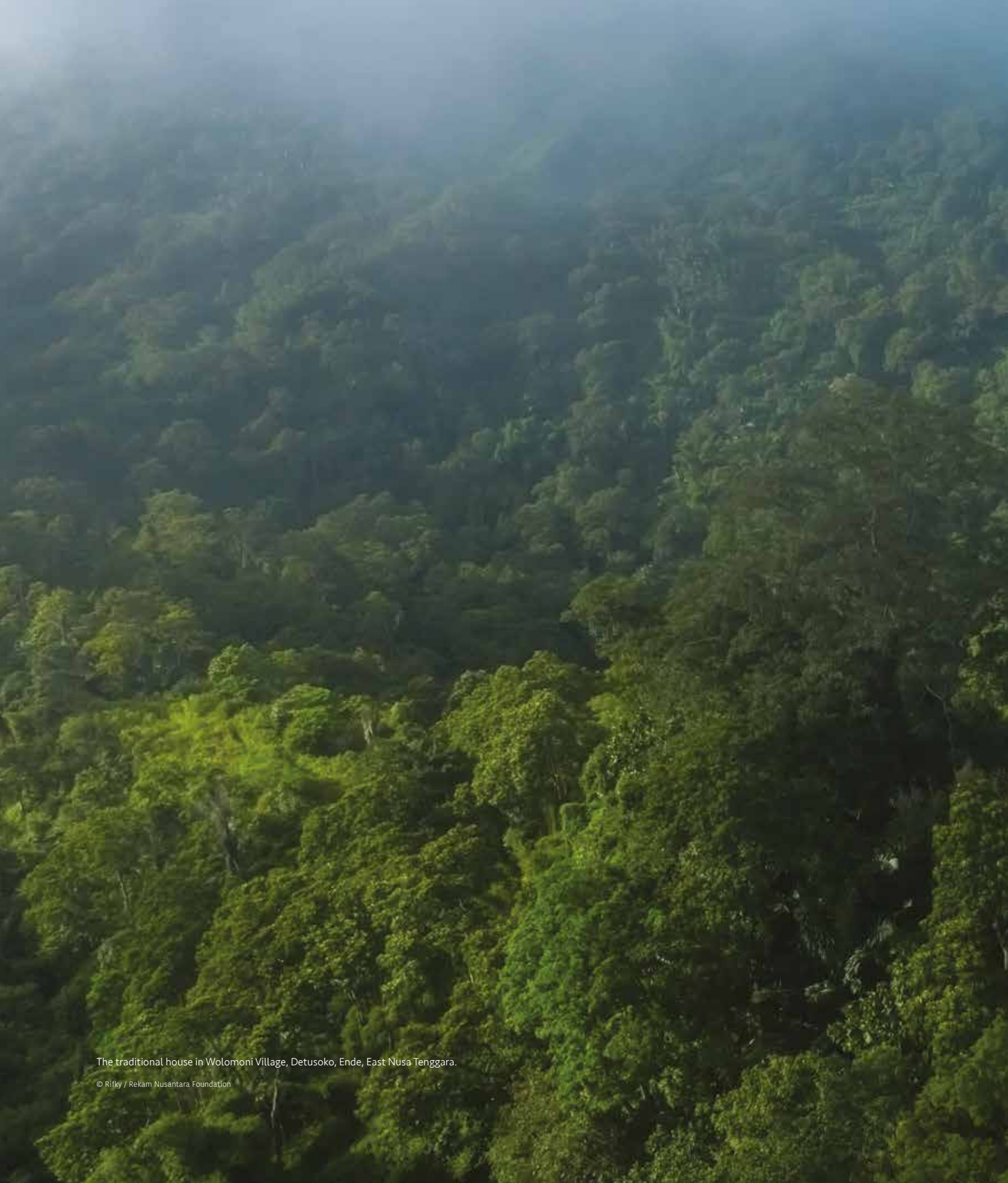
"With this collaboration, together we can protect the lake catchment area, provide the utmost benefit especially for the people around the lakes and the East Luwu District community in general. Also, companies operating in the catchment area can then apply sustainable environmental management principles," Zainuddin concludes.



The traditional house in Wolomoni Village, Detusoko, Ende, East Nusa Tenggara.

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GUARDIANS IN THE LAND OF THE GODS

The fog was slowly rolling in when the electricity cut out, forcing Stefanus to start-up his low-capacity generator. Roga village, comprising 120 homes, was only hooked up to the grid a month ago, but power outages were still common.

At 5:45 p.m. we went to Stefanus' house.

"That is Mount Kelimutu, the mountain we protect," Stefanus points out while handing me a cup of hot coffee.

"This is Kelimutu coffee that we've planted since the days of our ancestors."

The 43-year-old man has been head of Roga village, located in Ende district, Flores for the past two years. Stefanus smiles when he speaks of how village prospects are improving. For example, the village which sits 1,000 metres above sea level is slowly turning Arabica coffee into its star commodity.

"Coffee was cheap back then. Today, Arabica coffee beans sells for IDR 28,000-33,000 per kilogram".

For generations horticulture, dryland rice paddies, gardens, livestock, or traditional farming have been the mainstay of their livelihoods.

They also inherited the Lio tradition of regarding Mount Kelimutu as sacred. The *mosalaki pu'u* (customary elders) usually provide directions to determine farm land boundaries and determine the start of the planting season.

"There are two types of land in our village. There is *Manu eko, arewati, moke boti* which is indigenous land that is a no-take area. Then there is land distributed by customary law to the community, or *faiwalu anakalo*, which cannot be bought and sold as it is inherited from the ancestors."

A resident of Toba Sub-Village, Roga Village, that is picking coffee.

© Donny Iqbal / Rekam Nusantara Foundation

A resident of Toba Sub-Village, Roga Village, is clearing the red onions that have been harvested from its garden.

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NATURAL RESOURCE MANAGEMENT IN KELIMUTU NATIONAL PARK: CONFLICTING AGENDAS

When the government declared Kelimutu as a national park in 1992, the local communities were not consulted on park boundaries resulting in protracted conflicts between the communities and the national park management. Their land clearing practices were criminalized and they were no longer allowed to attend to their gardens that were now inside the park.

The divergent understanding and attitudes concerning forest boundaries and management continued to escalate making it difficult to find common ground.

"When our farms became part of the park area, we were confused. We weren't involved".

As the evening approaches, more visitors came to Stefanus' home, joining the conversation.

Thomas Gao, a local resident, shared his troubles when the customary land became part of the national park.

Thomas had a two hectare farm on the customary land planted with coffee and cocoa. But after the national park gazettement he could not work his farm.

"I couldn't work, so I spent four years in Malaysia as migrant oil palm farmer. I was scared of being arrested if I continued working on my farm. I'd rather find other work."

Thomas Gao was not the only Roga villager who travelled abroad to find work. One of the reasons for the high number of migrant workers is low wages in Flores.

The aerial landscape of land and garden in Toba Sub-Village, Roga Village. This sub-village is directly bordered with Kelimutu National Park.

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THE ROAD TO RECONCILIATION

In 2016, Tananua Flores Foundation, a partner of Burung Indonesia, proposed a compromise to resolve the drawn out conflict between the Lio indigenous people and the Kelimutu National Park management. Both sides were eager to find a compromise since the conflict was proving costly to both sides.

When the Kelimutu National Park office recognized the existence of indigenous land within the park, the Lio Indigenous People's response was positive. Access was given to the customary land inside the park area to maintain and harvest their coffee, but not to expand their area.

Kelimutu National Park is classified into four zones: intensive zone (96.5 ha) and core zone (350.5 ha) around the lake, wilderness zone (4,351 ha), and rehabilitation zone (558.5 ha). This zonation aims to maximize Kelimutu's multiple functions; nature tourism, cultural activities, education and research and development.

The park management is not able to ensure that all zones are managed according to their functions so it now works with surrounding communities through a partnership scheme. Ten community members, including Thomas himself, conduct patrols with park rangers, earning IDR 50,000-150,000 for each patrol.

"Roga is included in the park tourism program and will soon have a hiking trail to the summit of Kelimutu," Stefanus points out.

The Kelimutu National Park is classified as a Key Biodiversity Area (KBA) due to the flora and fauna that are unique to Kelimutu such as nineteen bird species including the endangered the Flores Hawk-eagle (*Nisaetus floris*) and the Wallace Scops-owl (*Otus silvicola*). The garugiwa bird or Bare-throated Whistler (*Pachycephala nudigula*) is also called the spirit bird because people can only hear its song through the dense vegetation in the park that hides it from view. The park is also home to unique plant species, such as utaonga (*Begonia kelimutuensis*), arngoni (*Vaccinium varingiaefolium*), and turuwara (*Rhododendron renschianum*).

The patrol activity of an area is routinely executed by Kelimutu National Park's officer and Toba Sub-Village's resident.

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COLLABORATION FOR THE FUTURE

We had spent the entire night discussing the lives of communities who depend on the majestic beauty of Kelimutu. For the Lio indigenous people, Mount Kelimutu is a symbol of strength protecting the earth.

In the yard, Stefanus introduces us to a Roga elder, Michael Ome. Wearing a loose-fitting military-like jacket, the 83-year-old man answers our questions about Kelimutu.

Michael Ome notes that the local community has a good understanding about protecting Kelimutu for their grandchildren. This understanding is translated into rituals to praise the gods.

The gate (*pere konde*) in Kelimutu Lake is guarded by the ruler, the Konde Queen. At the summit of Mount Kelimutu are three crater lakes; Tiwu Ata Mbupu, (Lake of Old People); Tiwu Ko'o Fai Nuwa Muri (Lake of Young Men and Maidens) and Tiwu Ata Polo, (Bewitched, or Enchanted Lake). In the lakes," Michael Ome says while pointing toward Kelimutu, "the spirits rest after they die."

The status of Flores hawk-eagle (*Nisaetus floris*) is currently endangered.

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Michael Ome is an indigenous elder generation (*Musalaki*) in Toba Sub-Village, Roga Village.

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The waterfall in Toba Sub-Village, is becoming one of the tourist's attractions.

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Mount Kelimutu is regard as a sacred so they are careful not to act recklessly because it a source of their livelihoods and an integral element of their culture.

The sun rises above the horizon, and Stefanus invites me to walk around the village. Along the way, he repeatedly expresses his desire to develop tourism as a means to empower the local communities.

"Through collaboration between the community, government and facilitating civil society organizations, the area is not only protected but can also create added value that will endure future generations," Tiburius Hani, Flores Program Manager of Burung Indonesia emphasizes.

He adds that one of Wallacea's Partnership Program's strategic direction is to support effective collaboration between CSOs, local and indigenous communities with the park management to increase conservation area planning and protection.

The collaboration between Kelimutu National Park management and the Lio indigenous community is an example of how a partnership approach to conservation management can bring both economic benefits and conservation benefits.

The joy of children in Buano Island while swimming in the sea.

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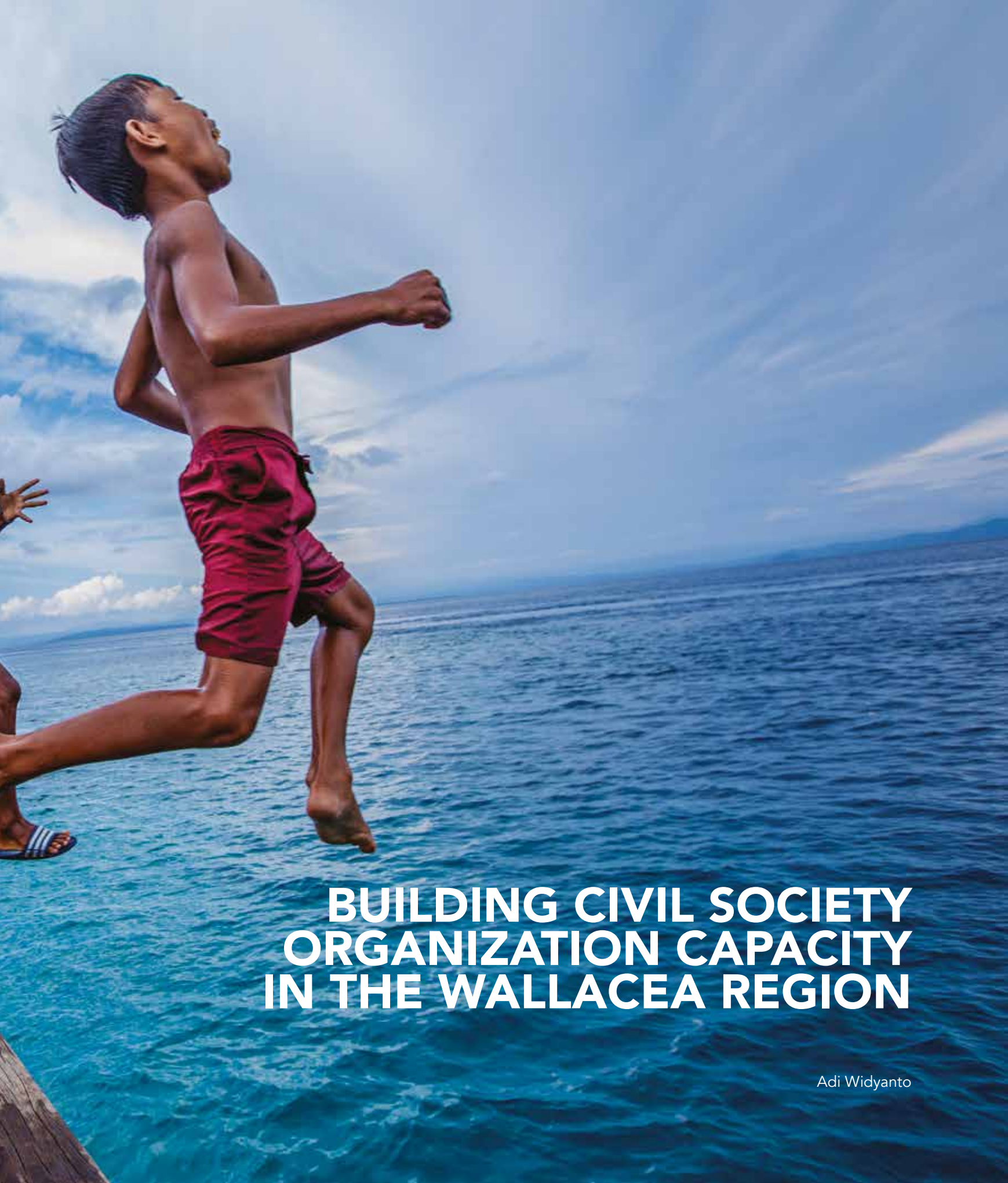

BUILDING CIVIL SOCIETY ORGANIZATION CAPACITY IN THE WALLACEA REGION

Adi Widyanto

In mid-2013 to 2014, Burung Indonesia led a consortium to assess conservation priorities and investments in the Wallacea biogeographical region. Their results found that capacity development schemes available for civil society organizations (CSO) in biodiversity conservation is limited. This assessment results then became a guide for this partnership program to include capacity building as one of its strategic objectives.

CSOs play a strategic function in catalyzing change, including in environmental and biodiversity protection. CSO's freedom to move vertically to collect public aspiration and assist in raising awareness, as well as hold dialogs and negotiate with government and other stakeholders is a unique and strategic role. On the other hand, CSOs must continue to hone its skills to be able to perform optimally in accordance with the developing issues and challenges.

With this note, the Wallacea Partnership Program provided trainings for CSOs in identifying extinction threats and how to design conservation actions as solutions. Trainings were delivered through technical skills to observe and collect field data. Moreover, the training also covered managerial skills to plan, execute, and evaluate conservation action results.

For their technical skills, partners participated in a series of thematic trainings in accordance with conservation challenges. There were training on investigating poaching and trade of protected wildlife and training on planning community-based marine conservation area. The trainings were designed to be more exercise than theory.

For partners in community-based natural resources management sector, training was held on permaculture, an environmentally friendly and local resources-based land management practice. To promote community business enterprise, partner organizations attended training on commodity supply chain and intervention strategy.

The Wallace Partnership Program was designed to progressively develop partners' capacity and therefore teaching them to focus strategically on each stage. At the end of the program, the changes are expected to be maintained and even grow further. Therefore, we designed three milestones as stages toward achievement.

In the first stage, partners are steered to develop initiatives to resolve site-level conservation problems. When they have successfully resolved actual problems, they will find an effective local model. The model is then replicated in other sites with similar problems to further test its effectiveness. This stage is called replication.

In the last stage, the tested model is institutionalized. This ensures that the initiative continues after the project is completed. The

A resident of Bubu Atagamu Village, South Solor, is harvesting the green beans.

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expected institutionalization is to be done both in everyday practice as well as in policies and regulations. Surely, in reality the achievement indicators are not always linear. All this depend on local opportunities and challenges, as well as other key factors.

The sago processing activity in Buano Island, West Seram, Maluku.

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Though a program may be regarded as completely successful once it has successfully internalized an initiative, it does not mean that achievements in stages one and two are any lesser. Sometimes one stage may need more time that others to complete. Anything can happen and oftentimes these are local in nature, such as political support of local policy maker, among others.

As a regional implementation team, Burung Indonesia routinely facilitate its partners to share their experiences, discuss challenges and opportunities, and learn from each other's strategies. In addition to achieving each of their targets, partners are facilitated to develop collective capacity to address local conservation challenges.

By networking and sharing roles, CSOs can achieve targets beyond their own organizational capacity. The success of partners in the Togean-Banggai Marine Priorities Funding Area to establish a marine protected area in Mainland Banggai, Banggai Laut, and Banggai Archipelago (Dalaka) is a good example of collaboration among CSOs and between CSO and government. Furthermore, the collaboration between CSOs, academics, volunteers, and local government in North Maluku province successfully limited movement of poachers and traders of protected lory and parakeet species.

Increased individual and organizational capacity in addressing local conservation challenges, the internalization of conservation models into policies, as well as success in collective civil society capacity building will become the pillars to carry on future achievements of the Wallacea Partnership Program.

Pacific reef heron (*Egretta sacra*) in Haruku Island, Maluku.

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EPILOGUE

The sun begins to set in on the beach in Haruku Village, leaving a trail of violet to greet the crashing waves. Far off in the distance, lamps on fishing boats begin to flicker in the dark.

The environmental guardian Eliza Kissya, or Eli as he's known, quietly shares his thoughts. "I was just thinking, when I'm gone will my successors be able to protect this heritage?" he wonders.

Eli's is not alone, his concern is also shared by other activists in the region such as; Sudin Mahelatu and Ayub Musapelan on Buano Island in Maluku; Haji Mambua in Bantaeng and Benediktus Bedil in Lembata. They long to see this blessed land and sea sustained for years to come.

This apprehension is what motivates them to continue fighting to protect their environment against seemingly impossible odds. The overexploitation of natural resources, the use of destructive fishing methods and the illegal wildlife trade are just some of the pressures that often lead to communities feeling powerless and becoming bystanders while others take their resources. An entry point that proved successful in the fight against this powerlessness in many parts of Wallacea was to revive customary practices of environmental management and adapt them to the present day needs.

Adi Widyanto, Head of Burung Indonesia's Conservation and Development Unit describes how Burung Indonesia's work in the Wallacea region reflects this approach; "We and our partners engaged and reminded the communities, and gave them that additional momentum to revive traditional wisdom regarding environmental protection that was once a main principle of their everyday lives".

The area of mangrove forest is yet well-preserved in Buano Island.

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Sulawesi Scops-owl (*Otus manadensis*).

© Rifky / Rekam Nusantara Foundation

Wallacea's numerous small islands contribute to the region's unique biodiversity, as well as its fragility. For that reason, protecting the landscape, people, and way of life from upstream to downstream is imperative.

"Endemic species have limited distribution because of their smaller habitats, and in effect, smaller populations. This is the reason why the Wallacea region is more vulnerable as opposed to Kalimantan, Sumatra, or Papua".

"People are often the cause of environmental problems, but people are also the solution. And so, conservation work is about working with people." For this reason, community engagement is a priority. For example, when there are tangible results in one village, neighboring communities often want to replicate the learning in their own villages.

Indeed, to ensure support from communities, biodiversity conservation went hand in hand with community-based economic development. Communities were able to see the links between the need to protect the landscape and the sustainability of their livelihoods.

These site-level success stories were documented and shared with the government for policy or program adoption. "The programs and policies developed or inspired by ground level experiences will be more effective as they are evidence-based". As this suggests, although the conservation protection began as a community-based initiative, a range of stakeholders were engaged from the central and local governments, universities, the private sector and donors to ensure the results had greater impact.

A smile on the resident's face of Lamatokan Village, East Ile Ape, Lembata, East Nusa Tenggara, while harvesting the corn.

© Rifky / Rekam Nusantara Foundation

"It may be concluded that the essence of protecting certain species or forest or seeking alternative sustainable livelihoods, is to reorganize the relationship between people and the environment on various levels". As Adi notes, the Wallacea Partnership Program has contributed to reducing extinction threats for around 40 terrestrial and marine plant and wildlife species, as well as their habitats.

"There are still many challenges ahead. We hope that Burung Indonesia's work with our partners will continue to provide inspiration on how to implement conservation while at the same time empowering communities in the Wallacea region".

The Inspiration from Wallacea is just a small sampling of the stories from communities that are wisely and sustainably managing their environment. Burung Indonesia and its partners have proven that conservation action can and, indeed needs to be conducted with communities at the forefront.