Mangroves for the Future
INVESTING IN COASTAL ECOSYSTEMS

Mangroves for the Future (MFF) Indonesia

Year 2017

Impact Evaluation Report

Updates on 2016 Small Grant Facility (SGF) Project Data Compilation

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Indonesia National Coordinating Body

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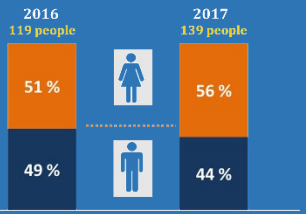
Contents

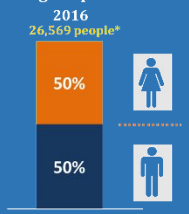
Photo: Ragil Satriyo Gumilang

Small Grant Facility (SGF) Projects - Mangroves for the Future Indonesia
Projects were implemented in 2016 & data updated in 2017

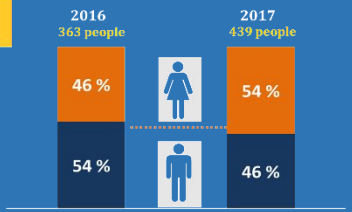
DIRECT BENEFICIARIES
Community Group Members

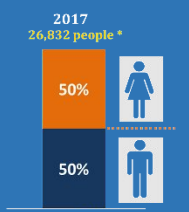


INDIRECT BENEFICIARIES
Village Population



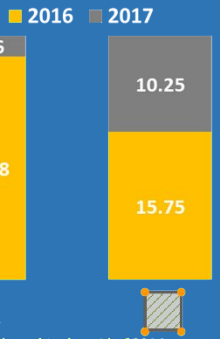
Group Family Members





*village population

Coastal Rehabilitation

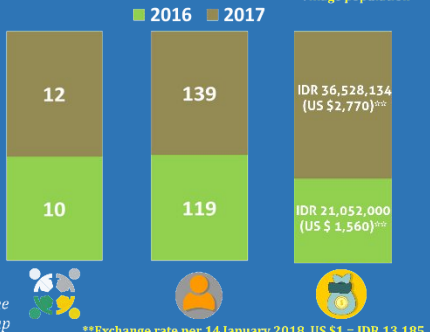


Note:

- *Survived seedlings planted*
- *Area restored (ha)*

Note: 167,050 mangrove seedlings were planted in the mid of 2016

Livelihood Activities



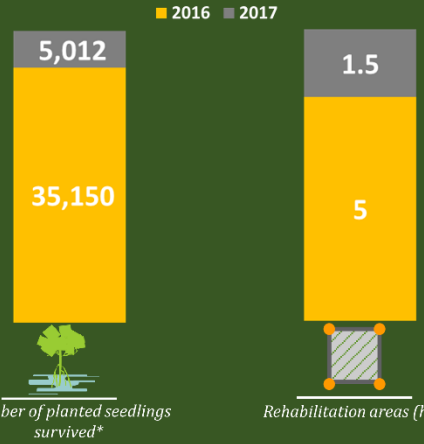
Note:

- *Groups formed*
- *Group members*
- *Average additional income per month (IDR) per group*

**Exchange rate per 14 January 2018, US $1 = IDR 13,185

Thickening Mangrove Vegetation to Support the Diversification of Fisheries Products at Tanjung Pecinan Village, Situbondo
~ Samir Ba**mboo Conservation (SAMBACO)** ~

COASTAL REHABILITATION



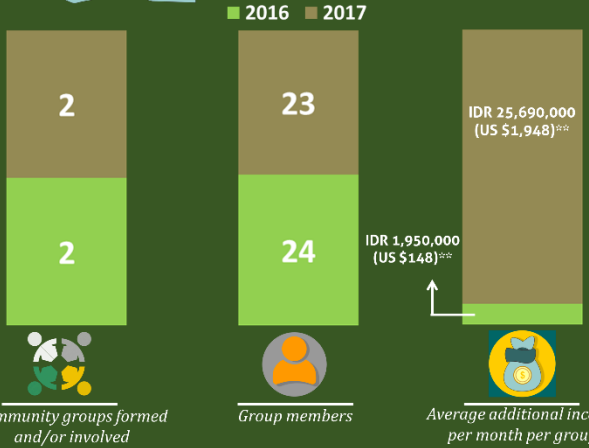
*Number of planted seedlings survived**

Rehabilitation areas (ha)

- Project location: Tanjung Pecinan village, Mangaran sub-district, Situbondo district, East Java
- Mangrove species planted: tall-stilt mangrove (*Rhizophora apiculata),* red mangrove (*Rhizophora mucronata)* and spurred mangrove (*Ceriops sp);*
- Significant loss of mangrove seedlings planted a year after the project period ended was due to the construction of new intensive shrimp pond near the rehabilitation area.

41,000 mangrove seedlings were planted in the early project implementation

COMMUNITY EMPOWERMENT



Community groups formed and/or involved

Group members

Average additional income per month per group

- Alternative income-generating activities carried out during project implementation: fish crackers production, milkfish aquaculture and crab fattening;
- In 2017, fish cracker production was replaced by skipjack fish floss production;
- Additional livelihood activities in 2017: shrimp and grouper aquaculture.

**Exchange rate per 14 January 2018, US $1 = IDR 13,185

Thickening Mangrove Vegetation to Support the Diversification of Fisheries Products at Tanjung Pecinan Village, Situbondo

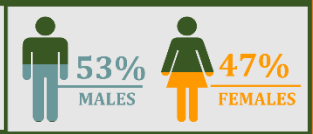
~ Samir Bamboo Conservation (SAMBACO) ~

BENEFICIARIES 2016

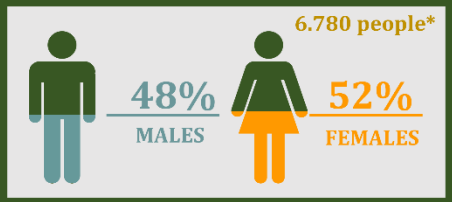
Direct Beneficiaries

Group members: 24 people

Group family members: 78 people



Indirect Beneficiaries



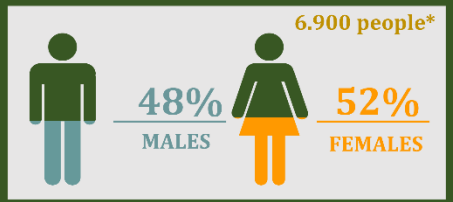
BENEFICIARIES 2017

Direct Beneficiaries

Group members: 23 people

Group family members: 78 people

Indirect Beneficiaries

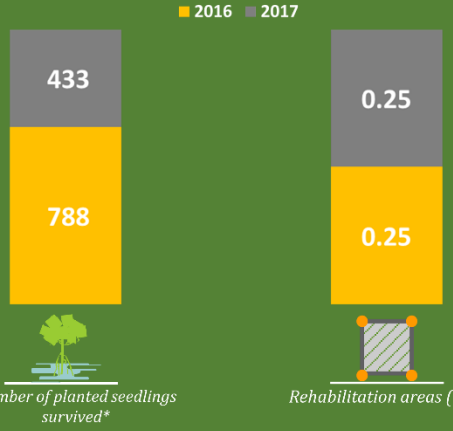


*village population

Mangrove Education as a Basis of Ecological and Economic Resilience of Community at Banyuglugur Village

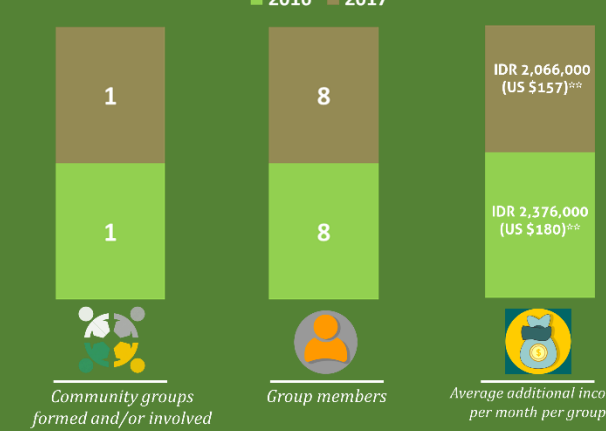
~ Research Centre and Community Service of 17 Agustus 1945 University (PPPM UNTAG)~

COASTAL REHABILITATION



- Project location: Banyuglugur village, Situbondo district, East Java;
- Mangrove species planted: red mangrove (*Rhizophora mucronata)*
- Minimum disturbance factors and suitable substrates made survival rate of mangrove seedlings planted was reasonably high in 2017.

COMMUNITY EMPOWERMENT



- Alternative income-generating activities carried out during project implementation: fish cracker and sticky-rice cracker production;
- Additional livelihood activities in 2017: chili onion shrimp paste, fish and shrimp cracker production;
- In 2017, the women's group actively engaged in several training and entrepreneurial organizations.

*1,050 mangrove seedlings were planted in the early project implementation

** Exchange rate per 14 January 2018, US $1 = IDR 13,185

Mangrove Education as a Basis of Ecological and Economic Resilience of Community at Banyuglugur Village

~ Research Centre and Community Service of 17 Agustus 1945 University (PPPM UNTAG)~

BENEFICIARIES 2016

Direct Beneficiaries

Group members: 8 people

0% MALES

100% FEMALES

Group family members: 29 people

45% MALES

55% FEMALES

Indirect Beneficiaries

2,804 people*

50% MALES

50% FEMALES

BENEFICIARIES 2017

Direct Beneficiaries

Group members: 8 people

0% MALES

100% FEMALES

Group family members: 29 people

45% MALES

55% FEMALES

Indirect Beneficiaries

2,806 people*

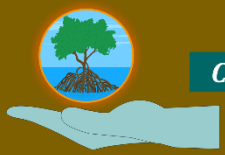
50% MALES

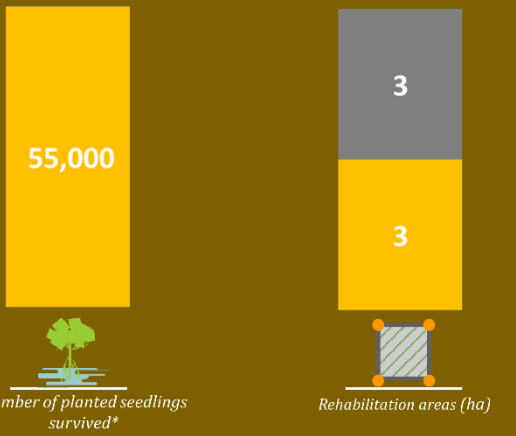
50% FEMALES

*village population

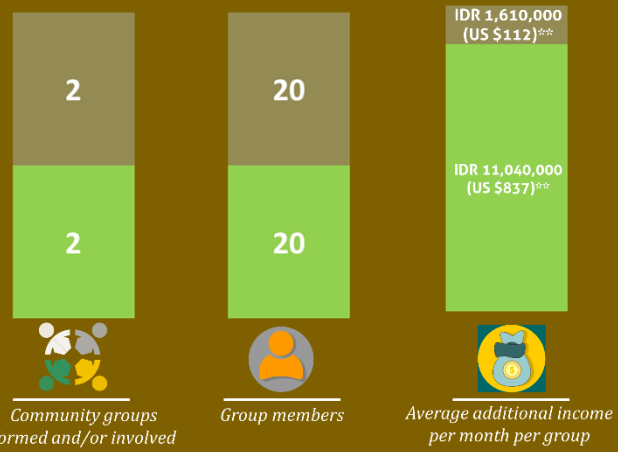
Coastal Community Empowerment through Mangrove and Coastal Vegetation Rehabilitation at Gelung Village, Panarukan Sub-District, Situbondo
~ Simphoni Akar Rumput (SAR) ~

COASTAL REHABILITATION





COMMUNITY EMPOWERMENT



- Project location: Gelung village/Pathek beach, Panarukan sub-district, Situbondo district, East Java;
- Mangrove species planted: spotted mangrove (*Rhizophora stylosa)*
- Major ecological disturbances included barnacles, strong waves, sandy substrates and marine debris.

- Alternative income-generating activities carried out during project implementation: fish cracker and skipjack fish floss production;
- In 2017, the income from fish cracker production plummeted due to rainy season (the production had put to stop).

*74,000 mangrove seedlings were planted in the early project implementation

**Exchange rate per 14 January 2018, US $1 = IDR 13,185

Coastal Community Empowerment through Mangrove and Coastal Vegetation Rehabilitation at Gelung Village, Panarukan Sub-District, Situbondo

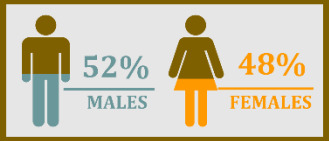
~ Simphoni Akar Rumput (SAR) ~

BENEFICIARIES 2016

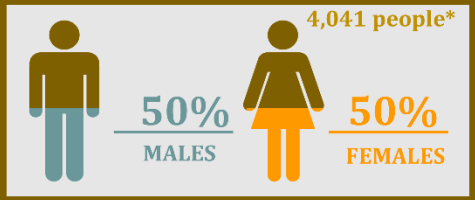
Direct Beneficiaries

Group members: 19 people

Group family members: 33 people



Indirect Beneficiaries



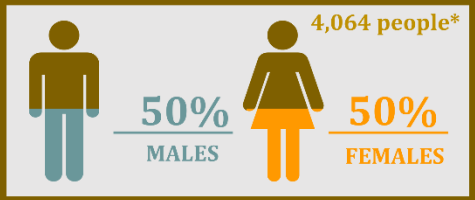
BENEFICIARIES 2017

Direct Beneficiaries

Group members: 19 people

Group family members: 33 people

Indirect Beneficiaries

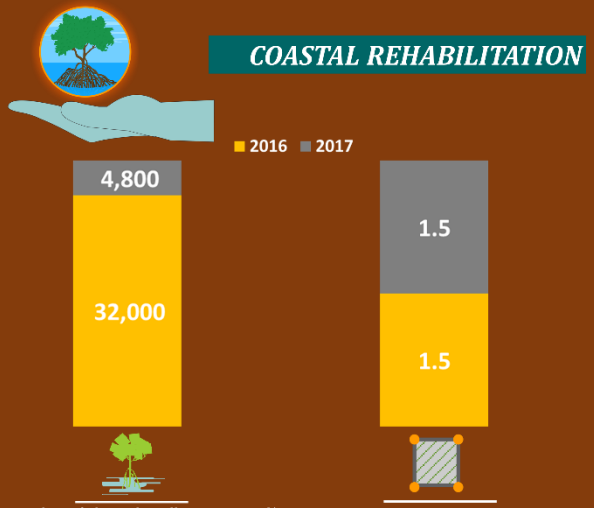


*village population

Awareness Raising and Economic Improvement of Coastal Communities through Mangrove Planting at Curah Dringu and Dungun Village , Probolinggo

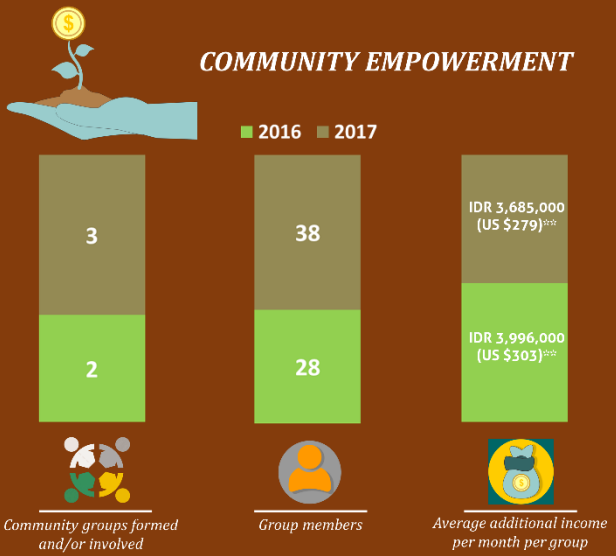
~ Institute for The Study and Empowerment of Society (ISES) ~

COASTAL REHABILITATION



- Project location: Curah Dringu and Dungun village/Bahak beach, Tongas sub-district, Probolinggo district, East Java;
- Mangrove and coastal vegetation species planted: red mangrove (*Rhizophora mucronata)* and beach pine (*Casuarina equisetifolia);*
- In 2017, survival rate of saplings planted was moderate;
- Community group members kept initiating mangrove replenishment along Bahak beach even after project period had ended;
- This community group started to receive more attention and appreciation from the local government of Probolinggo.

COMMUNITY EMPOWERMENT



- Alternative income-generating activities carried out during project implementation: fish cracker and shrimp paste production;
- Additional livelihood activities in 2017: herbal coffee production;
- In 2017, a community group was formed and income-generating activities diversified (muscle cracker and herbal drink production).

*40,000 mangrove seedlings were planted in the early project implementation

**Exchange rate per 14 January 2018, US $1 = IDR 13,185

Awareness Raising and Economic Improvement of Coastal Communities through Mangrove Planting at Curah Dringu and Dungun Village , Probolinggo

~ Institute for The Study and Empowerment of Society (ISES) ~

BENEFICIARIES 2016

Direct Beneficiaries

Group members: 28 people

64% MALES | 56% FEMALES

Group family members: 50 people

60% MALES | 40% FEMALES

Indirect Beneficiaries

2,408 people*

50% MALES | 50% FEMALES

BENEFICIARIES 2017

Direct Beneficiaries

Group members: 38 people

68% MALES | 32% FEMALES

Group family members: 90 people

58% MALES | 42% FEMALES

Indirect Beneficiaries

2,012 Orang*

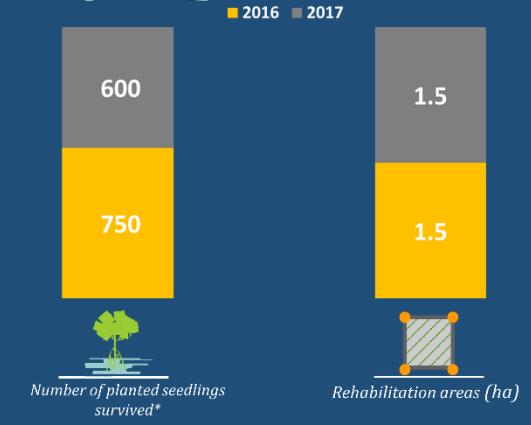
51% MALES | 49% FEMALES

* village population

Women's Group Empowerment to Increase Household Income through Production and Marketing of Mangrove and Fisheries-Based Products in Karanganyar Village, Paiton, Probolinggo

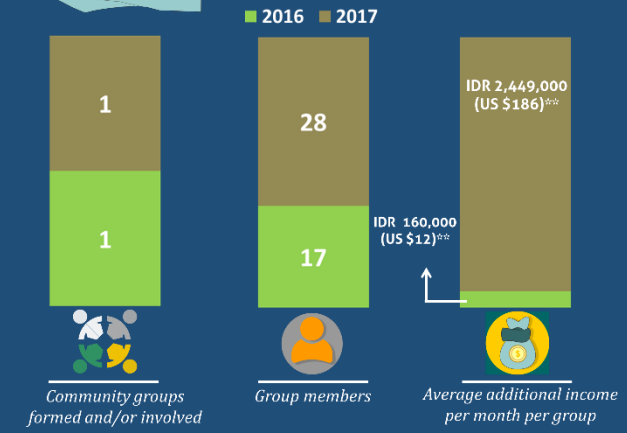
~ Publication, Research and Community Service Centre of Nurul Jadid Islamic Institute (LPPPM IAINJ) ~

COASTAL REHABILITATION



- Project location: Karanganyar village, Paiton sub-district, Probolinggo district, East Java
- Coastal vegetation species planted: beach pine (*Casuarina equisetifolia)*
- Survival rate of seedlings planted was fairly high.

COMMUNITY EMPOWERMENT



- Alternative income-generating activities carried out during project implementation: fish cracker and milkfish-based food production;
- Group members were invited to give training on food production at other villages and sub-districts.

*1,000 mangrove seedlings were planted in the early project implementation

**Exchange rate per 14 January 2018, US $1 = IDR 13,185

Women's Group Empowerment to Increase Household Income through Production and Marketing of Mangrove and Fisheries-Based Products in Karanganyar Village, Paiton, Probolinggo

~ Publication, Research and Community Service Centre of Nurul Jadid Islamic Institute (LPPPM IAINJ) ~

BENEFICIARIES 2016

Direct Beneficiaries

Group members: 23 people

52% MALES 48% FEMALES

Group family members: 76 people

53% MALES 47% FEMALES

Indirect Beneficiaries

2,109 people*

51% MALES 49% FEMALES

BENEFICIARIES 2017

Direct Beneficiaries

Group members: 43 people

46% MALES 54% FEMALES

Group family members: 133 people

45% MALES 55% FEMALES

Indirect Beneficiaries

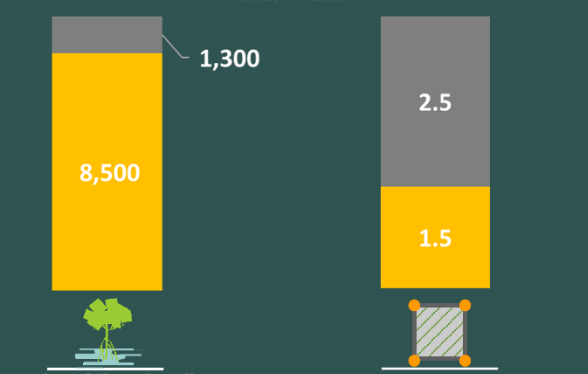
2,334 people*

48% MALES 52% FEMALES

*village population

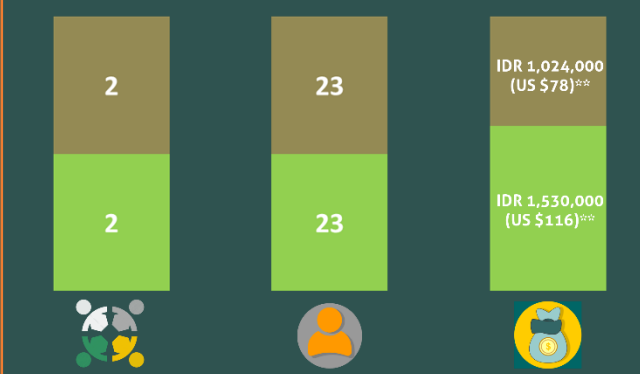
The Application of A Mud Trap Technique as the Medium of Coastal Rehabilitation at Pulau Dua Nature Reserve, Sawah Luhur Village, Serang, Banten
~ Nature Lovers Group of Pulau Dua (KPAPPD) ~

COASTAL REHABILITATION



- Project location: coastal area of Pulau Dua Nature Reserve, Sawah Luhur village, Serang City, Banten Province, West Java;
- Mangrove species planted: spotted mangrove (*Rhizophora stylosa)*
- In 2017, sediments formed covered 2.5 ha

COMMUNITY EMPOWERMENT



- Alternative income-generating activities carried out during project implementation: milkfish crackers and sticks;
- The production was done based on order and products were marketed locally.

*10,000 mangrove seedlings were planted in the early project implementation

**Exchange rate per 14 January 2018, US $1 = IDR 13,185

The Application of A Mud Trap Technique as the Medium of Coastal Rehabilitation at Pulau Dua Nature Reserve, Sawah Luhur Village, Serang, Banten

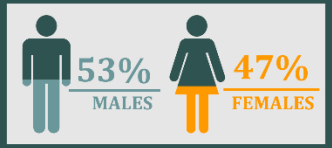
~ Nature Lovers Group of Pulau Dua (KPAPPD) ~

BENEFICIARIES 2016

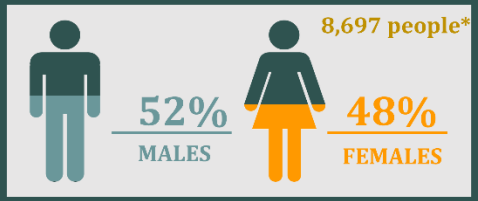
Direct Beneficiaries

Group members: 23 people

Group family members: 76 people



Indirect Beneficiaries

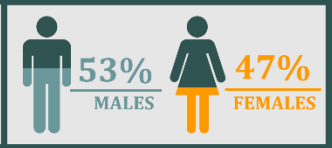


BENEFICIARIES 2017

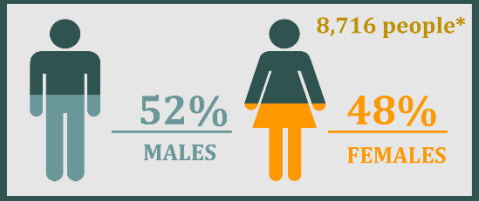
Direct Beneficiaries

Group members: 23 people

Group family members: 76 people



Indirect Beneficiaries



*village population

Lessons Learned from
Coastal Rehabilitation

- The period of a project that includes mangrove rehabilitation activities should be at a minimum two years. This will significantly increase the survival rate of seedlings planted;

- Clarity of land status is the minimum requirement for long-term activities such as mangrove planting/ rehabilitation. Planting on public land needs to be equipped with written agreement from the relevant authorities so that the plants should not be cut down or claimed by other party, and the status of land use will not change;

- Mangroves have very specific hydrological and substrate requirements. Potential rehabilitation sites may therefore require pre-assessment and interventions to optimize future mangrove growth and survival. Satellite imagery can also be used to identify the site history. In addition, the rehabilitation site shall be align with the spatial designation zone;

- In selecting a planting site, the following factors should be considered:
  - For seafront planting, the water depth during high tide should be measured and a tidal calendar should identified. This will prevent the newly planted seedlings from drowning for too long that could result in early seedling mortality;
  - Wave action and debris potentially brought by the incoming tide.

- Incentive and disincentive mechanisms should be developed , especially when mangroves are planted on on the land owned by individuals. This will secure the commitment to maintain the plants. This mechanism can be stipulated on the village regulation, so the local authorities will also play significant roles in enforcing the mechanism;

- Mangrove seedlings in nursery should be planted (nursery site should be located) near inter tidal zone and exposed to brackish water. Limited access to inter tidal zone and brackish water will increase seedling mortality rate, especially when the planting/propagation is initiated at the beginning of dry season (e.g. on SAR case, a considerable number of seedlings in the nursery died before outplanting;

- Few seedlings should be kept safe in the nursery, as they can be used later on for replenishment;

- During the initiation of project implementation or rehabilitation activities, grantees should also consider the availability of mangrove propagules in their rehabilitation sites. The availability of propagules highly depends on the flowering season. For some species, propagules can be found throughout the year, but for some others seeds can only be found in certain seasons. In terms of coastal rehabilitation, other coastal vegetation (besides mangroves) could be considered to be more ecologically appropriate for some locations;

- In some cases, planting can assist or enrich the natural regeneration process. However, many planting efforts are however failing. A more effective approach could be to create the right conditions for mangroves to grow back naturally (not to plant). Mangroves restored in this way generally survive and function better.

- The planting done in the sediment formed through interventions i.e. the construction of hybrid engineering or sediment trap should wait until the sediment is fully consolidated, and the activity should be scheduled during the season of least wave action or low tide (on KPAPPD case, the planting was done during high tide. As a result, most of the seedlings planted were wash away by the strong waves;

- Field facilitator who can provide constant technical assistance plays a key role, especially when grantee does not have enough experience and capability in terms of coastal rehabilitation and other associated activities;

- The development of an innovative technology can significantly support the rehabilitation activities.

Photo: Yus Rusila Noor

Lessons Learned from

Income Generating Activities

- In general, group members receive additional income from getting involved in the livelihood activities. However, some training and workshops should be conducted as follow-ups to small-scale business initiations;
- Training and capacity building workshops given to the group members have fostered their confidence to speak in public;
- Active participation of the grantees and their community groups in several exhibitions of micro and small enterprise products at local and district level has successfully raised their product profile;
- To keep supporting the livelihood activities carried out by the women's groups, the following training and workshops should be held:
    - Training on accounting and bookkeeping for small-scale businesses, so that the group members can precisely calculate and determine the gross price of their products. This is to minimize the risk of high losses;
    - Training product marketing and packaging in line with minimum standards and criteria imposed by the local Trade Office;
    - Training on online marketing strategy, so that wider consumers can have access to their products.
- The existence of other community-based organizations or local NGOs that serve as peers and motivators is one of the determining factors that could contribute to the success of activities;
- For the mangrove-based food training and production, grantees should make sure the availability of the mangrove species needed as the main ingredients/materials for the training and production in order to ensure sustainability of the business. It should be noted that not the all mangrove fruits, leaves and so forth can be harvested and available throughout the year;

- To scale-up these small-scale businesses, the economic activities by the women's groups should integrate into village-owned business institutions (BUMDES). Collaboration or partnership with private sectors can also be done through Corporate Social Responsibility (CSR) platform;

- While choosing the types of livelihood activities to be conducted, it is best to use participatory approach, where grantee has gone through consultation process with the communities as the implementers on the ground. In addition, it is important to identify the all supporting aspects related to the livelihood activities/small-scale business starting from the provision of the raw materials, production, marketing to the management of the profit generated and cash flow to ensure the sustainability of the business.

Photo: Cynthia Nurcahya

SAMBACO - 2016 & 2017

2016

2017

UNTAG - 2016 & 2017

2016

SAR - 2016 & 2017

2016

2017


Sapuan gelombang laut membawa sampah seperti batang pisang hingga lokasi rehabilitasi

ISES - 2016 & 2017

2016

LPPM IAINJ - 2016 & 2017

2016

KPAPPD - 2016 & 2017

2016

Mangroves for the Future
INVESTING IN COASTAL ECOSYSTEMS

About Mangroves for the Future

Mangroves for the Future (MFF) is a unique partner-led initiative to promote investment in coastal ecosystem conservation for sustainable development. Co-chaired by IUCN and UNDP, MFF provides a platform for collaboration among the many different agencies, sectors and countries which are addressing challenges to coastal ecosystem and livelihood issues. The goal is to promote an integrated ocean-wide approach to coastal management and to building the resilience of ecosystem-dependent coastal communities.

MFF builds on a history of coastal management interventions before and after the 2004 Indian Ocean tsunami. It initially focused on the countries that were worst affected by the tsunami -- India, Indonesia, Maldives, Seychelles, Sri Lanka and Thailand. More recently it has expanded to include Bangladesh, Cambodia, Myanmar, Pakistan and Viet Nam.

Mangroves are the flagship of the initiative, but MFF is inclusive of all types of coastal ecosystem, such as coral reefs, estuaries, lagoons, sandy beaches, sea grasses and wetlands.

The MFF grants facility offers small, medium and regional grants to support initiatives that provide practical, hands-on demonstrations of effective coastal management in action. Each country manages its own MFF programme through a National Coordinating Body which includes representation from government, NGOs and the private sector.

MFF addresses priorities for long-term sustainable coastal ecosystem management which include, among others: climate change adaptation and mitigation, disaster risk reduction, promotion of ecosystem health, development of sustainable livelihoods, and active engagement of the private sector in developing sustainable business practices. The emphasis is on generating knowledge, empowering local communities and advocating for policy solutions that will support best practice in integrated coastal management.

Moving forward, MFF will increasingly focus on building resilience of ecosystem-dependent coastal communities by promoting nature based solutions and by showcasing the climate change adaptation and mitigation benefits that can be achieved with healthy mangrove forests and other types of coastal vegetation.

MFF is funded by Danida, Norad, Sida and the Royal Norwegian Embassy in Thailand.

Learn more at: **www.mangrovesforthefuture.org**