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On behalf of:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

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IKI Newsletter Indonesia

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About the International Climate Initiative

Since 2008, the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMU) has been financing climate and biodiversity projects in developing and newly industrialising countries, as well as in countries in transition. Based on a decision taken by the German parliament (Bundestag), a sum of at least 120 million euros is available for use by the initiative annually. For the first few years the IKI was financed through the auctioning of emission allowances, but it is now funded from the budget of the BMU. The IKI is a key element of Germany's climate financing and the funding commitments in the framework of the Convention on Biological Diversity. The Initiative places clear emphasis on climate change mitigation, adaption to the impacts of climate change and the protection of biological diversity. These efforts provide various cobenefits, particularly the improvement of living conditions in partner countries.

The IKI focuses on four areas: mitigating greenhouse gas emissions, adapting to the impacts of climate change, conserving natural carbon sinks with a focus on reducing emissions from deforestation and forest degradation (REDD+), as well as conserving biological diversity.

New projects are primarily selected through a two-stage procedure that takes place once a year. Priority is given to activities that support creating an international climate protection architecture, to transparency and to innovative and transferable solutions that have an impact beyond the individual project. The IKI cooperates closely with partner countries and supports consensus building for a comprehensive international climate agreement and the implementation of the Convention on Biological Diversity. Moreover, it is the goal of the IKI to create as many synergies as possible between climate protection and biodiversity conservation.

More information is available on the IKI website.

Policy Highlights

Long-term Strategy on Low Carbon and Climate Resilience/ Net-Zero Emissions (NZE)

On 19 March, **the Ministry of Environment and Forestry (KLHK) stated the aim to achieve net-zero emissions by 2070. This target year has been challenged by various governmental and non-governmental actors.** The Coordinating Minister for Maritime Affairs and Investment, Mr. Luhut Binsar Panjaitan argued at a meeting on 12 April 2021, that Indonesia must be able to achieve net-zero emissions by 2050. **The Ministry of National Development Planning (BAPPENAS) developed projections on how a 2045, 2050, 2060 or 2070 NZE target would impact Indonesia's economic development. The Ministry of Finance is currently calculating the costs of an earlier NZE target.**

Green recovery/ Build Back Better

The **Government of Indonesia plans to implement and promote investments in environmentally friendly technologies as part of the National Economic Recovery (PEN)** program.

The **Government of Indonesia has approved USD 74.7 billion in fiscal stimulus packages in response to COVID-19. About 8% of the budget could have a positive impact on the environment, but only 0.3% support environmentally friendly products/activities**. 92% of the packages focus on healthcare and social support. **In 2021, the government will spend USD 49 billion** (of which 50% will be spend for healthcare, vaccines and social support). About 18% of the budget will be allocated to support the implementation of priority programs proposed by sectoral ministries. Currently, **the government has approved about USD 126 million for a mangrove rehabilitation project.**

As part of the **Build Back Better initiative, BAPPENAS is discussing green recovery measures to secure government budget for year 2022.** The proposed measures are 1) revitalisation of smallholder plantation (USD 206 million), 2) strengthening waste management (USD 250 million) and 3) solar PV rooftop installation (USD 14.7 million).

OMNIBUS Law on Job Creation

In February 2021, the **Government of Indonesia issued 49 government regulations and four presidential decrees following the Omnibus Law on Job Creation**. The four regulations, PP No. 21/2021 on Spatial Governance, PP No. 22/2021 on Environmental Protection and Management, PP No. 23/2021 on Forestry, and PP No. 26/2021 on Agriculture are **perceived to have a direct impact on the palm oil sector as well as the environment**. The potential (positive or negative) impacts include public participation in the environmental impact assessment, companies' responsibility on land and forest fire, and change of land-use classification inside the state forest zone for non-forestry activities. A possible increase in GHG emissions from the land-based sector could hamper the implementation of Indonesia´s Nationally Determined Contribution.

Climate Policy

The **Coordinating Ministry of Maritime and Investment Affairs (Kemenko Marves) is coordinating the finalisation of the Draft Presidential Regulation on the Implementation of Carbon Economic Value for Achieving NDC Targets and Controlling Carbon Emissions in the Framework of National Development**. Disagreements among the ministries involved regarding their mandates are delaying the drafting process.

The **NDC Roadmap on Mitigation**, developed by the Directorate General on Climate Change (DGCC) is now available online (Bahasa Indonesia only). The **NDC Roadmap on Adaptation** was recently signed by the Minister for Environment and Forestry and is expected to the published soon. Both roadmaps aim to provide a guideline for line ministries on NDC implementation.

Green Finance

In January 2021, the **Indonesia Financial Services Authority (OJK) has launched** the Sustainable Finance Roadmap Phase II (2021 – 2025). The roadmap development was supported by relevant ministries, government agencies as well as national and international organisations. It is expected to accelerate the implementation of the environmental, social, and governance (ESG) principles in Indonesia and to serve as a foundation and reference for financial institutions and relevant ministries in developing innovative financing initiatives. Currently, OJK is focusing on five initiatives, namely 1) the development of a green taxonomy; 2) the implementation of the ESG principles, 3) the implementation of real programs;

4) innovation of financial products and services and 5) national campaigns. OJK also plans to initiate a national task force on sustainable finance composed of relevant ministries/institutions and related stakeholders.

Forestry, REDD+

The Government of Indonesia has issued **Presidential Decree No.120/2020 concerning the Peat and Mangrove Restoration Agency revoking Presidential Regulation No.1/2016 on the Peat Restoration Agency. The tasks of Peat and Mangrove Restoration Agency (BRGM) are to facilitate the implementation of peat restoration, increase the welfare of communities in peat areas in seven provinces and mangrove rehabilitation in nine provinces**. The expected restoration target is 1.2 million hectares for peat and 600 thousand hectares for mangrove rehabilitation.

As part of the implementation of the National Economic Recovery Program (PEN) to achieve the 2021 oil palm replanting target, **six members of the Indonesian Palm Oil Company Association (GAPKI) have signed agreements with 18 members of the Indonesian Oil Palm Farmers Association (APKASINDO) to cooperate for oil palm replanting of 18,821 hectares in six districts.**

The **Estate Crop Office of the East Kalimantan Province Government has finalised the Draft Governor's Regulation on Management of High Conservation Values (HCV) in Designated Allocation Areas for Plantations**. The East Kalimantan Government discussed the draft with relevant provincial and district government agencies, industry associations, NGOs and development partners from October 2020 to March 2021. The draft will be submitted to the Legal Bureau of the East Kalimantan Provincial Government for official review.

Changes in personnel

Ms. Laksmi Dhewanthi was appointed **Director General of the Directorate General of Climate Change (DGCC), KLHK**. Previously, she served as Expert Staff to the Minister of Environment and Forestry for Industry and Foreign Trade. Her predecessor **Mr. Ruandha Agung Sugardiman** has been appointed as **Director General of Forestry Planning and Environmental Management (PKTL).**

Mr. Djoko Hendratto was appointed **Executive Director of the Environment Fund Agency (BPDLH),** and **Ms. Nining Ngudi Purwaningtyas** was promoted to **Director of Resource Allocation of the Environment Fund Agency (BPDLH)**. Previously, she headed the Sub-Department for Implementation of International Conventions, KLHK.

In April 2021, a **Peat and Mangrove Restoration Agency echelon 1 structure has been established** consisting of **Dr. Ir. Ayu Dewi Utari as the official Secretary of BRGM, Dr. Ir. Satyawan Pudyatmoko as Deputy for Planning and Evaluation, Dr. Ir. Tris Raditian as Deputy for Construction, Operations and Maintenance, Dr. Myrna A Safitri as Deputy for Participation Education and Socialization and Partnerships** and **Gatot Soebiantoro as Deputy for Community Empowerment.**

Starting 01 June, **Mr. Gerd Fleischer** will take over the position as **Principal Advisor of the new BMU Interface project 'Climate and Biodiversity Hub Indonesia'** from **Mr. Philipp Schukat**.

IKI Project Highlights (during challenging times)

Rare, Fishing for Climate Resilience

Rare **integrated Ecosystem-based Adaptation (EbA) principles and strategies into the coastal fisheries section of the Southeast Sulawesi Provincial Action Plan on Adaptation to Climate Change** recently approved by the Ministry of Environment and Forestry. This will ensure that EbA approaches in coastal area management will be scaled up and sustained within and beyond the project.

Marine and fishery agencies at the subnational and district levels have pledged to allocate USD 338.000 to advance EbA measures in the small-scale fisheries sector in Southeast Sulawesi Province. This was announced after the Ministry of Home Affairs issued a national regulation mandating all local governments to allocate budgets in their 2021 workplan to support the EbA measures promoted by Rare.

WWF, Indonesia Sustainable Finance Initiative (IKBI)

End of March 2021, **at least four of the Indonesia Sustainable Finance Initiative (IKBI) banks (Bank Central Asia, Bank Rakyat Indonesia, CIMB Niaga, Maybank Indonesia), disclosed that they will no longer finance activities that have negative impacts on UNESCO World Heritage Sites**.

CIMB Niaga has launched a Palm Oil Financing Guideline to be in line with sustainability principles and encourages their clients to adapt the No-Deforestation, No-Peat, No-Exploitation (N-DPE) policy.

Bank Mandiri disclosed that it periodically reviews its portfolio exposure to environmental & social (E&S) risks.

Conservation International, Mitigation and adaptation through conservation and sustainable livelihoods in Indonesia's peat and mangrove ecosystems

A kick-off meeting of the Strategic Coordination Team for Wetland Management was held by the Ministry of National Planning/National Development Agency (PPN/BAPPENAS) in collaboration with Conservation International, CIFOR and Wetlands International-Indonesia led by the Deputy for Maritime Affairs and Natural Resources of Bappenas.

ICRAF, Improving the Management of Peatlands and the Capacities of Stakeholders in Indonesia (Peat-IMPACTS Indonesia)

The project developed **structured involvement of the younger generation through knowledge and capacity building activities related to sustainable peat management** in two provinces in Indonesia.

Peat-IMPACTS further **commenced internet-based peat-related knowledge gatherings in South Sumatra Province**, its support to the province of South Sumatra in the **formulation of the Peat-Ecosystems Protection and Management Plan** and the process of **drafting local regulations on peat and mangrove protection and management planning of West Kalimantan**.

GIZ, Low emissions oil palm development in Berau District, East Kalimantan (LEOPALD) and Sustainable and Climate-Friendly Palm Oil Production and Procurement (SCPOPP)

GIZ collaborates with the Center for Regional Systems Analysis, Planning and Development (P4W) of Bogor Agricultural Institute (IPB) and the Sustainable District Association (LTKL) to support the Ministry of National Development Planning (BAPPENAS) in developing **technical guidelines for the preparation of sustainable jurisdiction-based regional sustainable plantation plans**. In November and December 2020, the draft guidelines were consulted and discussed at national level through three webinar sessions and written input was received via the online platform www.perkebunanberkelanjutan.org. Around 250 participants joined the three webinars.

GIZ, Low emissions oil palm development in Berau Distrcit, East Kalimantan (LEOPALD)

An **oil palm company in Berau District released 441 hectares of disputed land within the area of right-to-cultivate (HGU) for the Biatan Ulu Village community.** This is the result of a conflict mediation process facilitated by the Integrated Team for Plantation Conflict Handling of the Berau District Government, supported by the LEOPALD project and the Conflict Resolution Unit of the Indonesia Business Council for Sustainable Development (IBCSD).

GIZ and the IBCSD Conflict Resolution Unit developed a **Draft Technical Guide (Toolkit) for Facilitating Partnerships and Conflict Resolution for five targeted groups of users: government, companies, smallholders/village communities, farmer assistants, and professional mediators.**

After completing consultations with the non-governmental target user groups, the Ministry of National Development Planning (BAPPENAS) conducted an online consultation session with national and subnational government actors on 10 February. Five ministries, five local governments, ten palm oil companies and ten civil society organisations joined the process.

GIZ, Sustainable and Climate-Friendly Palm Oil Production and Procurement (SCPOPP)

The **Indonesian Sustainable Palm Oil System (ISPO) and Roundtable on Sustainable Palm Oil (RSPO) integrated palm oil training module for smallholders have been finalised through consultations with relevant stakeholders, including BAPPENAS and the Ministry of Agriculture**. The training module has been uploaded on the RSPO smallholder academy platform and is applied in 32 sustainable oil-palm farmer field schools in Kongbeng and Wahau, East Kutai. Further, the training module has been assessed for the inclusion into the Indonesian National Work Competency Standards (SKKNI) module for sustainable palm oil.

DIW, Strengthen national climate policy implementation: Comparative empirical learning and creating linkage to climate finance (SNAPFI)

In 2020, the **Climate Change Centre of the Institute of Technology Bandung (CCC-ITB) held three webinars to discuss various issues related to the NDC target as Indonesia's international commitment by inviting speakers from relevant government representatives** (BAPPENAS, KLHK, Ministry of Finance and Ministry of Energy and Mineral Resources). The webinars became a forum of exchange of ideas between related actors and increased public awareness.

CCC-ITB submitted inputs to the Commission VIII of the House of Representatives (DPR RI) regarding the New and Renewable Energy (NRE) Bill draft as well as a policy brief to KLHK regarding the NDC Roadmap on Adaptation.

INTERNATIONAL CLIMATE INITIATIVE (IKI) IN

INDONESIA

55 Projects under Implementation

26 Political Partners

Coordinating Ministry of Economic Affairs

Coordinating Ministry of Marine Affairs

Ministry of National Development Planning (BAPPENAS)

Ministry of Environment and Forestry (KLHK)

Ministry of Energy and Mineral Resources (ESDM)

Ministry of Transport

Ministry of Finance

Ministry of Industry

Ministry of Marine Affairs and Fisheries

Ministry of Public Work (PU)

Ministry of Agriculture

Executive Office of the President of the Republic of Indonesia

National Park Authority (BBS)

National Authority for Marine Conservation Areas (MMAF)

Peat Restoration Agency (BRG)

Government of the Districts Pesisir Barat and Lampung Barat

Association of South East Asian Nations (ASEAN)

District Government of Berau

Marine and Fishery Service Aceh

Marine and Fishery Service North Sulawesi

Marine and Fishery Service West Nusa Tenggara

East Kalimantan Provincial Climate Change Center (DDPI)

Local Development Planning Agency Berau (BAPPEDA)

Forestry Service of Jambi Province

Government of Lampung Province

East Kalimantan Provincial Climate Change Center (DDPI)

27 Implementing Organisations

Adelphi

Center for International Forestry Research (CIFOR)

Climate Policy Initiative (CPI)

Conservation International (CI)

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Deutsches Institut für Wirtschaftsforschung e.V. (DIW)

Food and Agriculture Organization of the United Nations (FAO)

GenderCC - Women for climate justice

Humboldt-Viadrina Governance Platform GmbH

ICLEI - Local Governments for Sustainability

International Council on Clean Transportation (ICCT)

Institut du Développement Durable et des Relations Internationales (IDDRI)

Institute for Transportation & Development Policy (ITDP)

International Centre for Research in Agroforestry (ICRAF)

International Institute for Applied Systems Analysis (IIASA)

Kreditbank für Wiederaufbau (KfW)

New Climate Institute

The Nature Conservancy (TNC)

Rare

Renewables Academy AG (RENAC)

Secretary of Convention on Migratory Species Office (CMS)

United Nations Development Programme (UN Development)

United Nations Environment Programme (UN Environment)

Wetlands International (WI)

World Bank Group

World Resources Institute (WRI)

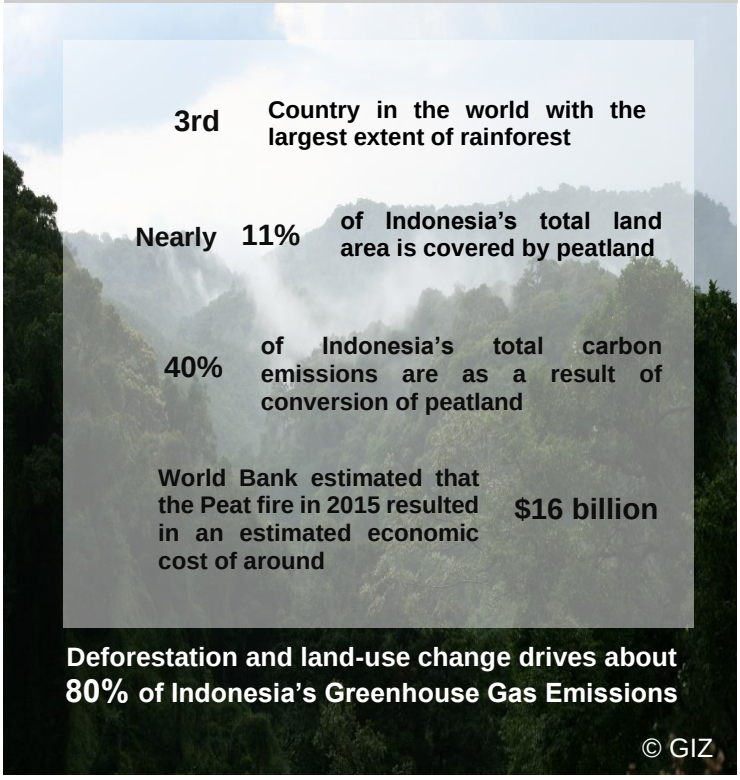
World Wide Fund for Nature (WWF)

CLIMATE SITUATION IN INDONESIA

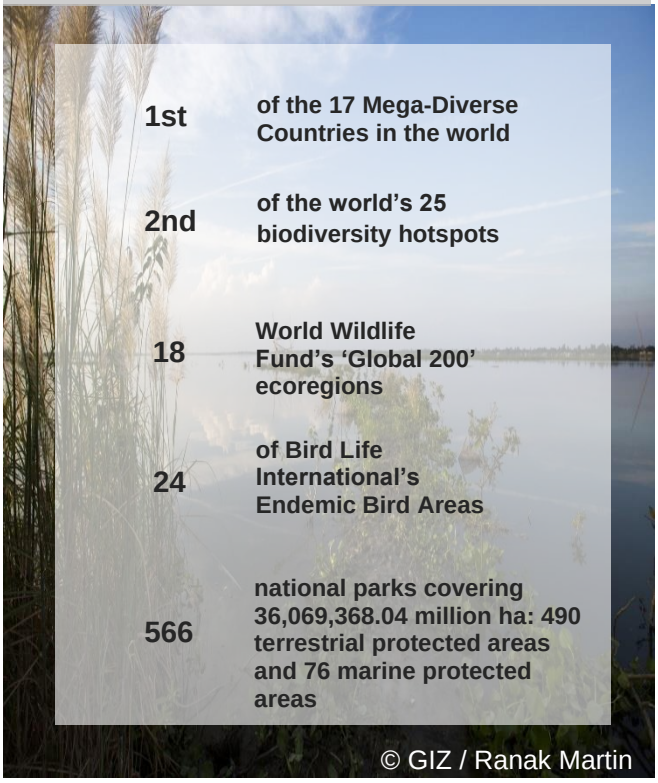
Climate change impacts

Greenhouse Gas (GHG) Emissions

FORESTRY/ REDD



BIODIVERSITY



Update from ongoing IKI projects in Indonesia

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Climate Policy

Bappenas' Green Fiscal Stimulus Program supported by Embedded Economic Advisors

By GIZ, Strategic Environmental Dialogues (SED) & Monitoring, Reporting, and Verification for Mitigation Measures in Indonesia (MRV-MMI)

Since the end of 2020, the Ministry for National Development Planning (BAPPENAS) has been supported by a team of international and Indonesian economic advisors embedded in the ministry to develop low carbon economic stimulus program to assist Indonesia's post-COVID-19 recovery. The IKI-funded projects Strategic Environmental Dialogues (SED) and Monitoring, Reporting, and Verification for Mitigation Measures in Indonesia (MRV-MMI) teamed up to support this initiative on behalf of the German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU). The initiative is part of the NDC Partnership green recovery support putting climate action at the heart of COVID-19 recovery plans.

Through close cooperation between Bappenas, GIZ and the embedded economic advisors, the ministry has decided to focus its green fiscal stimulus program on three key areas: energy, waste management and labour-intensive farming. This includes supporting rooftop photovoltaic installations on 70 government buildings, improving country-wide waste collection and recycling capacities in collaboration with small and medium enterprises as well as revitalising smallholder plantations for the country's most relevant crops.

These policy measures focus first of all on actions to be included in Indonesia´s national budget for 2022 and furthermore on long-term actions from 2022 to 2030. These measures will have several positive impacts on the economy as well as on the environment, the climate and green jobs.

By using solar power, energy will be provided at a lower cost and lead to a significant reduction of greenhouse gas emissions of more than 330.000 tons over 25 years. Daily recycling capacity shall be increased to 40.000 tons creating up to 75.000 new jobs by 2022. Finally, replanting degraded plantation land (rejuvenation) is expected to avoid and reduce emissions significantly, increase crop yields by 17 percent, and create more the 150.000 mostly rural jobs by 2022.

With the government's initial fiscal stimulus package focusing on immediate needs related to health care and social support, the proposal by BAPPENAS aims to link recovery efforts with progress on environmental and climate-related strategies, including the Low Carbon Development Indonesia (LCDI) Initiative. The proposed budget allocation for the implementation of the abovementioned activities amounts to 316 million USD in 2022.

The embedded economic advisors team developed a stakeholder analysis and conducted a great number of stakeholder consultations, developed and delivered priority programs for 2022 and is currently preparing a roadmap for 2022 to 2030. This roadmap is expected to build on the 2022 priority program recommendations in order to ensure long-term policy coherence.

Under the leadership of Minister Suharso Monoarfa, BAPPENAS works on policy measures for Green Economic Transformation

Strengthen Commitment and Capacity of Subnational Stakeholders in Implementing and Monitoring LCDI Activity

By GIZ, Monitoring, Reporting and Verification for Mitigation Measures in Indonesia (MRV-MMI)

The Directorate of Environment, BAPPENAS, and Secretariat of Low Carbon Development Indonesia (LCDI) together with the Central Java Province Regional Development Planning and Development Agency (BAPPEDA) held the ´Dissemination of LCDI Program and Workshop on Monitoring, Evaluation, and Reporting through AKSARA Application' event on 8 – 10 March 2021. It was supported by the MRV-MMI project. A total of 206 participants consisting of representatives from 35 regencies/cities throughout Central Java, Provincial Working Groups of LCDI, non-

governmental organisations and development partners joined the workshop, both offline and online.

This event aimed to strengthen collaboration between provincial and local governments in implementing LCDI and to enhance the capacity of stakeholders in GHG monitoring, evaluation, and reporting using AKSARA. On this 3-days event, a total of 358 new mitigation actions were recorded on AKSARA.

In his opening remarks, Mr. Irfan Yananto from the Directorate of Environment, BAPPENAS, said that the event is expected to strengthen the LCDI being an important element in the Central Java Provincial Medium-Term Development Plan (RPJMD). Meanwhile, Mr. Agung Tejo Prabowo, representing the Province Secretary, said that the achievements of each regency/city government in PEP GHG emission reduction through the AKSARA application will be assessed as part of regional development performance.

Opening remarks by the Head of Infrastructure and Regional Development (IPW), representing the Province Secretary

Workshop a Study on the Resource Efficiency Potentials for Climate Mitigation Along the Value Chain in Textile Industry

By GIZ, Initiative of Resource Efficiency and Climate Action

At this event, key findings of the study "Resource Efficiency Potentials for Climate Mitigation Along the Value Chain in the Textile Industry" were presented, which investigates the potential link of how to identify and quantify resource efficiency potential for climate action in the textile industry supply chain. The overall goal of the study was to develop an easy-to-use methodical approach to determine the greenhouse gas emission saving potentials of resource efficiency measures, also with poor data availability. The study was funded and commissioned by the project 'Initiative Resource Efficiency and Climate Action', a global project funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. This project aims, among other things, to support G20 economies in enhancing the resource efficiency of industrial production and quantifying resource efficiency potential for climate protection along the value chain. This study was intended to be a pilot project using, among others, the textile sector in Indonesia as a case study.

The virtual seminar held on 26 February 2021 was attended by about 25 participants encompassing private and public sector representatives, experts and representatives from leading textile industry bodies. The Ministry of the Environment and Forestry (MOEF) was represented by Mr. Noer Adi Wardojo and Mrs. Amalia Agusni. The presentation was led by Susanne Koeppen of the German environmental think tank Institute for Energy and Environmental Research (IFEU), an expert for lifecycle assessments, material flow accounting and biomass utilisation.

Participants of the workshop held on 26 February 2021

Study results show that there is a high(er) demand for grid electricity during the spinning and the weaving production steps, while there is a higher demand of energy carriers for heat production during the finishing production step. These findings on energy-related GHG emissions are an initial starting point for further analysis on resource efficiency measures. One highlighted message is that it is important to start quantifying, even if the data base is not perfect. Local scientific staff and consultants can help provide further science-based arguments for further policy actions needed to link resource efficiency measures and climate mitigation policies.

Mr. Adi, MOEF, expressed support for the focus of the study and pointed out that the dialogue helped to get a better understanding of the technical and political

challenges for more resource efficiency improvements in the textile sector, in particular linked to climate action and GHG emission mitigation. In addition, he emphasised that resource efficiency options should be further explored beyond greenhouse gas reduction options, as there are many other sustainability and environmental benefits from a resource efficiency perspective.

Indonesia's Financial Institutions on Climate-Related Risks

By WWF, Taking Deforestation out of Banks Portfolios in Emerging Markets

We are currently witnessing two global challenges: The Covid 19 pandemic and the expected risk of climate change and environmental degradation. According to the World Economic Forum (WEF) Global Risk Report 2021, extreme weather events and climate action failure are the two risks with the highest probability of occurrence, while infectious diseases rank fourth. Furthermore, climate action failure is the risk with the second biggest impact, just slightly below infectious diseases. Accordingly, all stakeholders need to pay more attention to climate-related risks, including financial institutions. The Indonesian Banking Development Institute (Lembaga Pengembangan Perbankan Indonesia, LPPI) and the Responsible Finance and Investment Foundation, co-hosted a webinar on 18 February 2021, entitled 'How Financial Institutions Respond to Climate-Related Financial Risks'. This virtual seminar was attended by 344 people from various financial institutions and government bodies using Webex. The recording of the event was also uploaded at Youtube, and viewed 2,909 times by mid-April 2021.

Investors are likely to be faced with transition and physical risks that will have a series of implications on portfolio level. Therefore, Mr. Hernawan, Deputy Commissioner of International Affairs and Research from the Indonesia Financial Authority (OJK) mentioned that OJK will prepare a transition process to shift to sustainability. He added that it is important for financial institutions to shift their paradigm towards financing more sustainable activities. In addition, he presented the Sustainable Finance Roadmap II, launched by OJK in January 2021, that focuses on priorities like green taxonomy, incentives, and product innovation. In addition, CIMB Niaga and Bank Syariah Indonesia shared their approaches on implementing sustainable finance from conventional and Shariah perspectives. The key takeaway is that financial institutions in Indonesia are aware of the importance of implementing sustainable finance in their business and have started to take steps to tackle social, environmental and climate-related risks. The last speaker was Mr. Blake Goud, representing the Responsible Finance and Investment (RFI) Foundation, presented their latest report "Understanding Climate Risks in Indonesia's Financial System". It is worth noting that financial institutions should analyse the emission of their clients, including their value chains, and internalise the unrecognised GHG emission cost their clients are facing.

LPPI Virtual Seminar #40 on 18 February 2021

Online Platform as a Solution for Discussion, Coordination and Public Outreach due to Covid-19 Pandemic

By DIW, Strengthen National Climate Policy Implementation: Comparative Empirical Learning and Creating Linkage to Climate Finance (SNAPFI)

The Climate Change Center of the Institute of Technology Bandung (CCC-ITB) had joined the SNAPFI collaborative research project in July 2019. Until the first quarter of 2020, CCC-ITB had conducted a national workshop and interviews with external resource persons. The Covid-19 pandemic forced us to change the program by maximising the use of online platforms without changing the substance.

We changed a planned workshop in 2020 to three online webinars since September 2020 and were surprised that the outreach events were attended by

more than 100 participants. This exceeded our expectations. By allowing a higher number of people to participate, webinars can increase public awareness of climate change issues.
In addition, we were able to easily contact almost all of the speakers in our webinars and online interview resource persons among whom were relevant government and civil society representatives and academics. Online interviews or discussions had also been conducted efficiently and effectively.
The use of online platforms continues to this day. We are intensively conducting online discussions with various relevant stakeholders or resource persons, including:

- Director of Development Funding Planning, Bappenas
- Former Deputy II of the Presidential Chief of Staff at the Presidential Staff Office
- Deputy Director of Bilateral Financial Planning, Bappenas
- Deputy Director of Multilateral Financial Planning, Bappenas
- Kemitraan (Partnership for Government Reform)
- Director General of Renewable Energy, Ministry of Energy and Mineral Resources
- Secretary of Directorate General of Renewable Energy, Ministry of Energy and Mineral Resources
- Project Investment Advisor of GGGI
- Head of Sub-Division for Funding Cooperation, International Institutions and Partners, BKF (Fiscal Policy Agency) - GCF NDA in Indonesia
- Head of Geothermal Business Growth, Star Energy Geothermal
- State-owned Electricity Enterprise (PLN)
- Director of Economic and Environmental Development, Ministry of Foreign Affair
- Public Policy Observer form Civil Society

In these small online discussions, certain resource persons, in particular directors of ministries, should be treated carefully and smoothly. Personal approaches and discussions became two major approaches to explore their insights and even get to know untold stories.

Discussion with Mr. Dadan Kusdiana, Director General of Renewable Energy, Ministry of Energy and Mineral Resources on 9 February 2021

Environmentally friendly aquaculture practices in Demak are highly cost-effective

By Wetlands International, Ecosystem-based adaptation at scale through Building with Nature - Towards resilient coasts in Indonesia

One of the core interventions of the Building with Nature programme in Demak is to support local farmers to increase income from aquaculture in balance with mangrove restoration and conservation. The project shows that training farmers at low cost with sustainable aquaculture practices can double incomes, and that mangrove recovery is needed to maintain their income from aquaculture.
As a result of coastal erosion and tidal flooding, aquaculture ponds in Demak are degraded and became unproductive. The project has established community groups in nine villages through which farmers receive financial support and training to carry out best practices for their ponds in conjunction with the restoration of mangroves. This included applying the Low External Input Sustainable Aquaculture method (LEISA), which minimises the use of external inputs, particularly those containing synthetic chemical compounds, by replacing them with compost and local micro-organisms. Other best practices applied include drying ponds and repairing dikes and water gates.

Group members observe the water quality during coastal field school activities

In the project area, 342 farmers (including 69 women) were trained through Coastal Field Schools (CFS). Farmers learned to apply critical adaptive thinking to develop, test and implement best practices in which group observation, analysis and discussion as well as collective decision-making and action are emphasised. They improved skills for sustainable pond management based on observation and agro-ecosystem analysis. With the help of government programs, the trained villagers passed on their insights through new trainings in other villages. In

addition, the training increased farmers' confidence to voice aquaculture issues in public.

A field facilitator showing milkfish and shrimp yields

Monitoring by the Diponegoro University (UNDIP) and Wageningen University shows that 85% of the farms that applied the LEISA method increased their shrimp yield by three times compared to 2015 conditions and their income almost doubled from 630 USD/ha/year to up to 1,200 USD/ha/year. In addition, the study found that smaller pond sizes resulted in higher yields and gross profits for farmers. These results suggest that aquaculture production in Indonesia could increase by 30% at the lowest risk by applying inexpensive trainings of aquaculture farmers by costal field schools. Replacing part of the ponds with mangroves is also highly cost-effective: to increase their income, farmers can reduce the size of their ponds without affecting their gross profits and also contribute to mangrove restoration.
Lugas Hakim, an Indonesian citizen studying for his master's degree in Wageningen, undertook a social cost-benefit analysis in the village of Tambakbulusan, Demak. The study shows that mangrove recovery is also needed to maintain the income from aquaculture. He calculated the financial outcomes of various coastal development scenarios for Tambakbulusan, with the 'Business as Usual' scenario assuming a trend similar to the district's area close to Semarang that became a tidal lake.

Policy dialogue at the Village Government level by Community Groups in Demak

By Wetlands International, Ecosystem-based adaptation at scale through Building with Nature - Towards resilient coasts in Indonesia

The Building with Nature Indonesia program in Demak District, Central Java Province demonstrates that involvement and support of the local community and local government is vital to successful on-the-ground implementation, the sustainability of Nature-based Solutions and economic empowerment.

In Demak, 260 people from nine villages participated in using the Bio-rights approach. This innovative financing mechanism enables local communities to invest in sustainable practices and be actively involved in environmental conservation and restoration. Micro-credits are converted into grants upon successful delivery of conservation services. Community groups set aside a portion of the profits from economic activities (aquaculture, alternative livelihoods and joint ventures) into a group savings fund to be used for mangrove rehabilitation.

As part of the program, the measures were rooted in village development plans. To realise this, assisted community groups were actively involved in development planning meetings in their villages (*musrenbangdes*). In these annual meetings, community representatives proposed activities in line with the 'Building with Nature' program to be included in the village development plan. These proposals were the results of the group and discussions with field facilitators from Wetlands International Indonesia. Proposals included for example the construction of mangrove tracks for eco-tourism, the maintenance of permeable structures to restore the coastal sediment balance, drafting and dissemination of village regulations, the protection of mangroves and the preservation of water areas and river normalisation.

Almost all suggestions from community group representatives have been accommodated by all village governments. If it was not possible to be included in the village government program and budget, the authority took the proposal to the sub-district level. Support from the community and village government shows that the 'Building with Nature' program is now accepted and supported by the local community. Activities will continue beyond the

project period and can be scaled up in the wider coastal area of Demak District.

Meanwhile, the Demak District government has allocated a budget to financially support the local government for the maintenance of technical measures for permeable structures to be carried out by community groups for the next three years. Budget has also been allocated by district and village governments for mangrove rehabilitation and aquaculture revitalisation.

Community groups have also organised into an Ocean Management Forum Bintoro (Bina Noto Negoro), which allows networking with the government and is a mechanism to secure funding for the sustainability of 'Building with Nature' interventions.

Musrenbangdes or village development planning deliberations in Bedono (top) and Wedung Villages (bottom)

Financing Mechanism for Intermodal Freight Transport Action Programme in Java, Indonesia

By GIZ, TRANSfer III – Facilitating the Development of Ambitious Transport Mitigation Actions

Together with the Indonesian government, the TRANSfer III project is working on shifting freight transport on Java from road to rail. The potential greenhouse gas emission reduction of the designed action programme is estimated to be up to 23 $MtCO_2$ until 2030. The cooperation now enters a new stage.

In order to assess the economic and financial impact and identify funding sources, a financial analysis is conducted. The analysis will cover investments in facilities and infrastructure corridors as well as policy measures for improving the competitiveness of intermodal freight (use charges, fiscal incentives, operational subsidies).

The three-month financial design study process on the intermodal freight transport action programme began in mid-January 2021 with a virtual focus group discussion (FGD) and is supported by PWC Indonesia consultants. Led by the Director of Road Transport of the Ministry of Transport, Mr. Ahmad Yani, the FGD attracted more than 80 stakeholders from the public and private sectors.

Kick-off meeting of financial design study on intermodal freight transport in Java

'*There is a need to find the right intervention using the financing mechanism in order to make rails competitive towards the cost of using trucks*', stated Mr. Ahmad Yani.

On the one hand, business actors need an attractive policy environment to switch to intermodal transport and contribute to investments in the rail freight sector. On the other hand, programme implementation can not only rely on state funds, but also requires support from and cooperation with the private sector and donors. Moreover, most participants at the virtual kick-off agreed that there is also a need to tackle the issue of truck over-dimensioning and over-loading (ODOL) to ensure programme effectiveness.

A Legal Pathway towards Truck Fleet Modernisation in Indonesia

By GIZ, TRANSfer III – Facilitating the Development of Ambitious Transport Mitigation Actions

TRANSfer III and the Indonesian government working together on an action programme to modernise trucks in Indonesia. The objective is to encourage truck owners to modernise their fleets and replace the dirtiest and least efficient vehicles with new trucks featuring the latest generation of engine efficiency and emissions control technologies. Based on the request of the Ministry of Transportation, a legal expert opinion has been prepared in February/March 2021. It provides answers to the questions such as 'What are potential legal frameworks to guide the regulatory actions by different agencies and levels of public administration in the context of the truck fleet modernisation programme?' or 'What kind of policy instruments and coordination structures are suitable for the implementation of the truck fleet modernisation programme?'

Public Consultation for the Legal Opinion on a Truck Fleet Modernisation Scheme in Indonesia

More than 70 stakeholders from the public and private sectors joined a virtual public consultation with legal expert Prof. Dr. I.B.R. Supancana to provide their perspectives on the regulatory dimension of truck fleet modernisation. The chair of the session, Mr. Suharto (of the Directorate of Road Traffic, Ministry of Transport) emphasised that '*Policy synchronisation is absolutely necessary for*

the success of the truck fleet modernisation program going forward'. Currently, business players in the truck sector face significant challenges, especially during the Covid-19 pandemic. Therefore, not only government intervention, but support from all parties is needed to support the modernisation of the truck fleet in Indonesia.

Partnership for the Development of Sustainable Urban Transport in Indonesia

By GIZ, Sustainable Urban Transport Program Indonesia (SUTRI NAMA) and Indonesian Bus Rapid Transit Corridor Development Project (INDOBUS)

Climate change and global warming are major challenges for economic development in all countries, including Indonesia. One main mitigation strategy is the enhancement of urban mass transportation which has significant economic and environmental benefits. One of the main focuses of economic development in Indonesia is infrastructure development, with urban mass transportation included as one of the national strategic projects, according to the latest RPJMN 2020-2024.

These points were mentioned in the opening statement by the Programme Director, Mr. Philipp Schukat, in the third Steering Committee Meeting of SUTRI NAMA & INDOBUS on 22 January 2021 in Jakarta. The meeting, which could be attended physically and virtually, was chaired by the Ministry of Transportation (MoT) and attended by three high-ranking (Directorate General level) officials along with other representatives from the Ministry of National Development Planning (BAPPENAS), the Ministry of Finance, the Ministry of Public Works and Housing, the Ministry of Agrarian Affairs and Spatial Planning and the Ministry of Home Affairs. The purpose of the meeting was to formally report to the Steering Committee on the progress of project implementation, to officially hand over the feasibility study of Bandung and Pekanbaru and to agree on the findings and recommendations resulting from the project activities.

In his opening remarks, the Director General of Land Transport, Mr. Budi Setiyadi, reiterated MoT's support for the SUTRI NAMA & INDOBUS programme and emphasised the relevance of the programme to the Indonesian government's vision of developing sustainable, effective, clean, safe, and comfortable urban transport as stated in the National Medium-Term Development Plan (RPJMN) 2020-2024 and the MoT Strategic Plan 2020-2024. In addition, the Director General of Highways, Ministry of Public Works and Public Housing (PUPR), Mr. Hedy Rahadian, expressed his hopes that the programme will create synergies that focus on prioritising the development of mass transportation in urban areas with toll roads as a support for connectivity.

Items presented included programme progress and activity reports, results of the Bus Rapid Transit (BRT) feasibility study including the capital expenditure (CAPEX) and operational expenses (OPEX) results for BRT, a project video profile and visualisation from Bandung Raya, Pekanbaru and Semarang, preliminary findings of BRT development studies of Makassar and Batam and the SUTRI NAMA & INDOBUS work plan for 2021.

Onsite and online participants from the 3rd Steering Committee Meeting

The third Steering Committee Meeting resulted in the agreement to form a technical team across ministries to discuss the framework of cooperation between the central government and local governments in implementing BRT projects, which will include participants of the third Steering Committee's Meeting. The technical team will further discuss and agree on

feasibility study results, CAPEX calculation and the division of tasks and responsibilities of each party. It was also agreed that there will be a meeting with each pilot city to discuss the cooperative agreement that will kick off the development of a BRT separated lane system in the pilot cities.

Five Governments in Bandung Raya Agree to Build Bus Rapid Transit with Segregated Lanes

By GIZ, Sustainable Urban Transport Program Indonesia (SUTRI NAMA) and Indonesian Bus Rapid Transit Corridor Development Project (INDOBUS)

On 8 October 2019, the Director General of Land Transportation representing the Minister of Transportation, West Java Governor Ridwan Kamil and Bandung Mayor Oded M Danial signed a Memorandum of Understanding (MoU) for the planning and implementation of the development of a Bus Rapid Transit (BRT) corridor with dedicated lanes under the SUTRI NAMA & INDOBUS programme. Following the signing of the MoU, SUTRI NAMA & INDOBUS completed the pre-feasibility study in early 2020, followed by the finalisation of the feasibility study in Bandung Raya in January 2021.

To build further commitment and create synergies between the central, provincial and regional governments, the West Java Provincial Government and the governments of five cities and regencies in Bandung Raya (formally known as Bandung Basin Metropolitan Area (BBMA)) have signed an MoU on 2 March 2021 in Bandung. The MoU states the mutual commitment, roles and responsibilities of each party in all stages of BRT development in BBMA. This includes, among others, planning, institutional schemes, development of infrastructure and facilities, financing and operational systems.

In his opening remarks, the Secretary of West Java Province, Mr. Setiawan Wangsaatmaja, on behalf of the Governor of West Java Province, welcomed the signing of the MoU to develop Road-Based Mass Transport or BRT in the BBMA. According to Mr. Setiawan, BRT development is the right step to support the economic development through urban infrastructure measures and to meet the transport needs of BBMA citizens. The BRT is expected to be completed in 2023 and can be integrated with existing transportation in BBMA.

Representatives from the five governments in Bandung Raya

After the signing of the MoU, a work plan for BRT planning and development in BBMA will be prepared. In addition, the Ministry of Transportation has submitted a proposal of support to the Ministry of National Development Planning which will coordinate the negotiation with the Ministry of Finance in order to access foreign funding support which is estimated for 90% of the capital expenditure for BRT infrastructure development. This is reflected in the Public Transportation System Implementation Project for the Urban Mass Transportation Development Program in the List of Medium Term Planned External Loan and Grants (Blue Book) 2020-2024. As Bandung Raya is part of in the metropolitan areas of the National Medium-Term Development Plan 2020-2024, it is prioritised to be included in the List of Planned Priority External Loans (Green Book) for 2021.

Solidifying Strategy for Development of BRT with Segregated Lanes in Makassar and Batam

By GIZ, Sustainable Urban Transport Program Indonesia (SUTRI NAMA) and Indonesian Bus Rapid Transit Corridor Development Project (INDOBUS)

The Government of Indonesia, through the Ministry of Transportation (MoT), is committed to providing full support and assistance for the development of public transport systems across Indonesian cities. In this matter, SUTRI NAMA & INDOBUS provides support to local governments in preparing a feasibility study on BRT development in five pilot cities, namely Bandung, Batam, Pekanbaru, Makassar, and Semarang. Through a preliminary survey, data collection and analysis in Makassar and Batam completed in early 2020, the initial BRT development plan, capital expenditures (CAPEX) and stakeholder analysis for construction have been identified.

Visualisation of BRT corridors with segregated lanes in Metropolitan Makassar

SUTRI NAMA & INDOBUS together with the Financing Energy for Low-carbon Investment – Cities Advisory Facility (FELICITY) project support the feasibility study development in Makassar and Batam. In early 2021, a workshop was held with the Departments of Transportation (Dishub) of South Sulawesi Province and of Batam City along with other agencies that are members of the working group to initiate the feasibility study for the development and implementation of BRT with segregated lanes in Metropolitan Makassar and Batam. As a next step, a Focus Group Discussion (FGD) was held with the same working group in Makassar on 25 March 2021 and in Batam on 31 March 2021 to further discuss the progress and receive feedback from local stakeholders to the ongoing feasibility study.

Visualisation of BRT corridors with segregated lanes in Batam City

FGD participants, which could attend both in person and virtually, discussed several items such as the overall timeline, progress of the technical study, BRT corridor plan, station design, the preliminary project cost estimation and service plan as well as institutional aspects, the environmental and social impact assessment and finance-related aspect of BRT development.

After a fruitful discussion, the valuable inputs of the participants were further noted to ensure a more holistic and reliable result to the feasibility study on BRT development of both cities. At the end of the discussions, the relevant stakeholders agreed on an action plan and task for Makassar and Batam.

Training on Economic Feasibility of RE Projects

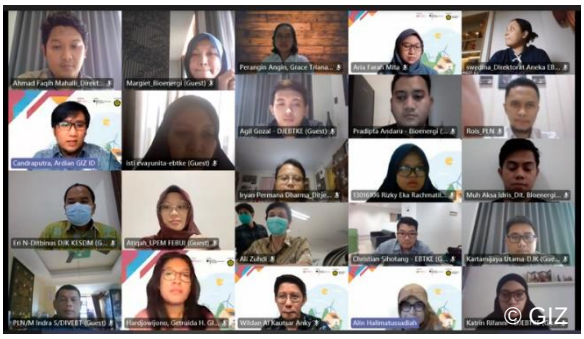
By GIZ, Strategic Exploration of Economic Mitigation Potentials through Renewables (ExploRE)

The training on Economic Feasibility of Renewable Energy Projects was held on 3-4 February 2021

The training 'Economic Feasibility of Renewable Energy Projects' was held on 3-4 February 2021. 27 Representatives from PT Perusahaan Listrik Negara (PLN), Directorate General of Electricity, Directorate General of New, Renewable Energy and Energy Conservation and GIZ were trained by a team of trainers from the Institute for Economic and Social Research, Faculty of Economics and Business of the University of Indonesia. Due to the COVID-19 pandemic and the high interest of participants, the two full-day online training was attended virtually by participants from designated rooms at venues in Bogor or other locations. This format was chosen to ensure the safety of the participants as well as maintain a high level of concentration and a stable network connection.

Group picture

The objective of the training was, among others, to improve the understanding of the determining factors of the economic feasibility of RE projects, to increase the analytical ability related to several financial parameters, models, and tools for assessing the economic feasibility of RE projects and to improve knowledge and understanding of the impact of supportive policies of RE development, especially through benchmarking and simulation. The results of the training were intended to support policy makers in boosting the attractiveness of RE investment and identifying available supportive policies for RE development, especially through fiscal and non-fiscal policies. For this reason, participants were taught theories on four modules, consisting of cash flow analysis, determination of factors of financial viability, sensitivity analysis and policy options to promote the development of RE power plants in Indonesia. In addition, tools were provided for participants to have the opportunity to practice and simulate the knowledge they have gained through case studies. Participants were then given a post-test to assess their gained knowledge, with the class achieving an average of 8.04 out of 10.



The training was attended by representatives from the Ministry of Energy and Mineral Resources and PT PLN

The training received excellent feedback from participants stating that the knowledge acquired was useful to evaluate existing policies for better renewable energy deployment. As the participants would recommend the participation in this training to their colleagues, the project aims to organise more trainings on 'Economic Feasibility of RE Projects' in the future.

ExploRE Planning Workshop for 2021-2022

By GIZ, Strategic Exploration of Economic Mitigation Potentials through Renewables (ExploRE)

On 1 April 2021, the Directorate of Bioenergy, Directorate General of New, Renewable Energy and Energy Conservation (DGNREEC) of the Ministry of

Energy and Mineral Resources (MEMR) of Indonesia together with GIZ conducted the ExploRE Planning Workshop for 2021-2022. The workshop was attended by around 70 representatives from stakeholders of the ExploRE Project, such as representatives of the Coordinating Ministry of Fishery and Investment Affairs, MEMR, Ministry of National Development Planning (BAPPENAS), Ministry of Finance, PT Pertamina, PT Perusahaan Listrik Negara (PLN) and PT Sarana Multi Infrastruktur (SMI) as well as other GIZ projects.

The workshop was hosted by the Directorate of Bioenergy, DGNREEC-MEMR…

This year's annual workshop was held online in a new format due to the COVID-19 pandemic. Participants joined from designated rooms at a venue in Bogor or other locations. This format was chosen to ensure safety of each participant as well as maintain high concentration and stable network connection. Overall, the objectives of the meeting where achieved.

…and attended by representatives from stakeholders of the ExploRE project

At this meeting, stakeholders gathered to jointly plan ExploRE's work plan for 2021-2022. As the project is implemented through the synergies of its many stakeholders, the workshop provided a platform for engagement to achieve common goals together. It improved cooperation between stakeholders and served as a communication forum among stakeholders to discuss needs and further collaboration. At the workshop, all stakeholders presented their institution's priorities and provided input on ExploRE's planned activities. As a result, the 2021-2022 workplan was adapted to incorporate proposed activities for the project. 24 activities were agreed to be implemented in the upcoming two years, including the preparation of an implementation strategy for optimum utilisation of agro-industrial bioenergy waste, pilot project support on green hydrogen as energy and support for regulatory frameworks and incentives for promoting biomethane applications in Indonesia.

SUPA/REPEAT to support Lao PDR's sustainable management of peatlands

By GIZ, Sustainable Use of Peatland and Haze Mitigation in ASEAN (SUPA)

SUPA/REPEAT supports state actors of ASEAN Member States (AMS) in implementing the ASEAN Peatland Management Strategy (APMS) and National Action Plans on Peatland (NAPPs) by providing funding. Funds are allocated to AMS, with the exception of Singapore and Brunei Darussalam, through a restricted call for proposals.

In January 2021, the International Union for Conservation of Nature (IUCN) signed a Financing Agreement with GIZ for approximately €732.000 of SUPA funds, on behalf of the Department of Water Resources, Ministry of Natural Resources and Environment, Lao PDR, to implement the project 'Enhancing knowledge and institutional capacity for sustainable management of peatlands in Champasak and Vientiane Provinces'.

Until now, Peatlands have remained invisible in policy, planning and natural resource management frameworks in Lao PDR. There is a general lack of understanding of the nature and extent of peatland distribution in the country. This makes peatlands particularly vulnerable to degradation and potential loss. Peatland areas in Lao PDR have been estimated at 19,100 ha, though it is unclear how this estimate was derived. Currently, less than 700 ha of peatlands have been confirmed and reported and more than 800 ha have been identified as potential peatlands that require further survey.

A major focus of the project is to survey an additional 600 ha of peatlands across two provinces to contribute to a national inventory and map of peatland distribution in Lao PDR. In addition, the project will support the improvement of technical capacity of relevant government agencies in relation to peatland management. The project will also demonstrate best management practices for sustainable use of peatland resources by supporting alternative livelihood opportunities in five local communities.

On 9 April 2021, the inception workshop of the project, which was organised in Vientiane, was attended by relevant officers from the Department of Water Resources and IUCN. Planned activities of the project were clarified during the workshop.

Participants of the inception workshop, 9 April 2021

SUPA/REPEAT to support Cambodia's peatland management and haze mitigation

By GIZ, Sustainable Use of Peatland and Haze Mitigation in ASEAN (SUPA)

In April 2021, the Department of Freshwater Wetlands Conservation of Cambodia signed a Financing Agreement with GIZ for €734,000 of SUPA funds to implement the project 'Enhancing Peatland Management and Haze Mitigation in Cambodia'.

About 30% of Cambodia's territory is covered by wetlands but little is known about the country's peatlands. Few studies have been carried out to assess peatlands distribution in the country. The most recent assessments in 2014 and 2015 identified 9,744 hectares of peatlands in coastal mangrove areas in Peam Krasaop Wildlife Sanctuary and in Botum Sakor National Park, both in Koh Kong Province. Both provide crucial habitat and maintain water quality, protect from storms and prevent floods as well as sequester carbon, which plays an important role in mitigating climate change. Potential peatlands areas may also exist in other parts of Cambodia, particularly around the Tonle Sap Great Lake and along the Mekong River, although they have not yet been confirmed. Carbon stocks in peatlands are also not well documented in Cambodia.

In Cambodia, forest fires occur during dry season when the weather is hot and dry. According to the daily hotspot density map, most land and forest fires are recorded to occur in the northern part of country and around Tonle Sap Lake. A severe fire event happened in 2016 and destroyed the forest in

the Tonle Sap core area of about 50,000 hectares. Mostly, the fires are induced by human actives.

A major focus of the project is to survey the peatlands around Tonle Sap Lake and along the Mekong River. The survey will contribute to the collective and synergistic effort with other projects to create the first comprehensive nationwide survey map of peatlands in Cambodia.

The project will also contribute to the mitigation of haze through the restoration and rehabilitation of flooded forests or peatlands and the establishment of a fire monitoring and control system. In addition, the project will improve the capacity of area managers and rangers in protected areas to fight forest or peat fires.

Peat assessment in Cambodia, 7 June 2013

Peatland management and wet livelihood opportunities in Indonesia

By UN Environment Programme, Global Peatlands Initiative

FAO and UNEP, in close collaboration with the Indonesian Ministry of Environment and Forestry, the International Tropical Peatlands Centre, with the contributions from the Greifswald Mire Centre, and other Global Peatlands Initiative (GPI) partners organised two workshops entitled "Peatland management and wet livelihood opportunities in Indonesia". The workshops were building on the sessions organised in the recent months by CIFOR about peatland indicators and livelihoods, as well as GIZ's session about green recovery in the ASEAN, touching also about peatland management. The two events saw contributions from over 320 participants (56 percent from Indonesia) with an incredibly interactive and dynamic engagement with nearly 100 questions answered during the sessions.

The first session, held on 19 January, aimed at answering two focus questions:

1. What examples exist for sustainable value chain, finance and policy for peatland management?
2. What other landscape-level approaches exist that help to maintain peatlands wet while ensuring communities' livelihoods?

The second session, held on 18 March, showcased concrete opportunities for Indonesia to further develop and scale-up positive experience with sustainable wet peatland management. The session examined these questions:

1. What kind of support is needed in Indonesia to conserve and sustainably manage peatlands?
2. What opportunities, gaps and needs exist for long-term sustainable management of tropical peatlands?
3. What would be the key next steps to support further development of sustainable management practices on degrading peatlands?

Participants highlighted that valuing ecosystem services of peatlands appropriately can push action towards the restoration and sustainable use of peatlands as long as communities are effectively involved and informed. Participants also stressed the usefulness of integrating traditional knowledge and lessons learned from the field with new approaches and practices tested to enable the shift to sustainable wet management on peatlands. Field level monitoring, gathering of the existing data and supporting its analysis are key aspects that many emphasized are needed for the future development of sustainable livelihoods on peatlands. Moreover, a favorable environment set up by the policy frameworks from national to local levels can reduce insecurity, doubts related to wet biomass production or 'paludiculture', and promote innovative research and development. The participants recommended starting with a definition of paludiculture, which is supported by science, tackling the challenges in land tenure systems, working on enhanced policies to bring the business sector on board and harmonised and clear regulations to prevent fires and to ensure the wet and sustainable use of peatlands.
A summary of the sessions containing all key messages and links to recordings can be found here. The partners are inviting suggestions of case studies of wet peatland management by sending a filled-up summary in a template available here.

The second session showcased concrete opportunities for Indonesia to further develop and scale-up positive experience with sustainable, wet peatland management

Renewable Resources from wet and Rewetted peatlands Conference

By UN Environment Programme, Global Peatlands Initiative

The GPI was invited by the Greifswald Mire Centre to speak at the RRR2021 online conference on 'Renewable resources from wet and rewetted peatlands' held on 10 March. The session 'Finance options for livelihoods from wet peatlands' shared examples of financing innovations and successful approaches to develop sustainable livelihoods in wet peatland landscapes. The session was organised following a special request by the Vice Minister Alue Dohong, the Indonesian Ministry of Environment and Forestry. The focus of this session was to support Indonesia and other developing countries with:

- Identifying sustainable finance sources and mechanisms;
- Identifying resources to advance with long-term, sustainable livelihood options; and
- Exchanging experiences and building new collaborations and network connections.

Sustainable options are needed to support livelihoods that help maintain peatlands wet. Rewetting helps with reducing greenhouse gas emissions, fires and subsidence and overall preventing the loss of livelihoods. Given the small area of peatlands worldwide, avoiding emissions in peatlands is often the most efficient option in terms of the money invested. Practitioners and countries are appealing to the finance community to come up with innovative solutions that can support the shift toward sustainable livelihoods for communities and secure peatland ecosystem services.

The session kicked off with FAO's Maria Nuutinen, Laura Villegas and Elisabet Rams who set the scene and presented the results of the GPI global needs assessment. The urgent need for solutions that maintain peatlands wet and the need for further resources was highlighted by the 295 respondents of the survey. Dianna Kopansky from UNEP shared successful experiences from UNEP setting up the &Green Fund and the Tropical Landscape Finance Facility (TLFF) that provide long-term funding, demonstrating that landscape finance is rapidly growing and offers many opportunities to design peatland solutions at a much larger scale with long-term innovating funding mechanisms. Paul Chatterton from WWF's Landscape Finance Lab emphasised the benefits of partners' commitment to the landscape approach. Combining various finance sources, such as private and public finance, and simultaneously utilising income-generating species increases sustainability of the approach as it reduces dependence to one source only.

Finance options for livelihoods from wet peatlands event at the RRR2021 conference

The key messages from the session were:

1) Landscape finance is rapidly growing and offers an opportunity to design peatland solutions – including paludiculture, where needed – at a much larger scale, with longer term funding and allowing for more precisely measurable impact.

2) To engage in landscape finance requires partners willing to work at the landscape scale, clear business cases with sustainable value chains, seed funding and credible finance partners. Including both private and public finance is needed to restore peatlands and fight climate change.

Celebrating World Wetlands Day, Indonesia's Strategic Coordination Team for Wetlands Management showing its commitment to develop a wetland management roadmap.

By Conservation International Indonesia (CI Indonesia) and Center for International Forestry Research (CIFOR), Mitigation and Adaptation through Conservation and Sustainable Livelihoods in Indonesia's Peat and Mangrove Systems

Coinciding with World Wetlands Day on 2 February 2020, the Ministry of National Development Planning/National Development Planning Agency (PPN/BAPPENAS) with CI, CIFOR and Wetlands International Indonesia conducted a 'Kick-off Meeting of the Strategic Coordination Team for Wetlands Management'.

The kick-off meeting was led by Dr Arifin Rudiyanto, Deputy for Maritime Affairs and Natural Resources of PPN/BAPPENAS, and attended by representatives of related ministries, the private sector and NGOs as members of the coordination team.

The main objective of this kick-off meeting was to discuss the work plan, especially a plan to develop a roadmap for a wetland management strategy in Indonesia, followed the establishment of the Strategic Coordination Team under the Ministerial Decree of PPN/Bappenas No. 89/M.PPN/HK/10/2020 on 30 October 2020.

In his opening remarks, Dr. Rudiyanto explained that this roadmap will serve as a guide for wetland (peatland and mangrove) management to support the national emission reduction targets of 834 million tons CO_2e (unconditional) and 1,081 million tons CO_2e (conditional) by 2030, contributing to the Sustainable Development Goals (SDGs) and low carbon development.

The Strategic Coordination Team with its three Working Groups - (i) budgeting and planning, (ii) database and policy synchronisation, and (iii) monitoring, evaluation, and reporting – aim to develop the roadmap by mid-October 2021.

The Database and Policy Synchronization Working Group – chaired by Dr. Nur Hygiawati Rahayu - plans a series of meetings to discuss about data and information for mangrove and peat ecosystems. The first meeting, held on 31 March 2021, was attended by representatives from the Ministry of Environment and Forestry (KLHK), Ministry of Maritime Affairs and Fisheries (KKP), Geospatial Information Agency (BIG), Peat and Mangrove Restoration Agency (BRGM), CI and CIFOR.

Dr Arifin Rudiyanto, Deputy for Maritime Affairs and Natural Resources of Bappenas opened the Kick-off Meeting

At the meeting, attendees agreed that national data for mangrove ecosystem need to be updated and standardised using robust methodologies. KLHK in collaboration with BIG as the national data quality control institutions, KKP, and BRGM are developing a plan to update mangrove data to be finalised in mid-2021.

The second and third meeting of the Database and Policy Synchronization Working Group will be organised mid-April to discuss data and information for peat ecosystem and develop further a plan to establish a National Peatland and Mangrove Database as part of the Roadmap for Wetland Management Strategy.

Strengthening Community Capacity on Sustainable Peat Restoration: for a better life, a better future

By Wetlands International Indonesia/WII (also known as Yayasan Lahan Basah/YLBA), Mitigation and Adaptation through Conservation and Sustainable Livelihoods in Indonesia's Peat Mangrove Ecosystems

After signing he the biorights contract (conditional loan) at the end of 2020, communities are required to carry out various activities related to peatland rehabilitation, such as canal blocking maintenance (for peatland rewetting), ensuring the survival rate of paludiculture plants up to 80% (for peatland vegetation rehabilitation), and revitalising the

community by implementing sustainable alternative livelihoods. To support the community in implementing peat restoration and promoting sustainable production practices, YLBA conducted a training series from February to March 2021. The training series covered canal blocking maintenance, paludiculture plants maintenance, aquaculture and a fish-based food processing training.

These training were conducted through the Training of Trainers (ToT) approach. A total of 110 members from 20 community groups have participated in the ToT, with about 40% of the participants being female.

The ToT approach implementation is done in two sessions, theory and practice. In the practical session, the community went to the field and practiced the activities directly. For canal blocking maintenance (supervised by a civil engineer), the community practiced regular inspection of the structural parts of the dams, including the dam's construction, spillway, side wing and wire. The community actively participated in monitoring land drawdown and restoration activities such as rewetting, revegetation, and revitalisation.

Community group members under the fishery agency supervision, practicing catfish-based food processing

In addition, the project provided a paludiculture training which was conducted by a group who successfully managed 80% survival rate of the planted jelutong's.

During the aquaculture training (provided by the local fishery agency's extension workers), the community practiced the breeding of a maggot culture as an alternative and nutritious fish feed. The group learned about further aquaculture aspects such as fingerling selection, water and feed management, probiotics use and making process, sorting and harvest management. This training is important since more than 50% of community groups use catfish farming as an alternative livelihood.

Finally, in fish-based food processing, the community was introduced to the production of three food variants. This training aims to increase the value-added of catfish products from the pilot site revitalisation initiative.

At the end of the training, 50-85% of the participants have increased knowledge about peatland restoration. A list of solution and follow-up actions was also developed, including schedule for dam maintenance, a list of action for increasing jelutong plant survival and proper catfish culture and plan for fish-based food production.

Training series in West Papua to Strengthen Local Capacity for Sustaining Peat and Mangrove Ecosystems

By Conservation International Indonesia, Mitigation and Adaptation through Conservation and Sustainable Livelihoods in Indonesia's Peat and Mangrove Ecosystems

Conservation International conducted a training series from February to March 2021 in West Papua to strengthen local capacity for sustaining peat and mangrove ecosystems. This training series mainly focused on supporting peat and mangrove ecosystem protection and management and strengthening local capacity to sustain mangrove ecosystems through alternative livelihood.

After completing a rapid socio-economic survey, the project identified potential alternative livelihoods such as fish-based and sago palm product diversification. From February to March, the project conducted livelihood trainings with local communities in the South Remu Village and South Sorong to assist them in fish-based and sago product diversification.

Sago palm is one of the indigenous products on peatlands used by communities in some areas of Indonesia for various purposes that contribute to their livelihoods. Diversification of fish-based products was selected as part of the training because fish is the main source of protein for the people of West Papua. By introducing product diversification from fish and sago palm, the project also introduced economic benefits through healthy peat and mangrove ecosystems.

Both peat and mangrove ecosystems have multiple benefits for people, including social, economic, and environmental aspects. As part of wetland ecosystems, peat and mangroves support people's lives as their functions related to water regulation, carbon storage, biodiversity habitat as well as source of various commodities to support the economy. Healthy mangrove forests also play a critical role in supporting commercial fisheries. In addition, both ecosystems are also important in supporting the mitigation of emissions and adaptation to the consequences of climate change.
In addition to livelihood activities, the project also conducted a series of trainings for local authorities in West Papua to strengthen their capacity for sustaining and managing peat and mangrove ecosystems. These trainings were conducted in collaboration with local government/agencies, such as the Environment Agency, the Center for Natural Resources Conservation and the local Technical Implementation Unit of Kaimana.

The trainings included Spatial Monitoring and Reporting Tool (SMART) patrol, planning and development analysis to support conservation area management, spatial modeling for species and habitats and technical assistance to the local Forest Management Units (FMU) to support the development of a long-term forest management plan. This technical assistance was a continuation after the completion of the West Papua Provincial Forest Plan so that the FMUs will have a forest management plan that is aligned with the West Papua Provincial Forest Plan, which includes the protection of peat and mangrove forests.

50 young people of #PahlawanGambut South Sumatra ready for Sustainable peatland management, present and future

By World Agroforestry (ICRAF) Indonesia, Peat-IMPACTS Indonesia

Under the Peat-IMPACTS Indonesia program, World Agroforestry (ICRAF) started the #PahlawanGambut initiative. #PahlawanGambut is the trademark for activities for gathering knowledge, learning, understanding, and various ideas related to sustainable peat management by activists, researchers, business actors, farmers and the young generation in South Sumatra and West Kalimantan. This collected knowledge will then be used to collectively strengthen governance and stakeholder capacity for Indonesia's peatlands.

One of the #PahlawanGambut activities is the South Sumatra Junior Peat Research Incubator Program (IPMG), which started from October 2020 to February 2021, in 32 villages in Ogan Komering Ilir and Banyuasin Districts. This program has invited 50 (25 female and 25 male) graduates from tertiary institutions in South Sumatra to work for 3-4 months with ICRAF researchers, peat farmers and activists to uncover various insights, lessons learned and intervention opportunities for well-funtioning sustainable peatlands managing in South Sumatra. The implementation of this activity went well and produced junior team from South Sumatra who is passionate about peatlands and ready to contribute to sustainable peatland management.

As the clsoing program of 50 #PahlawanGambut Chapter-1 South Sumatra, ICRAF carried out a seminar on 10 March 2021. A compilation of 40 scientific studies was presented based on experiences and lessons learned related to problems of peatlands, including land use in the peat ecosystem, gender equality, prime commodities and their problems, the need to strengthen community institutions, best agricultural practices, efforts to improve livelihoods of society and various farming patterns from an economic perspective. This compilation of opinions, experiences and information can be used as input for policy makers regarding sustainable peat ecosystem management in South Sumatra.

The 50 best graduated junior researchers of South Sumatra

In his opening remarks, Ir. H Dharna Dahlan, MM, Coordinator of the Regional Peat Restoration Team South Sumatra, on behalf of the Governor of South Sumatra, said, '*We gave high appreciation to ICRAF, and we are very proud of the junior Peat Researchers of South Sumatra. In the future, they can work*

together with us to get as many information as needed.'

Following the highlight event, ICRAF hosted an "Dialogue Across Generations" on 12 March 2021, which was attended by expert speakers from various government institutions, academics and other invited guests. At this dialogue, five IPMG participant shared interesting stories of their field work in several villages in Ogan Komering Ilir and Banyuasin Districts. Budi Satyawan Wardhana, Deputy I-Planning and Work of the Peatland and Mangrove Restoration Agency advised that '*Human basic provisions are learning, charity and education, so we hope that junior peat researchers can learn to gain the level of thinking to contribute ways to solve problems; so, PMG capacity will increase and be more visible by means of critical thinking to jointly find solutions to problems in the field*'.

Another important message was conveyed by Dr. Sonya Dewi, ICRAF Indonesia Country Coordinator, stating that partnership support, mentoring, counselling between the government and the private sector are also urgently needed. The problem context in each village visited was different and depending on the problems encountered in each village, several options for problem-solving measures are required. She also emphasised that PMG participants are on of the best researchers who can be invited to become prospective researchers for government institutions related to the peat sector and who are concerned about and enthusiastic for peat in South Sumatra. The hope is that all parties can actively contribute to activities related to restoration, implementation of various environmental services, development of suitable paludiculture on peatlands and special approaches to improve the function of peat for the people of South Sumatra, Indonesia and for all of us.

One Data system development for sustainable palm oil production in East Kutai District

By GIZ, Sustainable and Climate-Friendly Palm Oil Production and Procurement (SCPOPP)

Encouraged by the ambition to become a sustainable district in the plantation sector, the East Kutai District Government increases its capacity on One Data management. The use of the One Data system is necessary to support plantation sector planning, land-use change monitoring and Monitoring, Reporting, and Verification (MRV) of greenhouse gas emissions from the plantation sector. Following Presidential Regulation No. 39/2019 on One Data Policy, East Kutai District, with support from the SCPOPP project, developed an action plan to meet the requirements of the One Data system. In May 2019, stakeholders agreed on a collective agreement to implement the action plan.

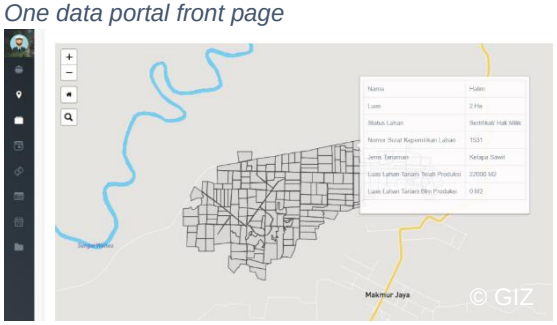
Based on the E-Government Regulation, the Communication and Information Agency (CIA) is mandated to develop and manage the IT-related architecture, including the data portal. After several focus group discussions (FGD) with the Central Bureau of Statistics (BPS) and related agencies in the district, the One Data Portal https://data.kutaitimurkab.go.id/ was developed to for agencies across the district government.

After one and half years of drafting and a series of discussions organised by the East Kutai Development Planning Agency, the Head of East Kutai District enacted Regulation No. 49/2020 on One Data Management and issued the Decree No. 50/2020 on Formation of the District One Data Forum, on 11 and 16 December 2020 respectively. While the regulation stipulates data standardisation, interoperability, and governance of the One Data system, which include four procedures (planning, standardisation, collection and verification and publication), the decree formalises the One Data Forum as the coordination platform between the data guardians *(walidata)*, producers, and the governing board *(pembina data).* The Forum also aims to overcome the silo between statistical and geospatial data actors.

Essential data for plantation sector planning, evaluation, and land-use change monitoring are land cover and farms maps. In addition to the national land cover map from the Ministry of Environment and Forestry, the East Kutai District Government needs to produce the land cover map locally, especially for more detailed data on forest and crop cover. In this regard, the SCPOPP project provided training on land cover mapping and farm data collection to the East Kutai District Agriculture

Department and village representatives on 5-8 April and 29-31 May 2021, attended by 15 people.

One data portal front page



Snapshot of the Data Management Cooperatives Application showing land parcel information

Other important data is data related to smallholders. The SCPOPP project is developing a data management application to help the partner farmer cooperatives to manage data of their farms, members, workers, production and other farming activities. Farm data management is key to improving the agricultural practice for yield improvement and complying with the Indonesia Sustainable Palm Oil (ISPO) and Roundtable Sustainability Palm Oil (RSPO) sustainability standards. The first trial of the software was conducted on 10 April 2021, where seven oil palm farmer cooperatives in Kombeng and Wahau sub-districts, East Kutai, were trained on data entry and understanding the information provided in the dashboard. In return, the training participants provided feedback to the software developer for improvement.

The interoperability between the application and the One Data Portal was developed to ensure that data production streams are integrated into the One Data System. This interoperability mechanism assists the district government in efficiently collecting and compiling data from smallholders. Two trainings on data interoperability (an Application Programming Interface training and a Framework Programming training) were conducted in October 2020 and March 2021 for (CIA) staff.

The training for Cooperatives Administrators for Data Inputs in the Application

CIA staff during the Application Programming Interface Training

Women microentrepreneurs in coastal communities adapt to climate change

By Rare, Fishing for Climate Resilience project

Saribulan and Hasrawati clean and weigh their day's catch before selling these to the other villagers

In major fish-producing countries like Indonesia, microentrepreneurs in the small-scale fisheries sector have a direct impact on the marine environment. Their operations can affect the sustainability of fishery resources and indirectly impact the survival of the marine habitats by trading in poorly managed or exploited fisheries. Each business is small but their combined contribution to the economy is significant. They also remain essential to food security and employment across the whole country, a fact notably proven during this pandemic (Campbell, et.al 2021). Nonetheless, this sector lacks recognition by policy makers for their contribution to the economy, food security and impact on critical coastal ecosystems and continues to be historically marginalised in traditional economic development programs. The sector is at increased risk to climate change and economic shocks and has become even more vulnerable due to the pandemic.

Women represent almost half of the microentrepreneurs in the sector and are therefore a strong force that can be empowered for sustainable fisheries management and climate change adaptation. Rare has been working with women microentrepreneurs to increase their financial resilience to external shocks as part of its Green Recovery initiatives supported under the Corona Response Package of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) through the International Climate Initiative (IKI). Improving women's skills in managing their household finances and making financial decisions will ensure that they have enough savings to cope with lean fishing seasons and emergencies, ultimately securing the well-being of their household.

The stories of 3 women microentrepreneurs

Ibu Hasrawati, Ibu Sari Bulan, and Ibu Si Isa have been buying and selling fish for more than a decade. Ibu Sari Bulan also sells octopus that she catches herself. To augment their income from fishing, Sari Bulan farms sweet potatoes while Hasrawati and Si Isa sell other goods in their communities.

All of them have noticed changes in weather patterns that have affected the livelihoods of their communities. Dry seasons have extended and easterly winds are arriving earlier and stronger than usual. They also have fewer fish catch to trade, despite the fishers who they buy catches from spending longer hours in the ocean. They observe that fishers no longer use their sail but have bought engines for their motorboats so they can withstand the strong winds and stay longer and farther at sea. For years, all three women have been setting aside savings and are engaging in alternative sources of income to tide them over during lean seasons. They recognise the importance of savings especially now when the climate has become unpredictable. According to Hasrawati, they have seen how families in their communities' spiral into a debt trap because they do not know how to manage their finances '*Some fishers will unwisely spend their daily income, leaving them without money after a few days. The wife of the fisher will then come to me and ask for a loan to pay their debts*.'

Si Isa has been a fish buyer for 20 years in the village of Banunuajaya Village in Kulisusu, Southeast Sulawesi Province. She also sells other goods such as fuel, storage for clean water, and fishing equipment.

To address this need, Rare has been providing basic financial literacy trainings to women microentrepreneurs like Si Isa, Sari Bulan, and Hasrawati. Si Isa believes that women should learn how to manage their income, invest, and save money when they can. For Ibu Sari Bulan, women should not just wait for their husband's day catch but should also find ways to earn additional income for their family. Ibu Hasrawati meanwhile said that fishers like her should have enough savings to protect and secure their families especially now when the climate is unpredictable.

Aside from improving the financial resilience of microentrepreneurs, Rare will also support them in integrating ecosystem-based adaptation (EbA) measures into their day-to-day business operations thus ensuring that microenterprises support the conservation of the natural coastal resources they directly depend on. These measures include catching, buying, and selling fish using nondestructive practices, implementing sustainable water and waste management, and other practices that will help restore or improve the marine ecosystem. These initiatives will be conducted with financial support under the IKI Corona Response Package.

In a COVID-19 world, connecting microenterprise development with sustainable development has become urgent to sustain local fisheries, protect critical habitats as well as to build social, economic and ecological resilience. Without the support from government and other groups, microenterprises will exert greater pressure on coastal resources as the need for short-term survival overshadows long-term sustainable development. By mainstreaming EbA in their businesses, microentrepreneurs will be able to derive value from the ocean while protecting its health and ensuring its sustainable use.

Mainstreaming Religious Values in Conserving the Environment through the Da'i

By WCS, WWF, YABI under Bestari, Conserving Priority Habitats in the Bukit Barisan Selatan National Park

A number of Islamic preachers *(da'i)* in the buffer zone villages of the Bukit Barisan National Park (BBSNP) established the Village Forum of Conservation *Da'i.* Each of the ten Bestari project's focal villages established the forum after they joined the conservation *da'i* training in December 2020. This establishment aimed to spread understanding of the connection between Islam and conservation to Islamic preachers.

20 *da'i*s from ten project's focal villages participated in the training that aimed at disseminating Indonesian Ulema Council's (MUI) Fatwa No. 4/2014 on Conservation of Endangered Animals for Ecosystem Balance. The *da'i*s taught about their knowledge and insight regarding the MUI fatwa, such as not poaching protected animals, cutting wood illegaly, burning forests, and so forth.

'*With this training, we comprehend the true meaning of conservation from the Islamic perspective. We can practice hablum minallah (good relationship with God), hablum minanas (good relations with fellow humans) and hablum minal alam (good relationship with nature). Through conservation, we can ensure that nature can still support us and also our future generation*,' explained Madyanto, a member of the Conservation *Da'i* Village Forum of Sukamarga Village.

Post-training, in addition to establishing the forum, the *da'is* also applied training materials by conveying conservation messages at various activities such as the routine Qur'an recitations, studying conservation issues in the Qur'an, and during weddings preaches in their villages.

'*Nature conservation is the obligation of the people ordered by Allah SWT. Conservation is very important in Islamic teachings because the earth and all its contents, including forests and animals, are creations of Allah SWT that must be protected*', said Ustad Alif Al Maduri, the pioneer of the conservation *da'i* in Lampung. He hopes that this training can raise awareness and Islamic preachers can be actively involved in efforts to preserve and protect nature, as well as overcome various environmental

problems that occur inside the conservation area and its surroundings.

Ustad Alif Al Maduri had also published a book entitled "Conservation is Truly Islamic Teaching" supported by the Institute for Honouring the Environment and Natural Resource of Indonesian Council of Islamic Scholar's (MUI) to provide preaching materials for *da'is*.

Islamic teachers and preachers in Sukamarga village learn how to include a conservation perspective during the conservation preaching training

Beekeeping supports Forest Conservation

By WCS, WWF, YABI under Bestari, Conserving Priority Habitats in the Bukit Barisan Selatan National Park

Honey is a non-timber forest product (NTFP) that is widely cultivated in Indonesia. It is produced by bees of various types, one of them is *Trigona sp* or locally called *Kelulut/Klanceng*. The *Klanceng* honey bee is a stingless bee or *meliponines* that requires natural forests as their forage source to produce a tantalising amount of honey.

The Bestari project supported communities in the buffer zones of Bukit Barisan Selatan National Park to develop an alternative livelihood from *Klanceng* beekeeping. Trainings for the communities were carried out in six villages in 2019 and 2020 that covered various topics including understanding the types of bees, cultivation techniques, pest management, locations for placement, bee forage plants, flowering trees and several types of flowers.

Harvesting the Sweetness from the Honey Beekeeping

The *Apicalis* Forest Farmer Group (FFG), which has 17 members, is one of the oldest groups in Pemerihan village, who - assisted by YABI - is cultivating these bees. In early March 2021, *Apicalis* FFG harvested meliponines honey. The yield of meliponines honey, at this time, was around 16 kg which has been packaged in 250 ml bottles.

Aforementioned, forests with a good vegetation are significant to produce high quality honey. Some stingless bees collect nectar and pollen from various trees in the forest, for instance, *Shorea, Damar, Meranti*, etc. Thus, the sustainability of this group leans on the health of the forest ecosystem. Furthermore, beekeeping helps people who own no farmland to gain an alternative income as they can hold bees even in the yard. Therefore, it could reduce the need to clear up protected forest for farms.

Since 2019, Janjianto, a pioneer who started the beekeeping in Pemerihan has encouraged the community to cultivate this stingless bee. They started with 105 logs of bees that were cultivated together and independently by the members. Currently, the total number of logs of bees managed by groups and members are 215 with various types of stingless bees; mostly *Heterotrigona itama* and *Tetrigona apicalis.* Usually, they can harvest two times per month, depending on the season. At the beginning of harvest, they received 600 ml to three liters in one harvest phase. They sell the honey for IDR 250,000 (17 USD) /Liter to their distributor and IDR 225,000 (15 USD) /Liter for the members of *Apicalis* FFG. In addition, some members of the group are also able to sell the honey for a better price, for example IDR 115,000 (7.5 USD) for a 250 ml bottle.

'*We learned many things during the training, such as knowledge on pest management, cultivation techniques and others. I also gain the economic benefits to meet my daily needs. I hope that this honey production can increase so that income can also increase*,' said Rahman, one of the group members. This program is supported by the project 'Conserving Priority Habitats in the Bukit Barisan Selatan National Park' known as Bestari project, an Indonesian-German development project, co-financed by the Federal Republic of Germany within the framework of the International Climate Initiative of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) through KfW Development Bank.

The Apicalis FFG is harvesting their stingless bee honey on 4 March 2021

Supporting Wildlife Conservation Around BBSNP Landscape, Liwa Botanical Garden Conducted Conflict Mitigation and Plant Phenology Training

By WCS, WWF, YABI under Bestari, Conserving Priority Habitats in the Bukit Barisan Selatan National Park

Situated in West Lampung regency, Liwa Botanical Garden (LBG) serves as a buffer zone for the Bukit Barisan Selatan National Park (BBSNP). In order to support biodiversity conservation around the BBS Landscape, Liwa Botanical Garden conducted a 'Conflict Mitigation and Phenology Training' on 25-26 February 2021. This training was facilitated by the Wildlife Conservation Society Indonesia Program (WCS-IP) under the Bestari Program-funded by KFW-IKI.

'*Liwa Botanical Garden shares borders with BBSNP where various types of wild animals live, including the Sumatran tiger. So, the presence of tigers and other species in the Botanical Garden is normal. Given the situation, this training is important in order to provide knowledge and develop capacity of LBG staff, as well as to support wildlife conservation around the BBSNP landscape. Moreover, many tourists visit here, thus mitigation conflict skills are required*', said Yoga Sugama S.T., M.T, Head of the Liwa Botanical Garden, in his opening remarks.

Fahrudin Surahmat, Biodiversity Research and Survey Coordinator, emphasised the importance of conserving the Sumatran tiger. '*The Sumatran tiger is Indonesia's remaining tiger species after Bali and Javan tigers have been declared extinct. As a top predator, tigers play an important role in maintaining ecosystem balance*', he said.

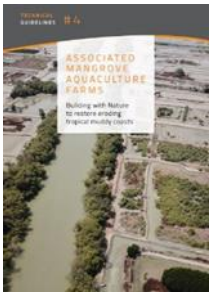
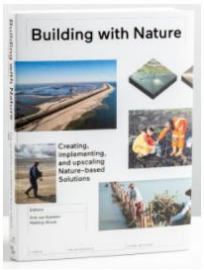
To monitor the presence of Sumatran tiger in the LBG area, monitoring devices such as camera traps are required. '*Camera traps are quite effective to monitor the population and distribution of wild animals, especially those that are active at night and difficult to find, such as the Sumatran tiger*, Fahrudin explained. As the discussion continued, Tabah, WRU Coordinator shared experiences of his team in supporting BBSNP authorities to mitigate wildlife conflicts. '*Sumatran elephants, sumatran tigers, bears and golden cats are some examples for potential conflict around BBSNP. Conflict mitigation for each of these species is not the same and depends on the conditions of the community residing in conflict location*', he explained. To mitigate tiger conflicts, his team supports the BBSNP in initiating and building tiger proof enclosures for local communities' livestock. Regarding the finding of tiger footprints in LBG, Tabah urged the staff to not conduct any activities during the tigers' active period-before sunrise and before sunset.

Conflict mitigation and plant phenology training at Liwa Botanical Garden

At the next session, LBG staff discussed plant phenology. They learned about phenological activities carried out at the Way Canguk Research Station along with the information obtained from these activities, including types of plants with high growth rates, plants preferred by animals, and the right timing to collect seeds. Participants spent the second day with practical activities and simulations of using camera traps. They learned how to choose locations, as well as how to install and collect camera trap results. The discussion was concluded with a follow-up plan developed by LBG that includes the independent installation of four camera traps; establishing a wildlife database from the installed camera traps; establishing a database of local plant species and their distribution in the southern part of Sumatra; and plans to procure local seeds in collaboration with the BBSNP.

Knowledge Products

By Wetlands International Indonesia (also known as *Yayasan Lahan Basah*/ YLBA), Mitigation and Adaptation through Conservation and Sustainable Livelihoods in Indonesia's Peat and Mangrove Ecosystems

Technical Guideline 'Systems Understanding'	Nature-inclusive infrastructure design is neither simple nor straightforward and very little guidance is yet available. To truly utilise ecosystem services and to maintain or restore natural processes and functions, natural systems must be well understood. This technical guideline aims to provide a better understanding of the coastal system, what processes to consider and what experts and tools can help to develop successful infrastructures and coastal zone management projects for nature, economy and people. The guideline targets not only officials at governmental infrastructure departments responsible for infrastructure investment allocation, but also implementation agencies, engineers and NGOs that assess the feasibility of green and grey infrastructure and move it into design and implementation. This guideline is part four of a series of Technical Guidelines on technical and socio-economic measures that, in combination, help restore eroding tropical mud coasts. These guidelines are based on insights and lessons learned during the implementation of pilot project at a district level in Central Java as part of the 'Building with Nature Indonesia' program. https://www.wetlands.org/publications/technical-guidelines-systems-understanding/	
Technical Guideline 'Associated Mangrove Aquaculture Farms'	Mangrove greenbelts along rivers and creeks provide ecosystem functions, enhance biodiversity and increase economic opportunities for local communities. This technical guideline addresses Associated Mangrove Aquaculture systems, in which portion of an aquaculture pond is abandoned to make space for riverine mangroves. This approach allows for the restoration of mangrove greenbelts in the estuary along inland waterways and the protection of adjacent fishponds. As such, Associated Mangrove Aquaculture systems offer a more sustainable alternative to silvo-fishery systems, of which several types are practised in Indonesia, but none that contribute to coastal protection, and some that may have negative effects on aquaculture. This guideline also belongs to part four of a series of Technical Guidelines on technical and socio-economic measures that, in combination, help to restored eroding tropical mud coasts. https://www.wetlands.org/publications/technical-guidelines-associated-mangrove-aquaculture-farms/	
Building with Nature: Creating, Implementing and Upscaling Nature-Based Solutions	Half of the world's population lives and works in deltas. By 2050, that figure is expected to rise to 70 percent. These areas are under great pressure from climate change and sea-level rise. Coastal erosion, loss of biodiversity and more frequent flooding pose increasing threats. This book is an urgent and compelling plea for scaling up the Building with Nature approach, a proven, innovative approach to realise water-related nature-based solutions for societal challenges. This approach harnesses the forces of nature and strengthens the opportunities for natural development, creating added value to the environment, economy and society. The book includes a variety of solutions and results of Building with Nature in six different landscape types as well as dialogues with	

	experts and stakeholders also from Demak, Indonesia. The book will be available in Bahasa Indonesia this year. https://www.wetlands.org/publications/building-with-nature-creating-implementing-and-upscaling-nature-based-solutions/	

By Rare, Fishing for Climate Resilience

How Women in Coastal Fisheries are Adapting to Climate Change	The image of men as fishers and their wives as fish vendors has become a common misconception among consumers. In reality, women play a wide range of roles in small-scale fisheries, from processing seafood to designing marine reserves. This visual story shows how six women in Indonesia and the Philippines are taking on leadership roles in fisheries management and helping coastal communities adapt to climate change. https://rarecampaigns.shorthandstories.com/women-in-coastal-fisheries/index.html	
Climate Change and Coastal Fisheries	This video describes how Rare's global coastal and marine program is helping fishers and coastal communities adapt to the changing climate, implement nature-based solutions to climate change, and protect the ocean and marine life critical to food security and livelihoods. https://rare.org/video/climate-change-and-coastal-fisheries/	

By DIW, *Strengthen national climate policy implementation: Comparative Empirical Learning & Creating Linkage to Climate Finance* (SNAPFI)

Indonesia Country Study: Strengthening Indonesia's climate governance in the energy sector towards achieving the NDC target	This report focuses on climate governance in the implementation of the NDC in the energy sector in Indonesia. Climate governance in the energy sector in Indonesia is highly complex and involves a whole range of stakeholders from various sectors and their perspectives. We attempt for frame the complexity into three intersecting pillars, i.e., the triangle between climate governance, energy governance, and climate finance. Therefore, energy governance arrangements need to adress this complexity by balancing the triangle. https://www.diw.de/documents/dokumentenarchiv/17/diw_01.c.798121.de/cs-ndc_indonesia_strengthening_climate_governance.pdf CCC-ITB's portal: www.ccc.itb.ac.id	
Background Report of Cross-Country Study of Indonesia Green Sukuk and REDD+	This background report aims to identify cases where international climate finance has had an impact on national policy design and to enhance knowledge on how international climate finance can be designed to support national policies that are critical for NDC implementation. In this report, two interesting case studies compare two kinds of international finance mechanisms: REDD+, which is donor-driven and Green Sukuk which is an Indonesian initiative that uses a market-based approach. https://www.diw.de/documents/dokumentenarchiv/17/diw_01.c.794585.de/background_report_indonesia_green_sukuk.pdf	

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