

ISME's 30th Anniversary



ISME has implemented projects in many countries.

Top, left to right: Kiribati, UAE, India, Japan · Bottom, left to right: Oman, Malaysia, Indonesia, Samoa

ISME was inaugurated in 1990 as an international non-profit and non-governmental scientific society. ISME took over the initiatives and activities of the UNDP/UNESCO Regional Mangrove Projects implemented from 1982 to 1990. Inauguration of ISME was graciously presided by the Imperial Highness Prince and Princess Hitachi. With its headquarters located in Okinawa, Japan, the mission of ISME is to collect, evaluate and disseminate information on mangrove ecosystems for the conservation, rational management and sustainable utilization of mangrove ecosystems.

Year 2020 is the 30th year since ISME was established. During these 30 years, ISME expanded its activities to Africa, Asia, Central America, Middle East, Oceania and South America. The society's membership has grown to over 1,300 individuals and over 50 institutions from 94 countries/regions. Since its inauguration, ISME's activities were supported and encouraged by a large number of individuals and organizations, and participated by local communities. ISME would like to take this opportunity to thank all members for their continued support, which will be essential for ISME to continue its activities to conserve world's mangrove ecosystems.

Oil spill incident in Mauritius

On 25 July 2020, MV Wakashio, a capesize bulk carrier operated by Mitsui OSK Lines, ran aground a coral reef off the coast of Beau Vallon in the south-eastern part of Mauritius. Though most of the oil has been pumped out of the ship, some 1,000 tons (equivalent to 7,000 barrels) of oil have leaked out on 6 August. By 10 August, the spill has drifted in the north-west direction polluting almost the entire Grand Port Bay (Figure 1).

The Secretariat of the International Society for Mangrove Ecosystems (ISME) at Okinawa, Japan, is very concerned over the extensive oil spill and its devastating effects on coastal ecosystems and livelihoods in Mauritius. Its environmental impacts are made worse as important coastal systems (mangroves and coral reefs) and coastal towns (Blue Bay, Pointe d'Esny, Mahébourg, Ferney and Old Grand Port) are located along the southeast coast of Mauritius. Within and adjacent to the disaster zone are Ramsar Sites of

the 22-ha Pointe d'Esny Wetland and the 353-ha Blue Bay Marine Park. Affected by the spill are the islands of Ile Aux Aigrettes and Ile Aux Cerfs that generate income from tourism. The marine park is a renowned snorkeling and diving area.

ISME acknowledges that mangroves and coral reefs are important and environmentally sensitive coastal ecosystems, and that oil spills can lead to mass mortality and other irreversible damage to the environment. The Mauritius government has declared a state of environmental emergency. Assisting the local authorities in the clean-up operations are international organizations from United Nations, France, Japan and India. ISME appreciates such efforts in mitigating the adverse impacts on the coastal environment.

ISME Headquarters, being located in Japan, is giving various supports to the teams of Japan Disaster Relief (JDR) dispatched to Mauritius by the Japanese government. Prof. Shigeyuki Baba (Executive Director of ISME) is giving technical advices to the JDR Teams, and Prof. Toyohiko Miyagi (a member of ISME and Professor Emeritus of Tohoku Gakuin University) was dispatched to Mauritius by the Japanese Ministry of Environment as a member of the third JDR Expert Team from 2 to 13 September.

A Japanese insurance company, Tokio Marine & Nichido Fire Insurance Company Ltd., made a donation to ISME for investigation and future restoration of Mauritius mangroves. After finding out the detailed situations of impacted mangroves in Mauritius, ISME would like to consider how best to support restoration of mangrove ecosystems. We sincerely hope that the damaged mangroves of Mauritius can be successfully restored, and the residents of Mauritius will soon regain their daily lives.

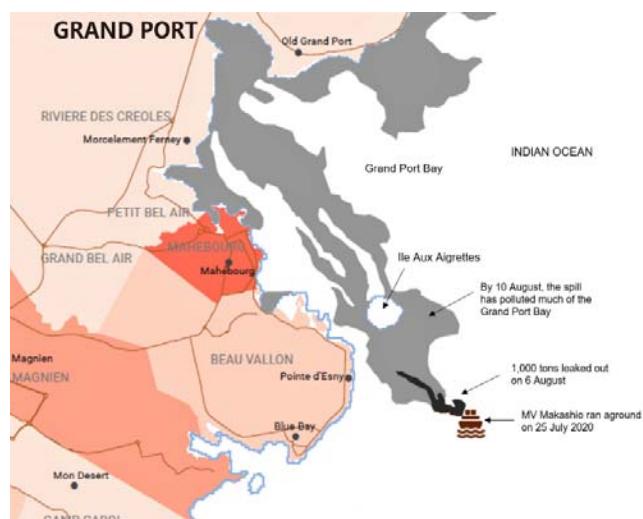


Figure 1. The extent of oil spill in Mauritius (OCHA, 2020).

Factsheet of mangroves and coral reefs of Mauritius

Covering a total land area of 2,040 km² in the Indian Ocean, Mauritius has a coastline of 322 km (Appadoo, 2003). The island has 1.45 km² of mangroves (WIO Mangrove Network, 2020) and 300 km² of fringing coral reefs (Montaggioni and Mahe, 1980). Mangrove trees are 1.5–3.0 m in height (Fagoonee, 1990) comprising *Rhizophora mucronata* (dominant species), *Bruguiera gymnorhiza* and *Pemphis acidula* (Spalding *et al.*, 2010). However, according to a reliable source of information, tree height of *R. mucronata* was found to be more than 14 m. The mangrove fern *Acrostichum aureum* is commonly found in drier more elevated sites.

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Mangroves in Mauritius (photo by Prof. Toyohiko Miyagi, Expert on Mangrove Ecosystem, Japan Disaster Relief (JDR) Expert Team to Mauritius dispatched by the Government of Japan)

Condolence

ISME is deeply saddened to announce the demise of Dr. Arvind Gajanan Untawale, who had been a Council Member of ISME since 1990, and a Chief Technical Adviser (CTA) to the ISME/Tokio Marine & Nichido

mangrove project in Gujarat, India since 2009. Dr. Untawale passed away on 7th September 2019 after a brief illness at the age of 79.

Dr. Arvind Untawale
(from ISME Archive)



Dr. Untawale obtained his Ph.D. in Botany from Nagpur University in 1972. He joined the National Institute of Oceanography (NIO) in 1973, and later became Deputy Director and Advisor of the NIO. He worked on various areas of coastal and marine biodiversity, including beach dunes, marine algae and mangrove ecosystem. He joined ISME in 1990, and served as one of ISME's Council Members ever since, and was a CTA to ISME's project in India since 2009. He was Executive Secretary of Mangrove Society of India. Due to his dedicated tireless work, he was known as the mangrove man of India.

ISME extends the deepest condolence of the society to Dr. Untawale's family and friends. May his soul rest in peace. The great mangrove man of India will always be remembered for his lifetime dedication to mangroves.

Establishment of mangrove plantations in Gujarat, India

The project is located at the estuary of Sabarmati near the village of Vadgam in Gujarat, India, with financial support from Tokio Marine & Nichido Fire Insurance Co., Ltd., Japan. The project started in 2009 with the aim of establishing mangrove plantations for coastal protection, to enhance mangrove biodiversity including habitats for endangered birds and to generate income for the local community, especially the womenfolk.

The late Dr. Arvind Untawale (1940-2019) had been the CTA of the project since its beginning. Dr. Bharatkumar Jethva is the Technical Advisor of the project, and the Daheda Sangh, a local NGO supervises planting activities carried out by villagers of Vadgam.

Before the project started in 2009, the coastal site was an open-bare land without any mangrove vegetation.

At present, about 860 ha of planted mangroves (*Avicennia marina*) have been established, and are now generating some notable socio-economic, environmental and ecological benefits. The mangrove plantations have encouraged sedimentation, and consequently reduced shoreline erosion and flood damages to cultivable coastal land. During the time when the fodder are scarce, almost 90% of the cattle raised in Vadgam are dependent on mangrove leaves harvested as fodder from the plantations of the project by the local villagers.



Villagers planting mangroves
(photo taken in 2019)



Villagers preparing for planting mangroves
(photo taken in 2019)

Mangrove planting project in Kiribati

The Republic of Kiribati, is one of island countries in the Pacific, consist of 32 atolls and one raised coral island. The low-lying nation is facing serious threats from sea-level rise.

Financed by the Cosmo Oil Eco Card Fund of the Cosmo Energy Holdings Co., Ltd. of Japan since 2004, ISME has been implementing a mangrove planting project in Tarawa, Abemama and Butaritari of Kiribati. The project is strongly supported by the Ministry of Environment, Lands and Agriculture Development (MELAD) and the Ministry of Education, Youth and Sports of Kiribati.

The objectives of the project are to introduce mangrove planting techniques to the local community and plant mangroves together with children for environmental education purpose.

Using *Rhizophora stylosa* as the main species, the project has so far planted 140,000 propagules/seedlings on the coral flats. Depending on site conditions, survival rate can be up to 90% while in a few sites, planting has failed. There is no river in Kiribati and the islanders rely on rain for water. Challenges are the soils that are saline and poor in nutrients. A project achievement is that one tree planted in 2005 is now 6 m tall.



Rhizophora stylosa planted in 2005 is now 6 m tall

Rehabilitation of degraded mangroves in Sabah, Malaysia

A collaborative project on rehabilitation of degraded mangroves in Sabah, Malaysia, has been implemented by Sabah Forestry Department (SFD) and ISME since 2011, with financial support from the Tokio Marine & Nichido Fire Insurance Co., Ltd.

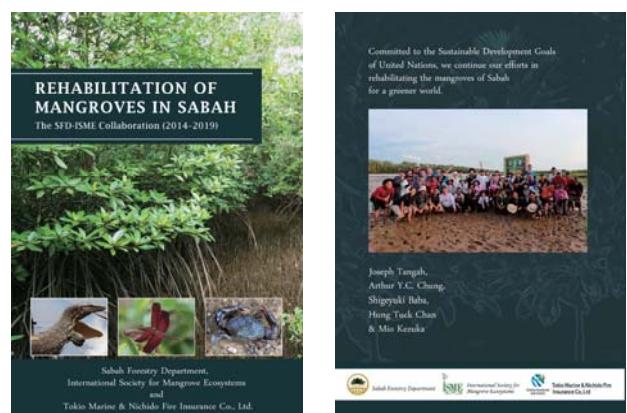
Phase-I (2011–2014) and Phase-II (2014–2019) were successfully completed, and the project is now in the Phase-III (2019–2024). To date, the project has rehabilitated more than 360 ha of mangroves in 24 sites throughout Sabah with more than 13 mangrove and associated species.

Dr. Joseph Tangah (Project Leader) heads the Mangrove Task Force comprising Mr. Dauni Seligi, Mr. Jamiss Aribin, Mr. Fabian Koret and Mr. Charlesvyn Francis as members.

A book entitled ‘Rehabilitation of Mangroves in Sabah: The SFD-ISME Project (2014–2019)’ was published in January 2020. The publication features planting activities, research and achievements of Phase Two of the project. PDF copy is available from <http://www.mangrove.or.jp/english/subpage/publications.html#newbook>.



Mangrove Task Force (MTF) comprising (L–R) Mr. Francis, Mr. Koret, Dr. Tangah, Mr. Seligi and Mr. Aribin
(photo by Sabah Forestry Department)



The front and back covers of “*The Rehabilitation of Mangroves in Sabah The SFD-ISME Collaboration (2014-2019)*”

International Mangrove Botanical Garden Rama IX

On 22 October 2018, HRH Princess Maha Chakri Sirindhorn presided over the Foundation Stone Laying Ceremony in Chanthaburi. The ceremony officially launched the International Mangrove Botanical Garden Rama IX, established in honor of His Majesty the late King Bhumibol Adulyadej. The first in Thailand and probably in the world, the garden covers an area of 83 ha and construction will take three years to complete. One of the objectives of the garden is to serve as a network center for mangrove forest conservation, working in partnership with ISME which has members from 94 countries around the world.

The ceremony in Chanthaburi was jointly organized by the National Legislative Assembly of Thailand, Ministry of Foreign Affairs, Ministry of Natural Resources and Environment, and the Department of Marine and Coastal Resources (DMCR). Present at the event was Prof. Sanit Aksornkoae (Member of the National Legislative Assembly of Thailand and President of ISME), Prof. Shigeyuki Baba (Executive Director of ISME) and Dr. Hung Tuck Chan (Executive Treasurer of ISME). Ambassadors and officials from various embassies in Bangkok were also invited.



(L-R) Prof. Shigeyuki Baba, Prof. Sanit Aksornkoae and Dr. Hung Tuck Chan



Commemorative planting

Beach clean-up on Iriomote Island, Japan

Mangroves in Japan are found mainly on Iriomote Island, the second largest island in the Okinawa Prefecture with an area of 290 km² and located about 450 km south of Tokyo. Iriomote is a popular touristic island, famous for mangrove trekking, kayaking, snorkeling and scuba diving.

On the shores of Iriomote, garbage has littered the beaches and entangled the mangrove roots. To get rid of garbage drifted on the shore, the Iriomote Island Eco-Tourism Association is taking the lead to organize beach clean-up activities on a monthly basis for over ten years. According to the Association, over 90% of the garbage are plastic products such as styrene foam, plastics/buoys, PET bottles, fishing gears/ropes, and others.

The Association surveys the barcodes on the drifted PET bottles to find out the countries of origin. Most

PET bottles drifted on Iriomote came from East Asian countries such as China, Taiwan, South Korea and Japan. Second most are from Southeast Asia such as Thailand, Viet Nam, Indonesia, Malaysia, Singapore, Philippines, etc. Some even came from as far as Middle East, Europe, Africa and Americas.

Since 2009, ISME has been supporting the beach clean-up activities of the Association with donations received from Tokio Marine & Nichido Share Happiness Club, Tokio Marine Assistance Co., Ltd. and individuals.



Garbage has littered beaches on Iriomote Island

The Indonesian Mangrove Society has been established

The inauguration of the Indonesian Mangrove Society (IMS) was held in Purwokerto, Central Java, on 21 August 2019 and Dr. Sahat M. Pangabean was elected as the 1st President of IMS. The society is established after a series of discussions and meetings of scientists from various universities, government (such as the Coordinating Ministry for Maritime and Investment, the Ministry of Environment and Forestry, Ministry of Maritime and Fisheries), provincial government representatives, activists, and NGOs from various regions in Indonesia. The discussions and meetings are in conjunction with the International Conference of Mangroves and its Related Ecosystems 2019 (ICoMIRE 2019), with the Universitas Jenderal Soedirman as a host.

As a national society, the main office of IMS is in Jakarta. IMS is open for enthusiasts to research, education, community service, as well as various other things in the conservation aspects of mangrove and economic development of coastal communities. Until now, the active member of IMS is counted 254.

The IMS objectives are:

- 1) To accommodate academics, researchers, non-governmental organizations, community groups, the private sector, and observers as well as the government in mangrove management in Indonesia,
- 2) To assist the management of the mangrove ecosystem,
- 3) To educate people and disseminate research results on the functions, benefits, and management of mangrove resources,

- 4) To strengthen cooperation and networking through scientific meetings, mass media, and communicating with related communities in conducting research, management, and development of mangrove ecosystems.

Activities already being implemented are:

- 1) providing an input to the government in formulating public policy in mangrove management programs,
- 2) conducting the online scientific seminar on mangroves.



Mangrove planting at Segara Anakan, Cilacap, Central Java, Indonesia

COVID-19

COVID-19 has spread to all countries of the world. ISME expresses its deep condolences to the people who lost their lives and to those who are suffering from circumstances caused by the spread of the disease. ISME also expresses its respect to the devoted medical staff and social workers of the world who are fighting the disease to protect lives.

Due to the global pandemic of COVID-19, ISME is not able to visit its project sites since the beginning of 2020. But ISME continues to implement project activities

through the counterparts in India, Malaysia and Kiribati, when/where possible, while ensuring their safety.

Eco-tour for Children postponed

The Iriomote Island Eco-tour was held every year since 2009 for Japanese children who won top prizes from the Children's Eco-Contest organized by a Japanese newspaper company, Asahi Shimbun Company, and a Japanese insurance company, the Tokio Marine & Nichido Fire Insurance Co. The 2020 Eco Tour, scheduled for July, has been postponed to 2021 due to COVID-19.

TroCEP welcomes information on mangrove species distribution

TroCEP (Tropical Coastal Ecosystems Portal) is an online database, organized by National Institute for Environmental Studies (NIES) and ISME, being operated on the web since 2015. <http://www.nies.go.jp/TroCEP/index.html>

It aims to depict distribution information of 74 mangrove species and hybrids in line with the World Atlas of Mangroves published in 2010. Locality information on species distribution is being collected through scientific papers, books, reports, websites, field confirmation and personal communications, but more work is needed to generate accuracy especially where less documentation is available.

If you have information on mangrove species distribution, please send us:

- 1) Name of the species;
- 2) Its photographs taken at the location;
- 3) Year of the photo taken;
- 4) Latitude and longitude, and/or name of location where the species exists;

For example: 16°24'S 122°55'E (Australia, Dampier Peninsula); 06°03'55"N 80°10'33"E (Sri Lanka, Gin River Estuary)

- 5) Height of the tree if possible;
- 6) Your name and e-mail address (your name will appear on the TroCEP under the "Data source" as "Personal communication," but we will not disclose your personal information).

Or if you can share with us your paper(s) containing information on the location of mangrove species, we would be much grateful. We appreciate your inputs. Please contact us at isme@mangrove.or.jp or TroCEP@nies.go.jp

Locality	Species	Varietas	Introduction	Extinction	Source
American Samoa	Xylocarpus granatum	-	-	-	Ellison 2009
Aunu'u island	Xylocarpus moluccensis	-	-	-	Gilman et al. 2007
Enipoes River basin	Bruguiera gymnorhiza	-	-	-	Gilman et al. 2007

List of mangrove flora shown on the TroCEP

Some major events

2018

- January:** Visited project site in Gujarat, India
- February:** Attended the Mangrove Scientists Forum-3 at Seacology-SUDEESA Mangrove Museum in Pambala, Chilaw, Sri Lanka; Visited Kiribati for planting and discussion
- March:** 15th Meeting of SFD/ISME PSC, Sandakan, Sabah, Malaysia
- June:** Chairman and members of SUDEESA visited ISME from Sri Lanka
- July:** Organized 10th Eco-tour for Children, Iriomote Island, Okinawa, Japan
- August:** 16th Meeting of SFD/ISME PSC, Sandakan, Sabah, Malaysia
- September:** Visited Kiribati for planting, research and discussion
- October:** Attended the Foundation Stone Laying Ceremony of the International Mangrove Botanical Garden RAMA IX in Chanthaburi, Thailand
- November:** Visited project site in Gujarat, India
- December:** Attended 24th Annual Meeting of Japanese National Mangrove Society, Tokyo

2019

- January:** Visited Kiribati for planting and discussion
- March:** 17th Meeting of SFD/ISME PSC, Sandakan, Sabah, Malaysia
- July:** Visited Thailand for research and discussion; Organized 11th Eco-tour for Children, Iriomote Island, Okinawa, Japan
- August:** 18th Meeting of SFD/ISME PSC, Sandakan, Sabah, Malaysia
- September:** Attended ROPME-JICA workshop, ROPME Headquarters, Kuwait; Visited Kiribati for planting, research and discussion
- December:** Attended 25th Annual Meeting of Japanese National Mangrove Society, Tokyo



High school students of Japan and Malaysia planted mangroves in Sabah, Malaysia



ISME/GLOMIS Electronic Journal

Volume 16, No.1 (March 2018)

Plastics: A menace to the mangrove ecosystems of megacity Mumbai, India by Kantharajan ,G., Pandey, P.K., Krishnan, P., Bharti, V.S. & Deepak Samuel,V.

Volume 16, No.2 (April 2018)

Burial of mangroves by mobile dunes: a climate change threat in semiarid coasts by Lacerda, L.D. de

Volume 16, No.3 (January 2018)

Mangroves of the atolls of the Maldives, rich among the atoll groups of the Indian Ocean by Sivakumar, K., Rilwan, A., Priyanka, K., Salah M. & Kathiresan, K.

Volume 16, No.4 (August 2018)

Mangroves are assets to the many but a curse to the few – polarised perceptions in New Zealand by Maxwell, G.S.

Volume 17, No.1 (May 2019)

The world's first International Mangrove Botanical Garden by Maxwell, G.S., Aksornkoae, S. & Havanond, S.

Volume 17, No.2 (June 2019)

Adaptation to climate change through mangrove rehabilitation involving local community participation by Baba, S., Chan, H.T., Kainuma, M., Oshiro, N., Kezuka, M., Kimura, N. & Inoue, T.

Please visit GLOMIS at <http://www.glomis.com>

Newsletter in PDF — To save paper and postage, ISME has started to disseminate electronic copies (PDF) of the Newsletter. If you wish to receive ISME Newsletter in PDF, please e-mail the Secretariat with your name and membership number.

Membership of ISME

Individual membership:

JPY2,000 (approx. US\$20) annually

Life membership:

JPY20,000 (approx. US\$206)

Institutional membership:

JPY25,000 (approx. US\$257) annually

Please renew your membership if you have not renewed for the year 2020. We accept Visa and MasterCard. For further information, contact ISME Secretariat. Your donation to the Society would also be welcomed.

News from your country

If you have any news from your country or your work concerning mangrove ecosystems that you wish to publish in the ISME newsletter, please forward a brief write-up to ISME Secretariat.

Send articles/publications of mangrove to ISME Secretariat

ISME is organizing GLOMIS. Please send articles/publications concerning mangroves and mangrove ecosystems to ISME Secretariat.

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