The SFD & ISME Collaboration on Rehabilitation of Degraded Mangroves in Sabah: A Success Story towards Sustainable Forest Management

by,

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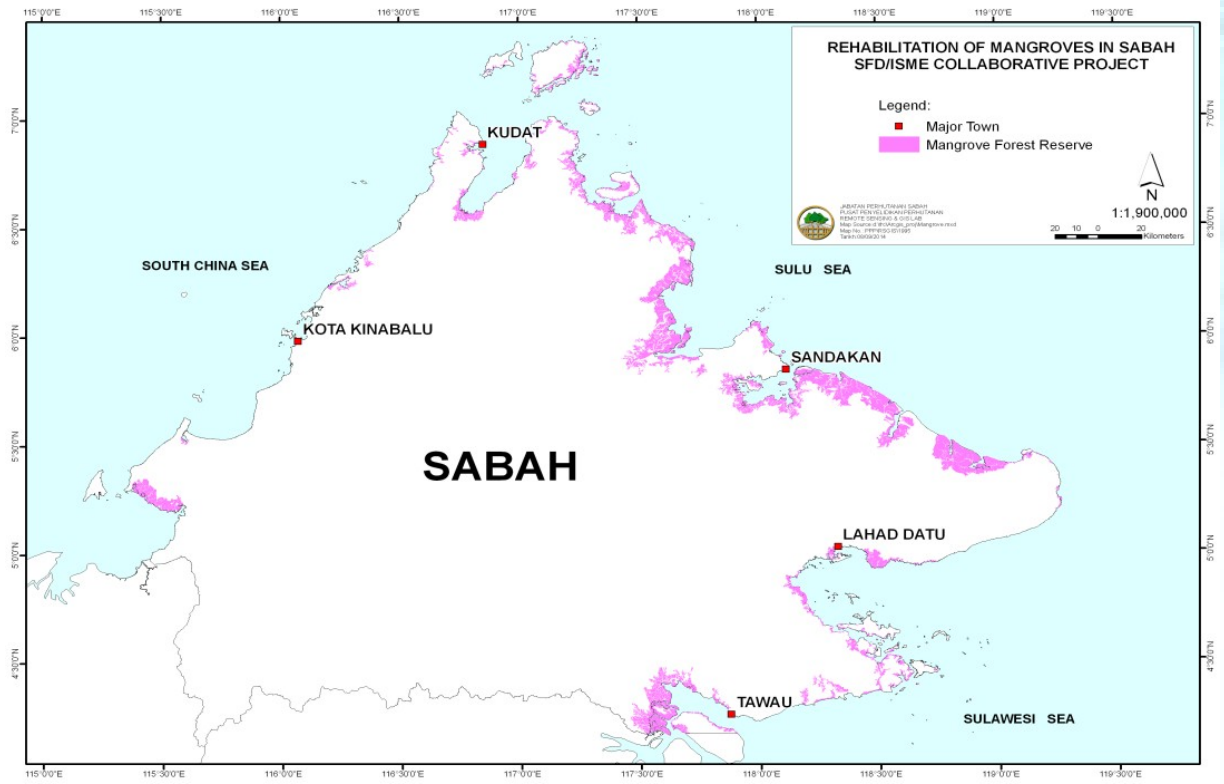
Introduction

An estimate of mangrove areas in Sabah ~ 341,000 ha (i.e. ~ 58% of Malaysia's mangroves)

Based on the latest assessment of forest cover of Sabah in 2005, about 3,300 ha of mangrove areas have been illegally encroached and exploited, thus needing restoration program.



Introduction

- Currently there are 17 Mangrove FR (Class V) ~ 281,374.56 ha. There are mangrove forest, designated as Protection Forest (Class I) and Virgin Jungle Reserves (VJR) Class VI~ strictly for biodiversity conservation and forestry research purposes. Part of FR consist of mixed forest with mangroves vegetation and designated as Amenity FR (Class IV) i.e. Padas Damit FR and Nabahan FR in Beaufort, and Trusan Sugut FR (Class I) in Beluran.
- There are four main zonation of mangrove in Sabah, i.e. *Avicennia-Sonneratia* forest (the seaward zone), *Rhizophora* forest (main mangrove zone), *Bruguiera* forest (back mangrove zone) and the *Nypa* forest (riparian zone).




SFD & ISME Collaborative Project

SFD delegations visited Okinawa in September, 2007

The commemorative mangrove planting ceremony was held at Sungai Lalasun, Sandakan, in conjunction with the 8th General Assembly of ISME in Sabah on 13 September 2011

(10 Nov. 2010)

(13 Aug. 2014)

Signing of Memorandum of Understanding (MOU) between SFD & ISME for Phase One (2011-2014) and Phase Two (2014-2019)

Case Study #1: SUNGAI ISME, Sandakan

Mangrove planting activity was carried out ~ **August - September, 2012**

40 staff members of Tokio Marine & Nichido Fire Insurance Co. Ltd. Japan also participated in the voluntarily mangrove planting program in Sungai ISME on 5-7 Sept. 2012.

2011

2012

2013

SUNGAI ISME, SANDAKAN

2014

2015

By adopting suitable planting techniques with the right choice of mangrove species, the re-planting exercise at Sungai ISME indicates greater survival rate.

At the same time we are also taking measurement data on the growth of planted seedlings and propagules at Sg. ISME since 2014. Collaborating with TBRC researchers

2016

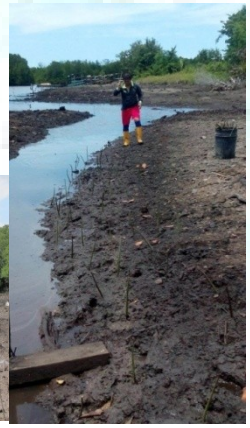
Case Study #2: SUNGAI TOKIO MARINE, KUNAK

SFD have taken the initiative in 2013 to rehabilitate this highly degraded mangrove under this collaborative project.

Planting areas in SungaiTokio Marine (~ 56 ha) is an area encroached for shrimp ponds with excavated pond substrates and bunds. Planting duration 2014-2015.

Case Study #3: SUNGAI TBRC Ryukyus, Lahad Datu

2016



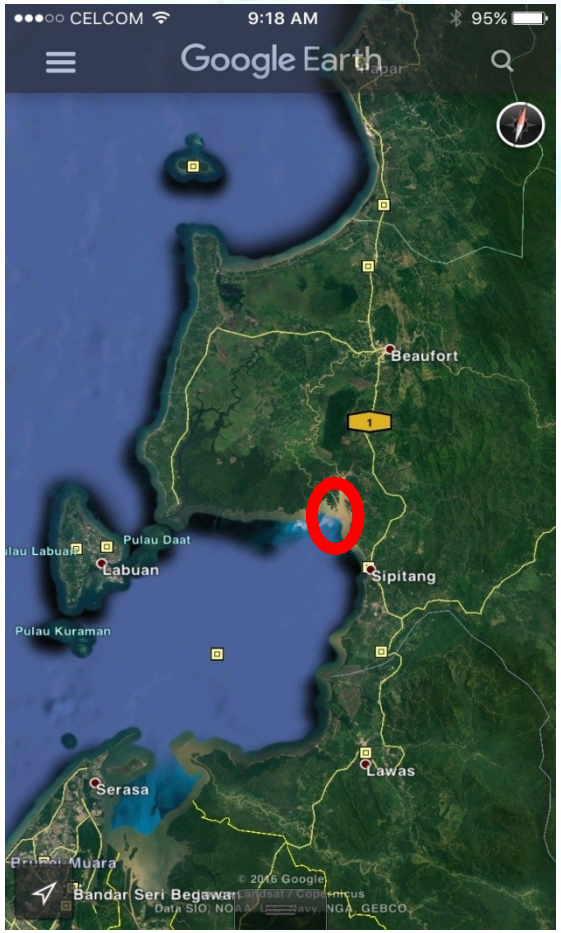
This planting site is approximately **12 hectares** and encroached by illegal squatters, some holding an immigrants document.

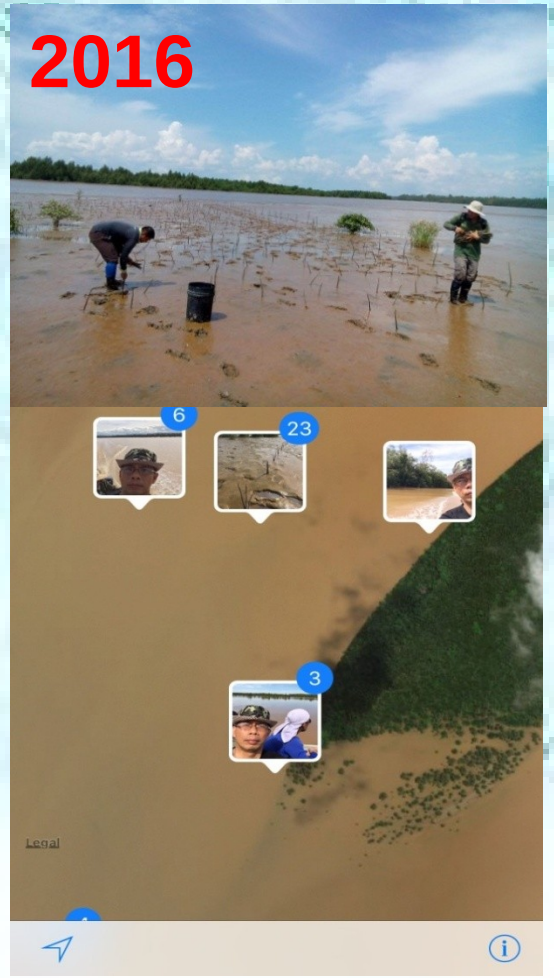
Planting was carried out by the SFD-ISME Mangrove Task Force since 2016 and also volunteers students from Sabah and Japan.

The main culprit of low survival rate of planted mangrove is due to the presence of goats, eating happily on the mangrove shoots.

2017

Case Study #4: restoration of mudflats





This planting site is approximately 39 ha caused by accretion of mudflats formation along the estuary of Weston bay in Beaufort district. Trial planting of ~ 500 *Rhizophora apiculata* propagules were carried out in October 2016.

The present natural vegetation on the accreting mudflats is the *Sonneratia caseolaris*.

Case Study #4: restoration of mudflats

2017

The used of *Rhizophora apiculata*, as planting material is because this species is known for higher survival rate.

Approx. ~ **1000** propagules were planted by the staff members of SFD-ISME mangrove project in January and February 2017.

Also, on 25 March 2017, nine (9) students and two (2) teachers from Tokyo Metropolitan High School, Japan, ISME and SFD staff members voluntarily planted ~ **2,500** mangrove

TOKYO METROPOLITAN HIGH SCHOOL OF SCIENCE & TECHNOLOGY

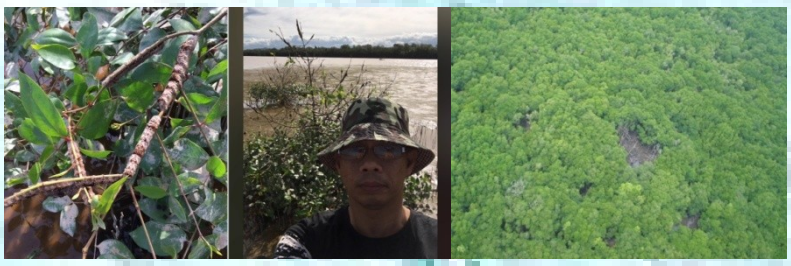

ISME
Mangrove Rehabilitation Project
A Collaborative Project Of Sabah Forestry Department (SFD) And International Society For Mangrove Ecosystems (ISME)
Total Planting Area : 39 Hectares
Year Of Planting : 2017
Name Of Forest Reserve : Weston Forest Reserve (Class V)
Location : Sg. Weston, Beaufort Forestry District
Funded By : Tokio Marine & Nichido Fire Insurance Co.,Ltd Japan & SFD

Mission Accomplished

Issues and Challenges

Main issues are **encroachment**, **expansion of human settlement**, **erosion**, and eventually **extinction of mangrove.**

Experiences and Achievements



What is our experiences?

… we know how to rehabilitate degraded mangrove ecosystems

... It is important to encourage local community participation

… the strong support from government is paramount

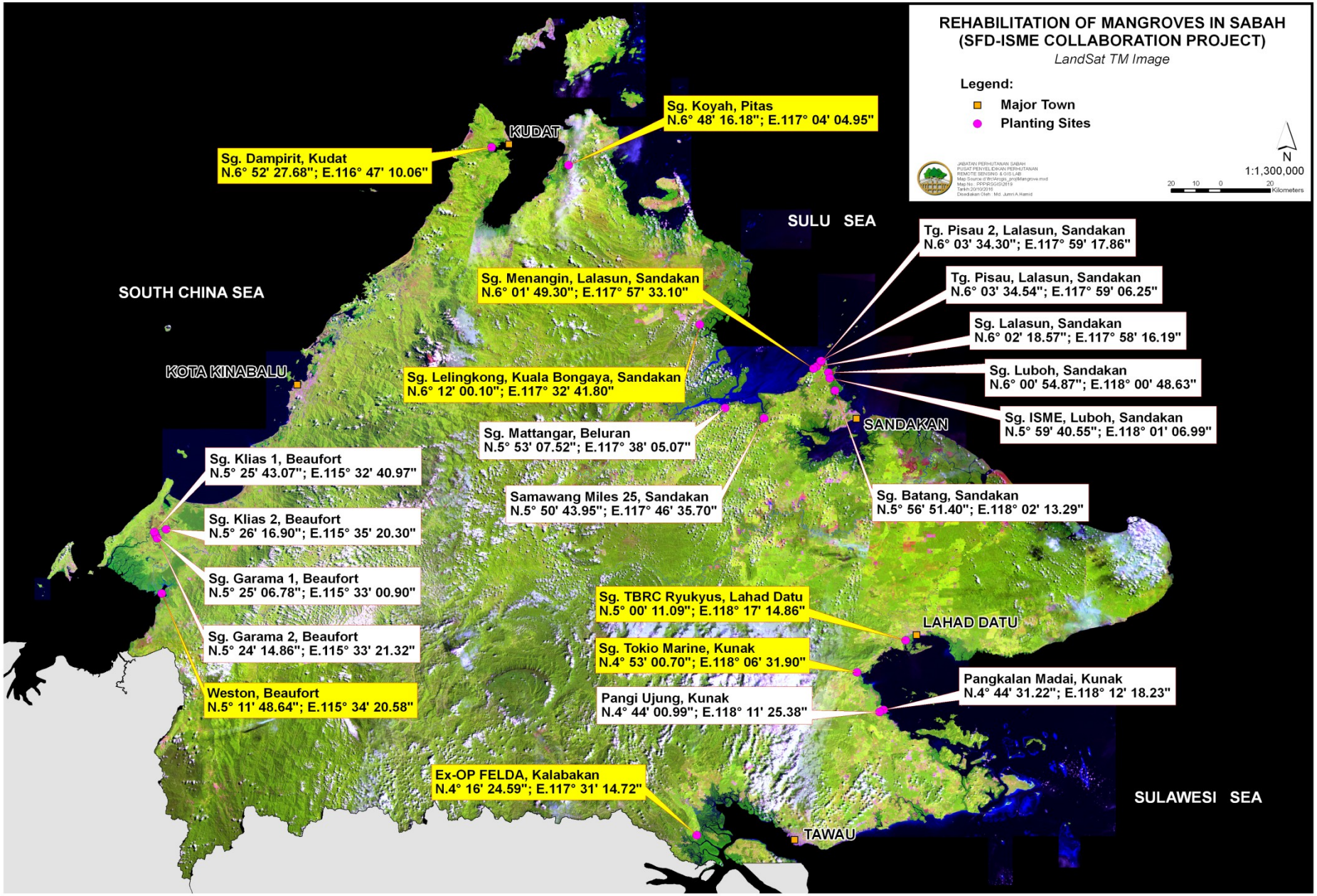
What have we achieved?

… by end of 2016 we managed to rehabilitated a total of 351.5 ha of degraded mangrove ecosystems and successfully planted a total of 407,891 planting materials.

... greater cooperation among all the stakeholders i.e. local communities, SFD, ISME, TBRC, Tokio Marine & Nichido Fire Insurance and the State Government of Sabah

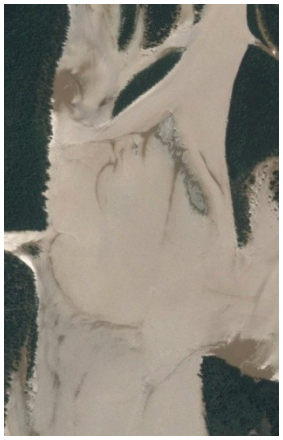
… a book was published to commemorate the successful completion of Phase One (2011-2014) project.

Location map of SFD-ISME project (2011-2019)



Conclusion

- Rehabilitated mangrove will prevent further erosion along the waterways, care for mangrove mudflats, and to improve the conducive mangrove environment
- In the long run this collaboration project will beneficial to all related stakeholder of mangrove ecosystems
- The SFD-ISME project will continue to managed and rehabilitate all areas of degraded mangrove forest throughout Sabah's wetlands




Acknowledgement

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- We also grateful to the Sabah Forestry Department (SFD) and Tokio Marine & Nichido Fire Insurance Co., Ltd. Japan for their continuous support to the mangrove collaborative project in Sabah.

For Further Reading

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THANK YOU