



I M P L E M E N T I N G LOW CARBON DEVELOPMENT IN INDONESIA LESSONS FROM THE FIELD

1

I M P L E M E N T I N G LOW CARBON DEVELOPMENT IN INDONESIA LESSONS FROM THE FIELD

Content



= O R E W O R D

Sustainable development should be carried out by realizing inclusive economic growth but at the same time it must maintain the quality of environment and the availability of natural resources and carrying capacity of natural resources.

The government has initiated development policies that are oriented towards balance of economic growth, social stability and reducing greenhouse gasses effort. This initiative will become basis for our next National Medium Term Development Plan (RPJMN) 2020-2024, which we are known as Low Carbon Development Plan for Indonesia.

This Low Carbon Development Plan is a new platform for Indonesia development that aims to maintain economic and social growth through low emission development activities, as well as minimizing exploitation of our natural resources. In this regard, development policy interventions that have cobenefit to the emission reduction will be prioritized. Natural resources capacity including emission, land cover and water become determining factor in policy formulation and setting up target of low carbon development.

This publication provides 10 high-impact implementation examples of low carbon development. These projects have been supported by the Ministry of National Development Planning (Bappenas) through Indonesia Climate Change Trust Fund (ICCTF). Within the period of 2010-2018, ICCTF has been implemented various activities in related to GHG emission reduction as well as improved the livelihood and economy of local people.

Achievements displayed in this publication clustered in three sustainability pillars, i.e. environment, social and economic represent only part of many more derivatives achievements of the project activities in the field.

Finally, I hope that these *lessons from the field* will inspire people to further develop and implement low carbon development.

Thank you.

Dr. Ir. Arifin Rudiyanto, M.Sc

Deputy Minister for Maritime Affairs and Natural Resources Ministry of National Development Planning/ National Development Planning Agency (Bappenas)

As chairman of ICCTF Board of Trustees





- Energy intensity is the amount of energy consumption per unit of GDP.
- Fuel mix is the carbon content of energy consumption in a country.

same emission source. **For example:** the primary dryland forest emission factor is 132.99 tons C/ha

source of emissions relative to the unit of activity on the

Emission factor is the average GHG emissions for a

ICCTF's Project Location (2010-2019)

ICCTF serves as funding instrument to support the Government of Indonesia in achieving GHG emission reduction target while improving economic and social aspects of local communities.





ICCTF's Achievement from 2010-2017

656

deep wells





canal blockings



people directly involved



catchment wells & reservoirs



rain water harvesting tanks





Carbon sequestrated through replanting & land rehabilitation



Project's Samples

implemented by ICCTF to support Indonesia Low Carbon Development

Biogas Utilization for Households **Energy Supply**



Located in Keningar village and Ngargomulyo Village, Magelang, Central Java, ICCTF work together with SESAMI (Sedya Samahita Memetri Indonesia), a local NGO to fulfil energy for households by utilizing biogas.

The objective of the project is to produce bio slurry and compost, improving quality of soil and ecosystem, as well as increasing carbon stock.

Through this project, local communities were trained to build bio digester and operate centre of seeds. The project also assist local communities to rehabilitate post sand mine site and replant with multi purpose tree species.







Support SDGs



Several notable results from this project are:



additional income generated



Establishment of **Green Cooperatives** by Local Village Communities



Biogas produced by the project has reduce households cost IDR 60,000/month

Environmental benefit

CO

16,515 tonnes CO,eq/year **Carbon stock** potential



10 unit **Bio digester** were built

35,085 **MPTS** were planted (MPTS: Multi Purpose

17.8 ha Critical post sand mine site are rehabilitated



people were involved in restoring critical post-mine site

Climate Projection & Adaptation Strategy of System of Rice Intensification (SRI) **Cultivation**





ICCTF in collaboration with Faculty of Agricultural Technology, Gajah Mada University develop innovation to boost crop and address water issue. The project located in Kupang, East Nusa Tenggara.

The project helps local government and communities to adapt with climate change by formulating climate prediction for the next 30 years and incorporating SRI cultivation method into regional development planning document. The project also assist local farmers and communities to use technology in farming activities to increase productivity.





Several notable results from this project are:



Environmental benefit Improving security Increased Socia in applying technology for agriculture

Build

Emission reduction by reducing non-organic fertilizer



capacity of farmers

collaboration & synergy

between ministries, local government and university for upscaling the project in all districts in East Nusa Tenggara

> 7 Indonesia Climate Change Trust Fund 2018

Belitung Mangrove Park

Belitung Bangka Belitung Islands

Support SDGs





Mining activities in Belitung has created significant degradation for coastal and mangrove ecosystem. This situation has motivated ICCTF and TERANGI, a local NGO to work together to conserve mangrove park as an effort to reduce coastal ecosystem degradation and improve carbon sequestration. The project is located in Belitung district.

This project has resulted significant impact for local communities in terms of mangrove ecosystem conservation as well as economic benefit from mangrove eco-tourism.

The success of the project has attracted ministries, local government and private sector to invest and upscale the project.





Several notable results from this project are:







Community participation in local coastal conservation area (KKPD) and Belitung Mangrove Park





Located in Gunungkidul district, Yogyakarta, The project aimed to provide mitigation action on Karst, critical watershed and conservation areas. The project is implemented in collaboration between ICCTF and Yayasan Javlec Indonesia.

Community empowerment approach and strong involvement of local government to support this project has resulted significant benefit in terms of GHG emission reduction, as well as improving livelihood and generate income for







Several notable results from this project are:

Economic benefit



Improved income

of community group up to IDR 16-20 million/month and IDR 40-45 million at peak season from eco-tourism





8 water springs were established

Indonesia Climate Change Trust Fund 2018

5 Organic Farming to Reduce GHG Emission and Increase Livelihood



Support SDGs



Located in Saparua Island, Maluku, ICCTF and Yayasan Tiara Pusaka work together to address climate change while at the same time improving livelihood of local farmers.

The objective of the project is to improve mitigation actions through changing community behaviour and optimizing land use for organic farming. This project has encouraged local community leaders to get involved in mitigation action through rehabilitation of nutmeg farm and organic horticulture in Saparua island.





Several notable results from this project are:



Environmental benefit



Social benefit

Potential of emission reduction up to 8,808 tonnes CO,eq/year



220 farmers in 11 villages has applied **organic farming**

6 Adaptive Food Security for Local Communities



Support SDGs

2 #

3 GOOD HEALTH



The project was designed to build sustainable food security and resilience of communities in terms of supply, distribution and access of farming system. The project also expected to provide food insecurity and vulnerability information at village level. ICCTF works with Yakkum Emergency Unit (YEU) to implement this project in Gunungkidul District, Yogyakarta.



Several notable results from this project are:



Nypa Fruticans Ecosystem and Lamandau Wildlife Conservation as **Community Forest**



The project aimed to conserve degraded forest with total area 400 ha and provide livelihood for communities living around. In this project, ICCTF works with Yayorin (Yayasan Orangutan Indonesia) in Central Kalimantan.





Support SDGs





Several notable results from this project are:



Environmental benefit CO Social benefit

Potential of emission reduction up to 807,400 tonnes CO,eq/year (above ground)

Village regulation to conserve

200 ha Nypa Fruticans and 400 ha degraded land was formulated

Changing behaviour of farmers to open farm field without burning

8 Women **Initiatives to Reduce GHG Emission from Forest Fire**







The project was designed to support women groups in peatland management. In this project, ICCTF collaborates with Riau Women Working Group (RWWG) in Riau Province in reducing GHG emission from forest and land fire, through establishment of women groups, construction of canal blockings, and plantation of jelutung trees.

CO





Several notable results from this project are:



Potential of emission reduction from agroforestry & rewetting activities 178.8 tonnes CO,eq/year

4 unit canal blocking built

4000 jelutung trees planted

Establishment of 4 groups of Women group

Establishment of 4 groups of Masyarakat Peduli Api (MPA)

Indonesia Climate Change Trust Fund 2018

Peatland Conservation through Fisheries Cultivation







Support SDGs



The project supports Government policy in restoring peatland areas by re-planting multi purpose tree species and using applied technology in fisheries cultivation. The project also develop mangrove eco-tourism that is designed and managed by local communities. In this project, ICCTF collaborates with Faculty of Fisheries, University of Riau.

The project located in Meranti district, Riau Province.

Several notable results from this project are:

Economic benefit



Additional income from fisheries and mangrove eco-tourism

IDR 17,600,000 from 32 ponds/3 months

IDR 1,800,000 from mangrove eco-tourism

Environmental benefit



Potential of emission reduction 79,360 tonnes CO₂eq

32 ponds in peatland areas has been built





301 m mangrove track & facilities of mangrove ecotourism has been built

27,840 trees planted

500 ha mangrove ecosystem conserved

100 communities trained on forest fire prevention

Establishment of 4 groups of Masyarakat Peduli Api (MPA)







Support SDGs



The project aimed to build solar water pump installation system and provide clean water distribution facilities for Banyumeneng II residents to develop energy and clean water resilience. The project was develop water pump system through installation of 4000 Wp solar panels and 1 submersible pump to fulfill communities need with water capacity of 20,000 liters/day. In this project, ICCTF collaborates with Energi Bersih Indonesia (Enerbi) Foundation.

The project located in Dusun Banyumeneng II, Giriharjo Village, Panggang District, Gunung Kidul District, Yogyakarta.

Several notable results from this project are:

Economic Environmental benefit benefit Community Potential of 2 unit public street expenditure savings emission reduction minimum IDR 150,000/household/month lighting system 5.46 tonnes CO₂eq/year (25 watt, 200 Wp) ABIMANYU 4000 Wp solar panels & 20,000 liters/day potential income 1 unit submersible pump clean water IDR 15 million/year ŤŤŤ 40 households get access for clean water Social benefit Establishment of **ABIMANYU Group**

15

Indonesia Climate Change Trust Fund 2018

(independent community for water management)

Launched in October 2017, The Low Carbon Development Indonesia Initiative has shown good progress. The Ministry of National Development Planning (Bappenas) in collaboration with development partners is currently incorporating Low Carbon Development Indonesia into the National Medium Term Development Plan 2020-2024 and SDGs roadmap 2020-2030.

Bappenas has set direction for economic growth trajectory through several policy interventions to protect natural resources and its carrying capacity. The set of policy interventions includes:



Improving environmental quality;



Increasing the use of renewable energy and improve energy efficiency;



Improving agricultural productivity and efficiency of natural resources utilization; and



Ensuring efforts in reforestation and reducing deforestation, including peat restoration.

ICCTF as national trust fund fully supports the Government of Indonesia in the implementation of these policy interventions. ICCTF stands ready to collaborate and partner with countries, international financing institutions, development organizations, NGO/CSO as well as private sector to achieve the Government target as expected, under the Low Carbon Development platform.

I M P L E M E N T I N G LOW CARBON DEVELOPMENT IN INDONESIA LESSONS FROM THE FIELD



R www.icctf.or.id

ICCTF Secretariat

FOR

Lippo Kuningan, 15th floor, Jl. H.R. Rasuna Said Kav. B-12, Jakarta 12940, Indonesia P +62 (21) 8067 9314 | F +62 (21) 8067 9315 | E secretariat@icctf.or.id

JCCTF_ID O icctfofficial D ICCTF 🕇 Indonesia Climate Change Trust Fund