

MAPP INDONESIA

by  The SEA CLEANERS

MOBULA AGAINST PLASTIC POLLUTION

COMBATTING PLASTIC POLLUTION ON LAND AND IN WATERS

Initiated by the non-profit NGO The SeaCleaners, the MAPP Indonesia project unites several Indonesian partner organizations to implement clean-up operations in Bali inland waters and on-land activities designed to combat plastic pollution, in collaboration with local authorities, organizations and community.

MAPP

MOBULA AGAINST PLASTIC POLLUTION IN INDONESIA



IMPACT OF THE MAPP INDONESIA PROJECT



- 1 REDUCING MARINE PLASTIC POLLUTION**
By collecting waste, education & awareness raising.
- 2 STIMULATING INNOVATION**
By providing technology, capacity building, and knowledge sharing.
- 3 INCREASING LOCAL COMMUNITY RESILIENCE**
By fostering a better environment that allows natural resources to grow well, and supporting the livelihoods of the local community.
- 4 REDUCING PRESSURE ON THE ENVIRONMENT**
By moving towards circular economy, reducing and repurposing the waste, better management hence less threat to the environment.

MEET THE MOBULA 8

At the core of MAPP Indonesia is the MOBULA 8, the multi-purpose clean-up boat developed by The SeaCleaners.

- Capable of cleaning up 15,000 sqm per hour, 18 km² per year
- Collects both solid and liquid waste
- Designed to operate in rivers, mangrove swamps and lake areas, canals and coastal areas up to 5 miles from the coasts
- Able to collect up 2.4 tons of solid waste and 600 liters of liquid waste per rotation



- 4 m wide collection span, thanks to the concentrator arms installed at the front of the boat
- A true autonomous waste recovery station
- Equipped with an on-board sorting table for continuous waste sorting in real time
- Easily transportable on land by truck or in a container by shipping boat
- Operated by one boat captain and two sorting operators



THE MAPP INDONESIA'S PROGRAM

Operations

Partner organization in charge

1. CLEANING

Floating waste collection at sea and on rivers by MOBULA 8

Removing waste from the waters goes hand in hand with the collection of data. The MOBULA 8 boat operators count and classify the floating waste items in 6 families. Their geographic distribution are located in a map accessible in open data, contributing to a better understanding of the pollution in the area.

Seasoldier*, with training, skill transfer and assistance by The SeaCleaners.



*Under construction

2. PROCESSING

Management of waste collected by MOBULA 8

The waste is brought back to land at specific locations. Each type is categorized and weighed. Waste is then transported to a facility to be further sorted according to their end-use. Recyclable materials are sent to local industrial plants to re-enter the economy. Residual waste that cannot be recycled are sent to landfill (as little as possible).

APSI (Indonesian waste entrepreneurs association) and partners



3. PREVENTING

Education and awareness raising activities

Spectacular clean-ups by the MOBULA 8 provide opportunities to organize awareness raising campaigns about plastic pollution. Local and international partners and The SeaCleaners volunteers conduct educational activities, school visits and clean-up days, in the nearby locations where the boat operates.

Together with Indonesian stakeholders, our teams develop educational tools and materials tailored to the local context to raise awareness about the importance of preserving the Ocean, explain the impact of plastic pollution, and spread solutions to change towards an eco-lifestyle.

Rotary Club of Bali Pecatu and The SeaCleaners



4. UNDERSTANDING

Scientific missions

Local researchers, supported by The SeaCleaners' International Scientific Advisory Board, are onboarded to work on the characterization of the macro waste collected, on land and at sea, as well as micro-plastic sampling.

The results from the scientific missions can be used as evidence-based data for local authorities for informed policy decision-making. The activities also include the identification of a pollution baseline study to measure improvements of the activities led by the partners of the project.

To be announced soon

WHERE DO WE OPERATE?

The Bena Bay in the Denpasar region (Bali) which includes :

- The mangrove forest
- Bena Port
- Waters under the Bali Toll Route

The MOBULA 8 will be stationed in Bena Port, where the collected waste will be stored, weighed and categorized for public information and scientific purposes, before being picked up by our waste management partner for further processing.



As the MOBULA 8 can be moved by land to operate in other locations, further operations will be decided following the depollution priorities and the needs expressed by local authorities.

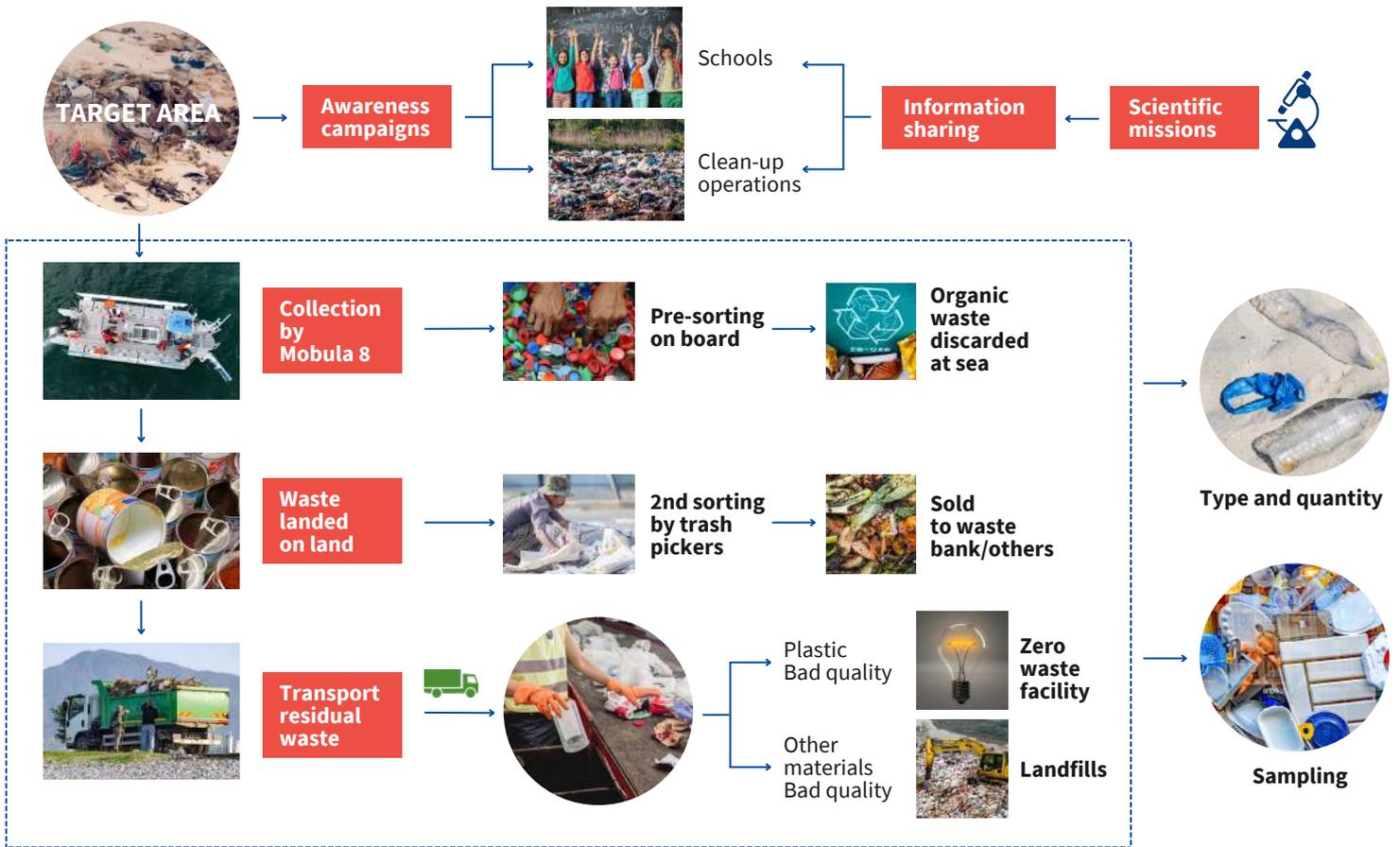
Other potential operation zones



TIMETABLE

- ✓ The MOBULA 8 will begin operations in Bali in the second semester of 2022.
- ✓ It will be stationed in Bali for one year.
- ✓ It will operate 5 days per week, 8 hours per day.

HOW DOES IT WORK?



THE COLOSSAL CHALLENGE OF PLASTIC POLLUTION IN INDONESIA

- 200,000 tons of plastic waste are dumped into the ocean from Indonesia's rivers and streams [1].
- The country is the 2nd biggest contributor worldwide to the global menace of plastic pollution [2].
- Major threats to the mangrove ecosystem, marine biodiversity, local tourism and fish industry are a direct consequence of this pollution.

[1] <https://www.danone.com/stories/articles-list/aqua-plastic-pledge.html>, accessed Sept 28th, 2021.

[2] Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., Narayan, R., Lavender Law, K. (2015). Plastic waste inputs from land into the ocean. *Science*, 347, 6223, 768-771, <https://doi.org/10.1126/science.1260352>.



SITUATION IN BALI & DENPASAR

Despite being more advanced in implementing policies to ban plastic bags, Bali, the center of Indonesian tourism, is one of the regions that is still struggling with plastic pollution.

From October 2020 to December 2021, a study found that 89% of mismanaged non-organic waste consisted of plastics [3].

289,000 tons of plastic waste were collected over a 14 months period.

In Denpasar, the capital city of Bali, 4% of the waste generated every day are mismanaged.

2,308 tons per year of plastics leak to the aquatic environment every year [4].

[3] Sungai Watch data

[4] Bali Partnership's research and interactive map 2020



TACKLING THE ISSUE

The Government of Indonesia has set up an ambitious goal of reducing waste production by 30% and marine plastic pollution by 70% by 2025, in the framework of the “National Policy & Strategy on Management of Household Waste and Household-like Waste”.

In parallel, an increasing number of organizations from civil society are joining forces to create a Plastic Free Movement, in order to reduce plastic dumping in the environment and increase the awareness of local communities.

The MAPP project is embedded in this framework.

THE MAPP INDONESIA TEAM AND PARTNER ORGANIZATIONS



1. THE SEACLEANERS: PROJECT LEADER/INITIATOR

Created in 2016 by Franco-Swiss skipper Yvan Bourgnon, The SeaCleaners is a non-profit organization acting for the long-term conservation of the oceans and the reduction of marine plastic pollution.

It develops actions both at sea and on land:

- Collecting floating plastic waste in high concentration areas before it sinks or breaks down into microplastics.
- Contributing to scientific knowledge through research and open data sharing.
- Alleviating the problem at its source through education and public awareness initiatives and carrying out waste collection operations with teams of volunteers.
- Supporting the transition to a circular economy by developing and demonstrating innovative and eco-friendly technological solutions.

The SeaCleaners' iconic project is the MANTA, a giant sailboat designed to combat oceanic plastic pollution set to be launched in 2025.



FOR THE MAPP PROJECT:

The SeaCleaners provides the MOBULA 8 boat for clean-up operations in Bali waters. Together with the boat manufacturer EFINOR Sea Cleaner, The SeaCleaners' team trains the local boat crew in the use of MOBULA 8 boat and its equipment. The SeaCleaners leads the development of the Project's strategy and framework and provides international expertise in all aspects of the project, as well as knowledge of technology needed for the Project.



2. SEASOLDIER: MOBULA 8 BOAT OPERATION*

Seasoldier was first initiated by Nadine Chandrawinata and Dinni Septianingrum on March 28, 2015.

Seasoldier have done various kinds of activities, such as tree planting / mangroves, ecobrick training, or sailing dolphin.

To this day, Seasoldier are spread in 15 regions in Indonesia. Seasoldier has an official region representative in Denpasar, Bali. Seasoldier Bali has been working in mangrove conservation and doing several collaborations with the local community around the coastal area for education, as well as conservation.



FOR THE MAPP PROJECT*:

Seasoldier is the operator of the MOBULA 8. Three people from Seasoldier work on the MOBULA 8: a captain and two sorting operators. As the clean-up operations progress, the Seasoldier crew also collects data on the waste collected and documents plastic pollution in the area (waste characterization, geolocation, collection conditions, etc.). This data is used for scientific research by The SeaCleaners' teams to better understand plastic pollution and to define new action protocols to fight against this scourge.

*Under construction

3. APSI: COORDINATION IN THE MANAGEMENT OF WASTE COLLECTED BY MOBULA 8

Founded in 2019, APSI (Indonesian Waste Entrepreneurs Association) is an association of entrepreneurs engaged in recycling waste, both organic and non-organic waste. The members treat all types of waste, recycled material, organic, residual, and hazardous waste through green technology that fit with local solutions. Currently there are 268 APSI members spread across various cities, regencies and provinces in Indonesia. APSI members mostly consist of small and medium companies, only a few large companies. It aims to improve MSMEs performance for a large waste management in Indonesia.



FOR THE MAPP PROJECT:



APSI helps identify and coordinate with their members who handle the waste collected by the MOBULA 8. These members, consisting of local companies who have years of experience in waste management and recycling in Indonesia, help finding the right processing of the collected waste. APSI also supports establishing contacts with local actors, associations or institutions, and local authorities, as well as informal sector communities likely to help implement appropriate solutions to the MAPP Project.

4. ROTARY CLUB OF BALI PECATU: EDUCATION AND AWARENESS RAISING CAMPAIGNS

Rotary Club of Bali Pecatu is part of Rotary International, an international community service organization founded in 1905 in Evanston, Illinois, USA. Currently, Rotary International has more than 1.2 million members worldwide, who are members of 35,000 clubs and counting. Rotary International has 17 clubs in Bali. One of the clubs whose main concern is the environment is RC Bali Pecatu. Founded in 2021, despite that it was only established recently, Rotary Club of Bali Pecatu has been implementing a lot of activities, especially to tackle environmental issues, and is also aware of the importance of young generations. To this day, Rotary Club of Bali Pecatu has hosted one Interact club (Bali Apuan) and two Rotaract clubs (Bali Pecatu and Bali Apuan).



FOR THE MAPP PROJECT:

Rotary Club of Bali Pecatu leads the organization of awareness raising campaigns locally during the project, to increase the education of local community on plastic pollution and ways to tackle it. The activities include: school visits, educational activities, clean-up activities, development of educational materials along with The SeaCleaners' educational experts.

The MAPP Project will be implemented with guidance from the Indonesian government such as the Coordinating Ministry of Maritime Affairs and Investment, the Ministry of Environment and Forestry, and relevant local authorities in Bali.



WANT TO HEAR MORE?

PLEASE CONTACT

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