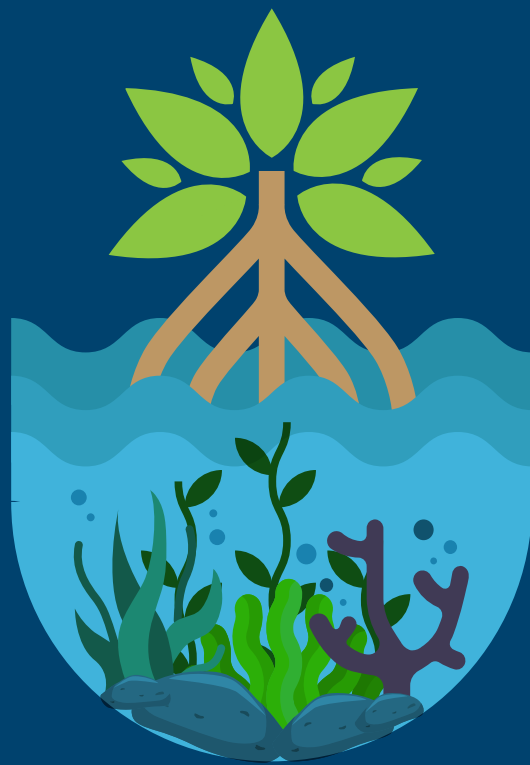




IMPLEMENTING
**LOW CARBON
DEVELOPMENT
IN INDONESIA**

Indonesia Climate Change Trust Fund 2018

Lessons from the
**5 COASTAL
AREA**



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and the Global Development Agenda __**3**

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Sample of projects implementing by ICCTF
that support Indonesia Low Carbon Development:

- 1** Integrated Mangrove Forest Management__**6**
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Economic Improvement for Vulnerable People__**7**
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FOREWORD

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 co-benefit 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 5 high-impact implementation examples of low carbon development in coastal area. 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



What is

Low Carbon Development (LCD) and the Global Development Agenda

Low Carbon Development (LCD) is a new development platform to maintain economic and social growth through low GHG emission activities and reduce natural resources use.



Low Carbon Development put the **SDGs Goal Target number 13** (Climate Change) as the main basis to support SDGs



LCD Indicator Outcomes

Emission/Carbon Intensity			Reduction of GHG Emissions		
Carbon Intensity	Energy Intensity	Fuel Mix	GHG Emission/ Removal	Activity Data	Emission Factor
$\frac{CO_2}{GDP}$	$\frac{Energy}{GDP}$	$\frac{CO_2}{Energy}$	CO_2	Activity Unit	$\frac{CO_2}{Activity Unit}$
$\frac{CO_2}{GDP} = \frac{Energy}{GDP} \times \frac{CO_2}{Energy}$			$CO_2 = Activity Unit \times \frac{CO_2}{Activity Unit}$		
<p><i>*) WRI definition, it needs a definition agreement</i></p> <ul style="list-style-type: none"> Emission/Carbon Intensity is the amount of GHG emissions per unit of economic output, which is usually measured through GDP at the national level. Energy intensity is the amount of energy consumption per unit of GDP. Fuel mix is the carbon content of energy consumption in a country. 			<ul style="list-style-type: none"> Activity data is the amount of development activities that have potential to emit or absorb emissions in one area within a certain time. For example: planting trees 1 million ha/year Emission factor is the average GHG emissions for a source of emissions relative to the unit of activity on the same emission source. For example: the primary dryland forest emission factor is 132.99 tons C/ha 		

ICCTF's Project Location (2010-2019)

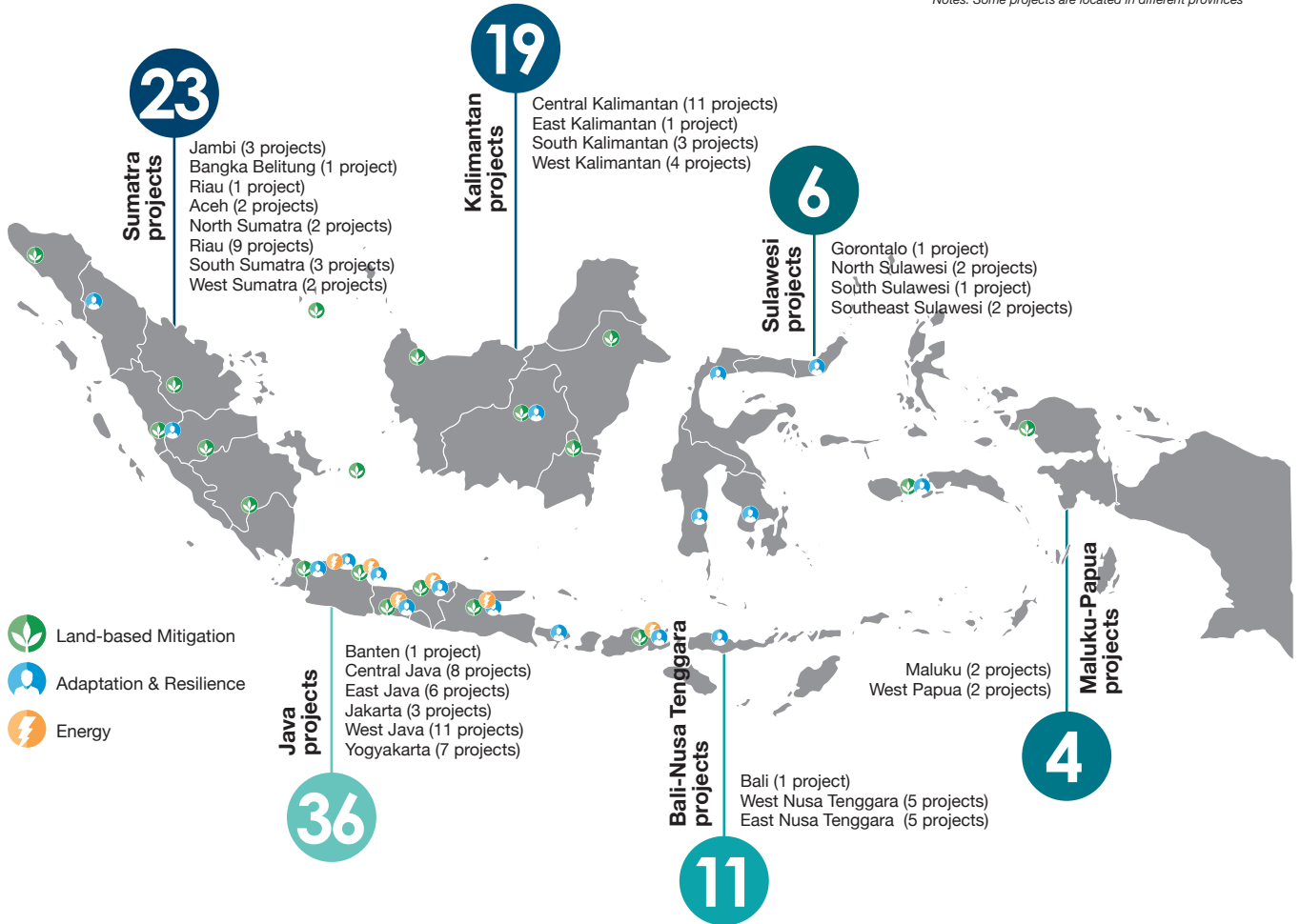
ICCTF serves as funding instrument to support the Government of Indonesia in achieving GHG emission reduction target while improving economic and social aspects of local communities.

Total
76
projects

Location
99
areas

On-going
13
projects

Notes: Some projects are located in different provinces



ICCTF's Achievement from 2010-2017



187

villages directly involved



284

local communities directly involved



1,317

people directly involved



254

canal blockings



656

deep wells



224

catchment wells & reservoirs



100

rain water harvesting tanks



1,019,373

trees planted



9.5

million ton CO₂ eq
Carbon sequestered through replanting & land rehabilitation

LESSONS FROM PROJECTS IN **COASTAL AREA**

implemented
by ICCTF
to support
**Indonesia
Low Carbon
Development**



1

Integrated Mangrove Forest Management



Mangrove forests with non-conservation status are located in Batu Putih sub-district the border area of the Berau Regency Marine Protected Area, East Kalimantan. Total area of Mangrove forest in Batu Putih district is 7,742 hectares. ICCTF in collaboration with Yayasan Penyulu Berau, a local NGO based in Berau Regency has managed an integrated mangrove forest conservation that is also provide economic benefit for local communities. One of the activities is by combining mangrove conservation with shrimp culture.



This project has resulted significant impact for local communities in terms of climate change mitigation through mangrove ecosystem conservation, as well as economic benefit from mangrove ecotourism.



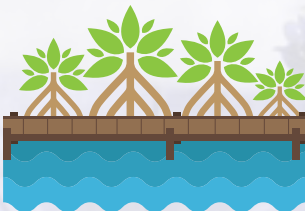
The success of the project has attracted the village to invest and upscale the project by village's budget. Village coastal spatial regulations were proposed by the village head.

Support SDGs



Several notable results from this project are:

Economic benefit



Additional income IDR 1,000,000/month from **ecotourism** (mangrove track, tower)

Others

Scaling up through Inkind village budget for additional tourism vasilities (extended mangrove track, build the gate, toilet, repair the road).

Environmental benefit



44.348 tons CO₂-eq/year
GHG Emissions has been reduced

20 ha in degraded area has been restored and **4 ha** of fruit garden has been planted

Social benefit



Increase capacity of coastal communities in managing ecotourism

Community participation in lokal coastal conservation area

Improving **community income**

2

Sustainable Food and Economic Improvement for Vulnerable People



South Sulawesi

Support SDGs



There are 400 ha of shrimp pond in the village of Kanaungan in Labakkang sub-district, Pangkep, South Sulawesi always experiencing crop failure. The use of chemical fertilizers continues to increase, whereas the income of farmers is decreasing. ICCTF in collaboration with Yayasan FIELD conducted several activities to improve sustainable food production and economic of vulnerable people. Pond Field Schools has been established to stop the use of chemical fertilizers and replaced with organic fertilizers. Mangrove planting in the aquaculture area was carried out. The project has resulted in generating additional income for local people and reducing production costs.

Several notable results from this project are:



Economic benefit



Additional income IDR 1,000,000/month from **organic polyculture** of shrimp and fish



Environmental benefit

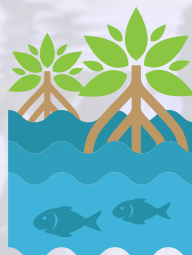


43.85 tons CO₂-eq/year
GHG emissions has been reduced

17 ha
critical land has been restored



Social benefit



Increase capacity of coastal communities in managing **silvofishery**

Community participation in lokal coastal management area

Improving **community income**

Others

scaling up through in-kind budget from Regency's Marine and fisheries agency, Regency's Agriculture agency, community.

3

Restoration and Acceleration of Coastal Forest Ecology

Sumbawa



West Nusa Tenggara



Teluk Saleh coastal villages have mangrove areas that are currently in damaged condition. ICCTF in collaboration with Lembaga Olah Hidup, a local NGO in West Nusa Tenggara work together to support mangrove and coastal forests rehabilitation. The project will also improve the capacity of fishermen to generate additional income for families of local people.

Support SDGs



Several notable results from this project are:



Economic benefit



Additional income opportunities from **polyculture** of shirmp and fish



Environmental benefit



Support to **the GHG emission reduction** through mangrove and coastal forest conservation and rehabilitation

450 ha in degraded area will be restored

75 ha silvofishery will be maintained



Social benefit



Increase capacity of coastal communities in **managing ecotourism**

Community participation at local coastal conservation area

Improving **community income**

Others

Inkind budget support from BKPH, BPDAS, community.

4 Mangrove Restoration and Mangrove Ecotourism Development



Until now, peatland and mangrove area of Sungai Tohor have been known as the important buffer zone to reduce fire hazard and land conversion in Riau. By the Central Government, Sungai Tohor has been designated as a priority area of management and protection of peat and mangrove land. Until 2015, there has been an anomaly of climate in the study area every year because of peatland fire in Sungai Tohor which threatens the area.



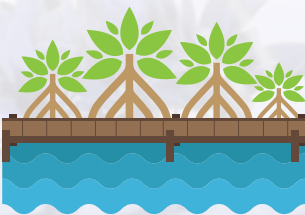
Support SDGs



Several notable results from this project are:



Economic benefit



IDR 1,800,000/month from mangrove ecotourism



Environmental benefit



Emission Reduction

8,071 tons of CO₂

Restoration of 500 ha mangrove area

Mangrove ecotourism area is constructed 301 m of mangrove track



Social benefit



There are 100 people join in the group of mangrove area & fisheries management

5

Mangrove Protection through Ecotourism Development



Restoration activity and mangrove development are part of peatland restoration activities in KHG of Sungai Siak and Sungai Kampar. KHG (Peat Hydrological Unity) of Sungai Siak – Sungai Kampar and KHG of Sungai Kampar – Sungai Gaung which become the intervention area of this activity are part of the Landscape of Kampar Peninsula and Kerumutan. There is a peatland ecosystem in 1,200,000 ha of area.

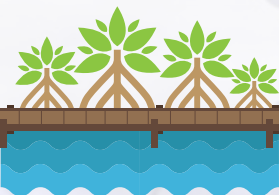


Support SDGs



Several notable results from this project are:

Economic benefit



IDR 3,000,000/month from mangrove ecotourism

Environmental benefit



Emission Reduction
14,345 tons of CO₂

Restoration of 28 ha
mangrove area

Carry out **mangrove protection** area and the development of mangrove ecotourism with 3 mangrove tracks

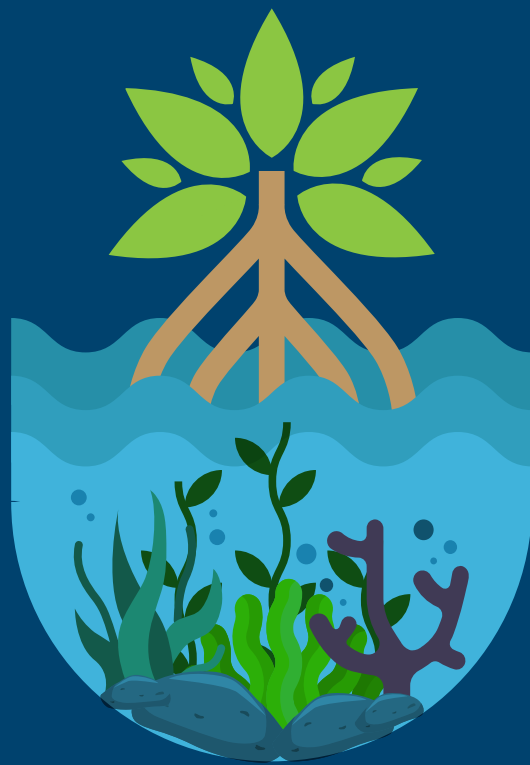
Social benefit



The 30 persons of **mangrove management** community group are trained







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**SUPPORTING
THE INDONESIAN
GOVERNMENT
FOR
A BETTER CLIMATE**

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