

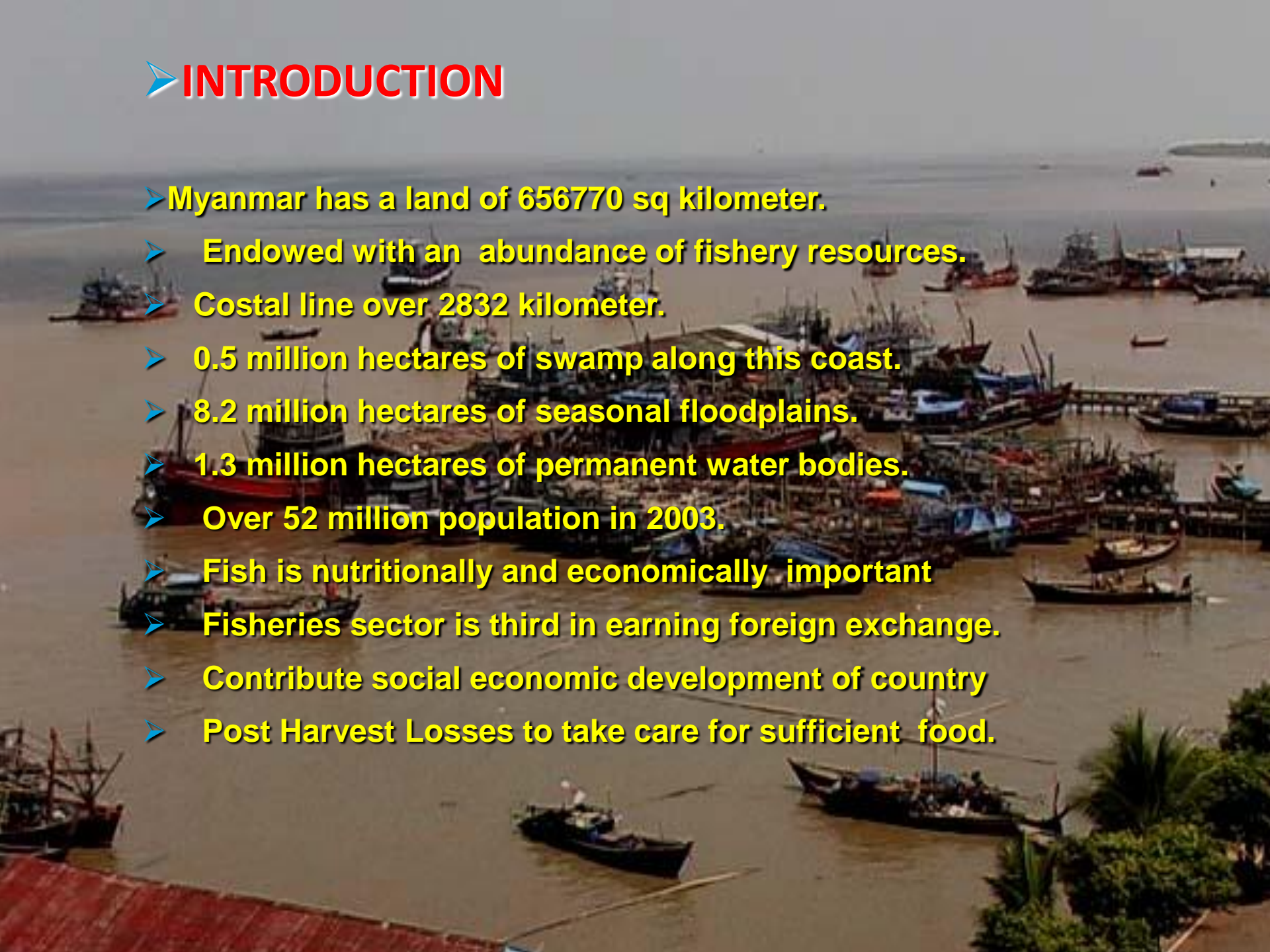
Update Fisheries Information, Environment and Overview For BOBLME Programme

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**1. National Coordinator, 2. Assistant Director, Fisheries, 3. Director, Forestry
BOBLME, Programme
MYANMAR**

➤ INTRODUCTION

- Myanmar has a land of 656770 sq kilometer.
- Endowed with an abundance of fishery resources.
- Costal line over 2832 kilometer.
- 0.5 million hectares of swamp along this coast.
- 8.2 million hectares of seasonal floodplains.
- 1.3 million hectares of permanent water bodies.
- Over 52 million population in 2003.
- Fish is nutritionally and economically important
- Fisheries sector is third in earning foreign exchange.
- Contribute social economic development of country
- Post Harvest Losses to take care for sufficient food.



Myanmar marine Fisheries

One of the largest main land country in Southeast Asia.

- A Long coastal line of 2832 km
- A continental shelf of 228,000 sq km
- Territorial sea; 486,000 sq km (EEZ)

Fisheries of Myanmar

1. Marine Fisheries

Myanmar marine water is demarcated four fishing ground

Rakhine, Ayeyarwady, Mon, Tanintharyi.

(a) Inshore fisheries

- 5 nautical miles from shore (Rakhine Coastal)
- 10 nautical miles from shore (Ayeyarwady & Taninthayi Coastal)
- Not more than 12 HP engine & 30 feet length of boat

(b) Offshore fisheries

- Outer limit of inshore fishing zone to EEZ
- More than 12 HP engine & 30 feet length of boat



Present Fisheries in Myanmar

Fisheries Total Production:

| | |
|----------------------|-----------------|
| Marine – | 1679.01, (53%) |
| Culture – | 674.89, (21%) |
| Open fisheries – | 625.04, (20%) |
| Leasable fisheries – | 189.70, (6%) |
| Total Production – | 3168.64, (100%) |



Aquaculture Pond and Production

| | |
|-------------|---------------------------|
| 2007-2008 – | 440947 acre, |
| 2007-2008 – | 674.89 thousand MT |
| 2007-2008 – | 215222, acre (Fish Pond) |
| 2007-2008 – | 225725,acre (shrimp Pond) |

Previous Marine Fisheries Research Activities

1979/80 Dr. Fridtjof Nansen
(FAO and Norwegian Research Vessel)
1980/83 MFV 525
(FAO and PPFC Project Bur 77/003)
1989 FRTV Chulabhorn
(Myanmar- Thai Joint Survey)
MV SEAFDEC -2
(Myanmar- SEAFDEC- Survey)

Biomass (within 200m depth)

Pelagic fish 1.0 MMT – 0.5 MMT(MSY)

Demersal fish 0.8 MMT- 0.55MMT(MSY)

Maximum Sustainable Yield – 1.05 MMT



Present Fisheries in Myanmar

The Production of Leasable Fisheries and open Fisheries.

2007-2008 - Total No. 3460

Production – 189.70 thousand MT, (Leasable fisheries)

Production – 625.04 thousand MT,
(Open fisheries)

Marine Fishing Vessel

2007-2008 – Total Fishing Vessel 31595

Small fishing boat – 14289 (power boat)

- 15219 (non power boat)

National fishing boat – 1839

Foreign Vessel - 248



National Policy on Fishery Sector

1. To promote all-round development in the fisheries sector.
2. To increase fish production for domestic consumption and share the surplus with neighboring country.
3. To encourage the expansion of marine and freshwater aquaculture.
4. To upgrade the socio-economic status of fishery communities.



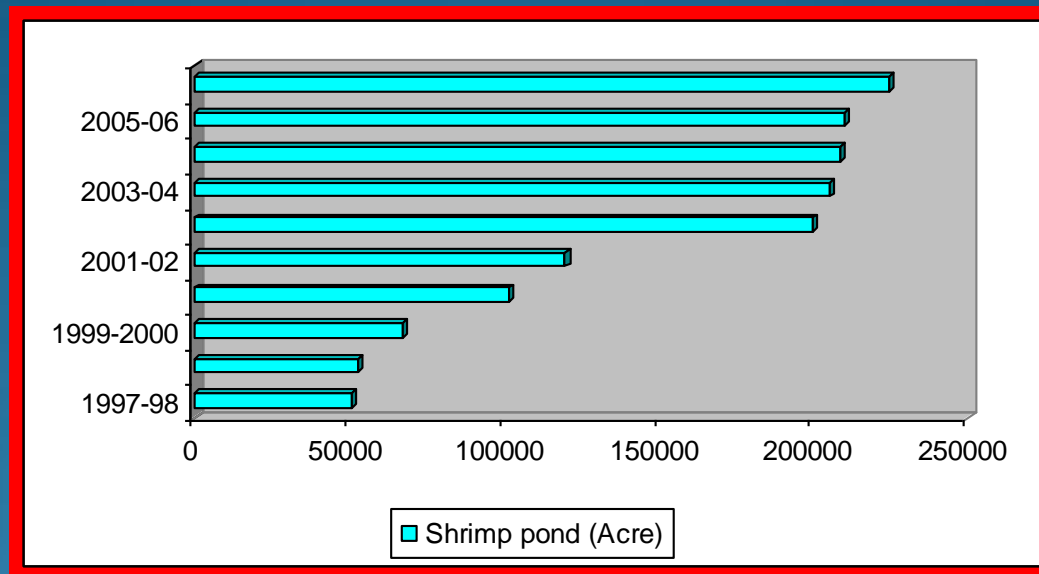
Fisheries management measure in Myanmar.

Problem of over fishing and declining productivity in coastal regions, various measures have been adopted according to Myanmar Fisheries Law.

The Key fisheries legislation for the Union of Myanmar includes:-

1. The Freshwater Fisheries Law; 1991
2. Law Relating to the Fishing rights to Foreign fishing Vessels; 1989
3. Law Amending the Law relating to the Fishing Rights of Foreign Fishing Vessels; 1993
4. Myanmar marine Fisheries Law; 1990 and
5. Law Amending the Myanmar Marine Fisheries Law. 1993
6. Aquaculture Law 1989

AREA OF SHRIMP PONDS (1997-98 to 2006-07)



Aquaculture (cage culture)



Grouper (Myeik)



Soft shell Crab (Myeik)



Pangus (Ayeyarwady)



Tsunami Disaster.

Tsunami struck Myanmar on 26th December, 2004. The effect of tsunami was very limited, compared to other neighbouring countries. Pyinsalu Sub-township of Laputta Township in Ayeyarwady Division was the worst hit and 2137 persons were affected, 25 persons dead, and 1138 people displaced, and 289 houses were destroyed. The Inter-agency Assessment Mission comprising FAO, UNDP, UNICEF, WFP, and WHO was conducted in four affected villages between 18-20 January, 2005. The mission found that approximately 1200 fisher cum other fishing supplies were lost.

Response

In response to the disaster, the Government of Japan provides an initial contribution of US\$ 404 000 to the United Nation Development Programme (UNDP) to provide assistance to tsunami-affected people in Myanmar. UNDP, being a trustee to this financial resource, signed a Letter of Agreement with FAO On 13 April 2005 to implement the project, MYA/05/001 "Emergency Assistant to Tsunami Affected Fishing Communities, Fishers cum farmers, and Homestead Gardeners".

Pre Nargis Cyclone Fisheries Condition





Damages and losses in fisheries sector

Affected in Ayeyarwaddy and Yangon Divisions -

- 1. Off-shore fishing vessels= 41
- 2. Local off-shore fishing boats= 288
- 3. In-shore fishing boats (Mechanized)=553
- 4. In-shore fishing boats (non-mechanized)=1206
- 5. Off-shore fishing gears=200 sets
- 6. In-shore fishing gears (Mechanized)=330 sets
- 7. In-shore fishing gears (Non-mechanized)=2230 sets
- 8. Crew death=17876
- 9. Missing Crew=9612
- 10. Value of losses = 23140.44 million kyats (details as follow;)



• Damaged Vessels/ Boats and Gears in In-shore/Off-shore Fisheries

| Sr. | State / Division | Off-shore | | In-shore | | | | Remarks |
|-----|----------------------|-----------|------|------------|------|----------------|------|---------------------------------------|
| | | | | Mechanized | | Non-mechanized | | |
| | | Vessels | Gear | Boat | Gear | Boat | Gear | |
| 1 | Yangon Division | 41 | | 15 | | | | Over GRT 70 Off-shore fishing vessels |
| 2 | Ayeyarwaddy Division | 288 | 200 | 553 | 330 | 1206 | 2230 | local off-shore vessels |

Marine Fisheries (Lost of Value)

- i. Offshore fisheries - 8590.00 Million Kyats
- ii. Inshore fisheries - 1719.00 Million Kyats
- iii. Total - 10309.00 Million Kyats

Death and Losses of Fisheries Workers in Ayeyarwady Division

| Sr | Township | Losses | Death |
|----|------------------|--------|-------|
| 1. | Pyapon | - | 181 |
| 2. | Lattputta | 4692 | 7850 |
| 3. | Ngaputaw | 886 | - |
| 4. | Bogalay | 2401 | 6316 |
| 5. | Daydaye | 160 | 390 |
| 6. | Kyaiklat | 17 | - |
| 7. | Mawlamyaing Kyun | 1432 | 3138 |
| 8. | Kyauk Tan | 1 | 1 |
| 9. | Yangon | 23 | - |
| | Total | 9612 | 17876 |

Rehabilitations Activities



Distributed in Ngapudaw, Labutta, Mawlamyinegyun, Pyapon, Bogale, Kyaiklatt and Dedaye townships in Ayeyarwaddy division.

| | |
|--------------------|------|
| - Fishing boats | 9067 |
| - Tiger mouth nets | 7201 |
| - Hilsa nets | 3293 |
| - Trammel nets | 745 |
| - Push nets | 1200 |
| - Cast nets | 1688 |
| - Surrounding nets | 878 |
| - Shrimp fry nets | 112 |

Distributed in Kungyangon, Kawhmu, Twantay and Kyauktan townships in Yangon division.

| | |
|--------------------|-----|
| - Fishing boats | 433 |
| - Tiger mouth nets | 226 |
| - Hilsa nets | 143 |
| - Surrounding nets | 61 |

Damage and Losses of Mangrove Forest Caused by the Cyclone Nargis

Damage to mangrove forests

| Sr. | Township | R.F. Area (Acres) | Remaining Stands (Acres) | Damage Area (Acres) |
|-----|----------------|----------------------|-----------------------------|------------------------|
| 1 | Lapputa | 251,102 | 39,908 | 11,460 |
| 2 | Bogalay | 373,685 | 97,773 | 29,827 |
| 3 | Mawlamyinegyun | 54,232 | 620 | 155 |
| | Total | 679,019 | 138,301 | 41,442 |

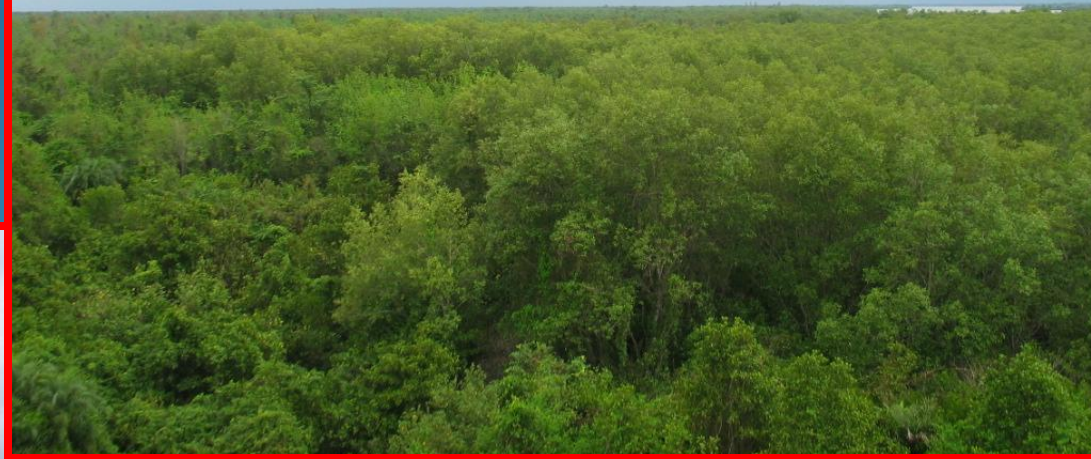
Damage to plantations

| Sr. | Region | Established Area (Acres) | Damage Area (Acres) |
|-----|----------------------|-----------------------------|------------------------|
| 1 | Ayeyarwaddy Division | 78,891 | 49,725 |
| 2 | Yangon Division | 81,990 | 1,829 |
| | Total | 160,881 | 51,554 |

Pre & Post Cyclone Nargis situation of Mangrove forests in Mainmahla Island, Bogalay township



**Pre & Post Cyclone Nargis situation of Mangrove forests
in in Byone Mwe Island, Bogalay township**



Nursery established by the JICA project



Myeik (Mergui) Archipelago

Large Island Ecosystem Of The Bay Of Bengal

Myeik or Mergui Archipelago covers approximately 36,000 sq km (14,000 sq miles), located in southernmost part of Myanmar (Burma), comprises over 800 beautiful islands.

The archipelago of Mergui lies north of where the isthmus of Kra divides Indochina Region from the Sundaic Region.

Flora and fauna of the two regions overlap here, making the area especially interesting to field biologists.

Due to its virtual isolation, the islands and surrounding seas are alive with an amazing diversity of flora & fauna and very beautiful underwater scenes and marine life.

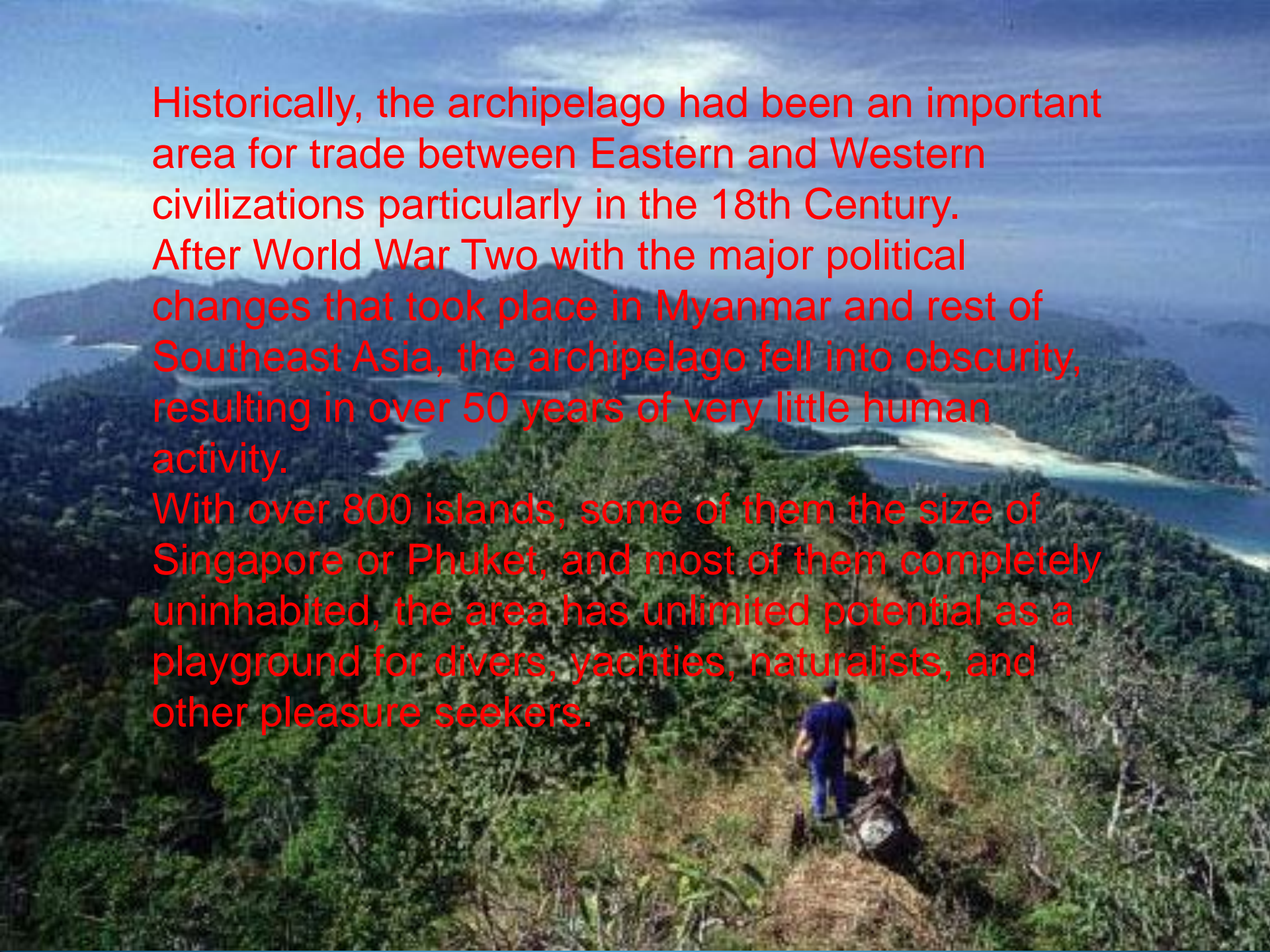
The islands are a part of the Burmese (Myanmar) of Tenasserim Division (Tanithary).

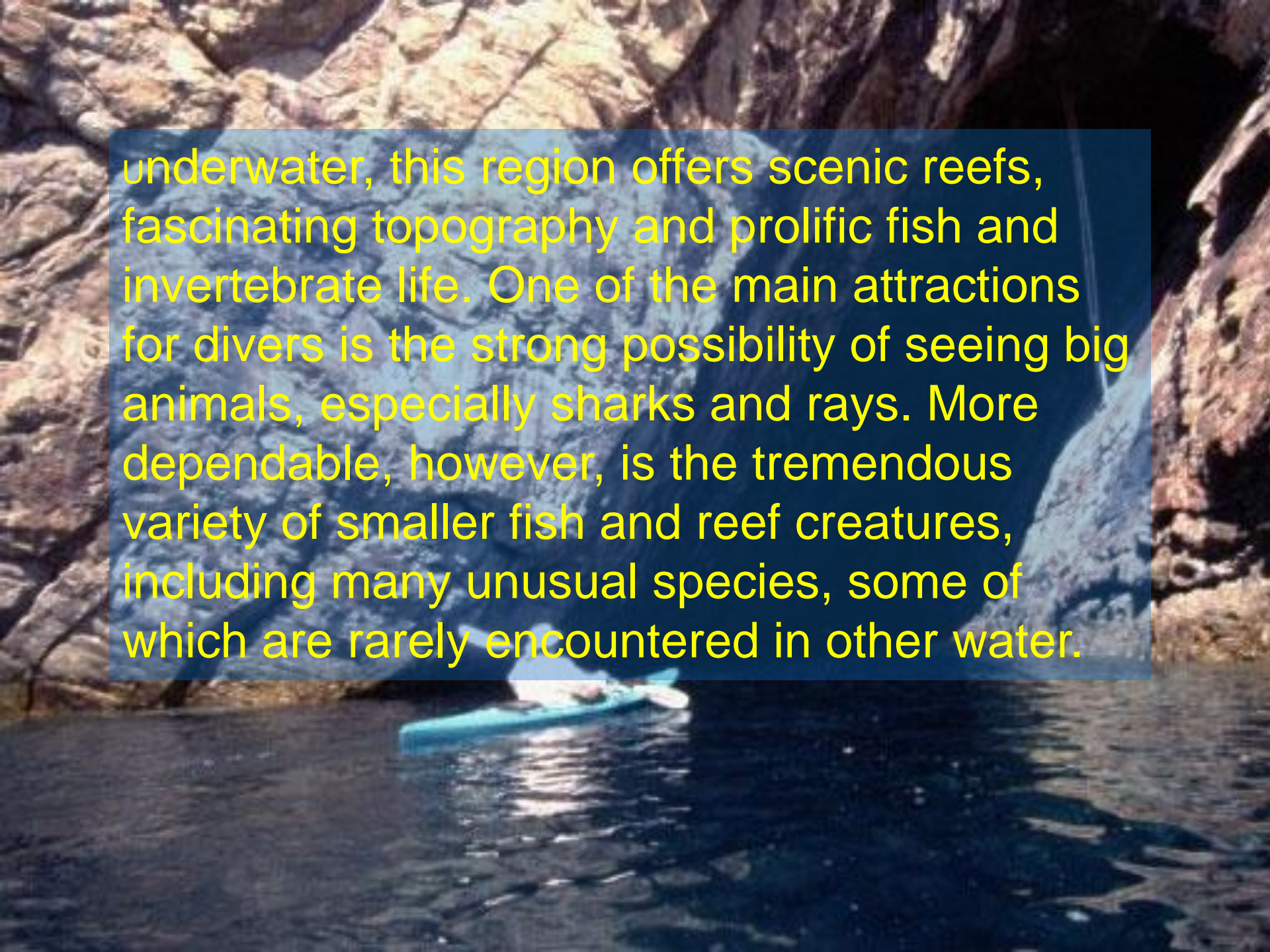
Lampi Island, now an ASEAN Heritage Site & National Marine Park stretches for more than 70km.



Historically, the archipelago had been an important area for trade between Eastern and Western civilizations particularly in the 18th Century. After World War Two with the major political changes that took place in Myanmar and rest of Southeast Asia, the archipelago fell into obscurity, resulting in over 50 years of very little human activity.

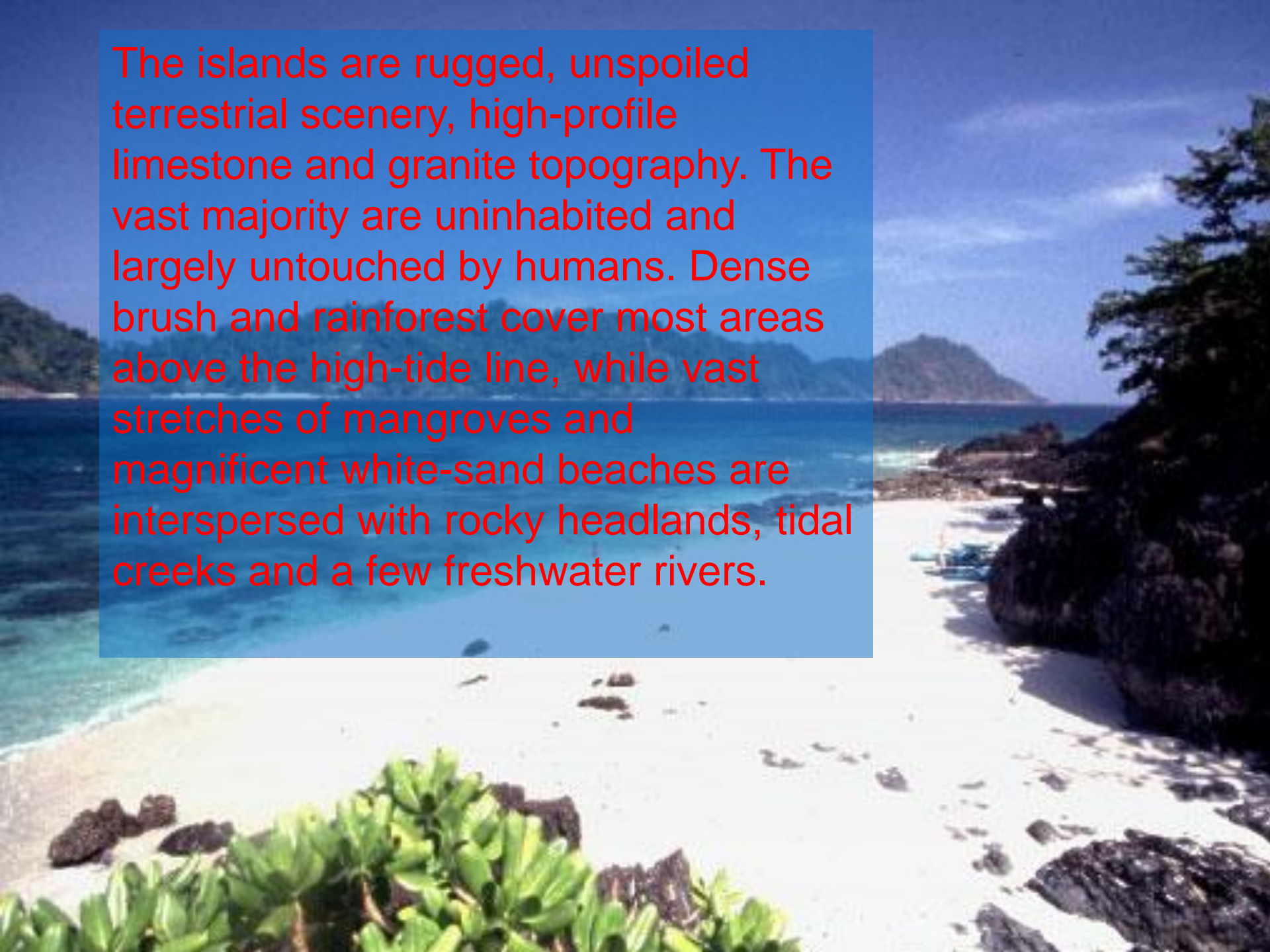
With over 800 islands, some of them the size of Singapore or Phuket, and most of them completely uninhabited, the area has unlimited potential as a playground for divers, yachties, naturalists, and other pleasure seekers.




A person is seen from behind, paddling a bright blue kayak on a dark, calm body of water. The water reflects the light, creating a shimmering path. In the background, a massive, rugged rock formation rises from the water's edge, its surface covered in various textures and colors, including shades of brown, tan, and grey. The sky is not visible, but the overall scene suggests a serene, natural environment.

underwater, this region offers scenic reefs, fascinating topography and prolific fish and invertebrate life. One of the main attractions for divers is the strong possibility of seeing big animals, especially sharks and rays. More dependable, however, is the tremendous variety of smaller fish and reef creatures, including many unusual species, some of which are rarely encountered in other water.

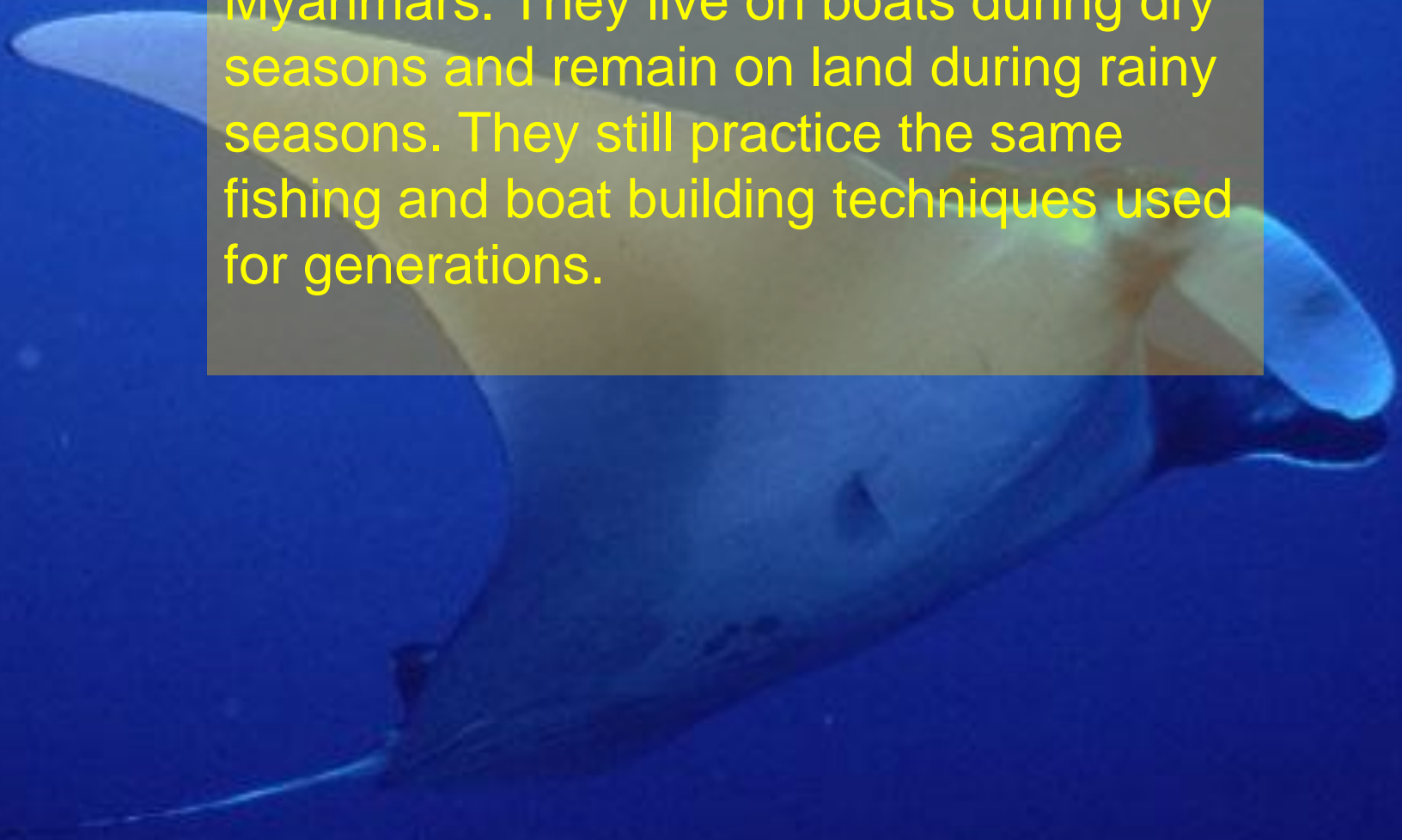
The islands are rugged, unspoiled terrestrial scenery, high-profile limestone and granite topography. The vast majority are uninhabited and largely untouched by humans. Dense brush and rainforest cover most areas above the high-tide line, while vast stretches of mangroves and magnificent white-sand beaches are interspersed with rocky headlands, tidal creeks and a few freshwater rivers.



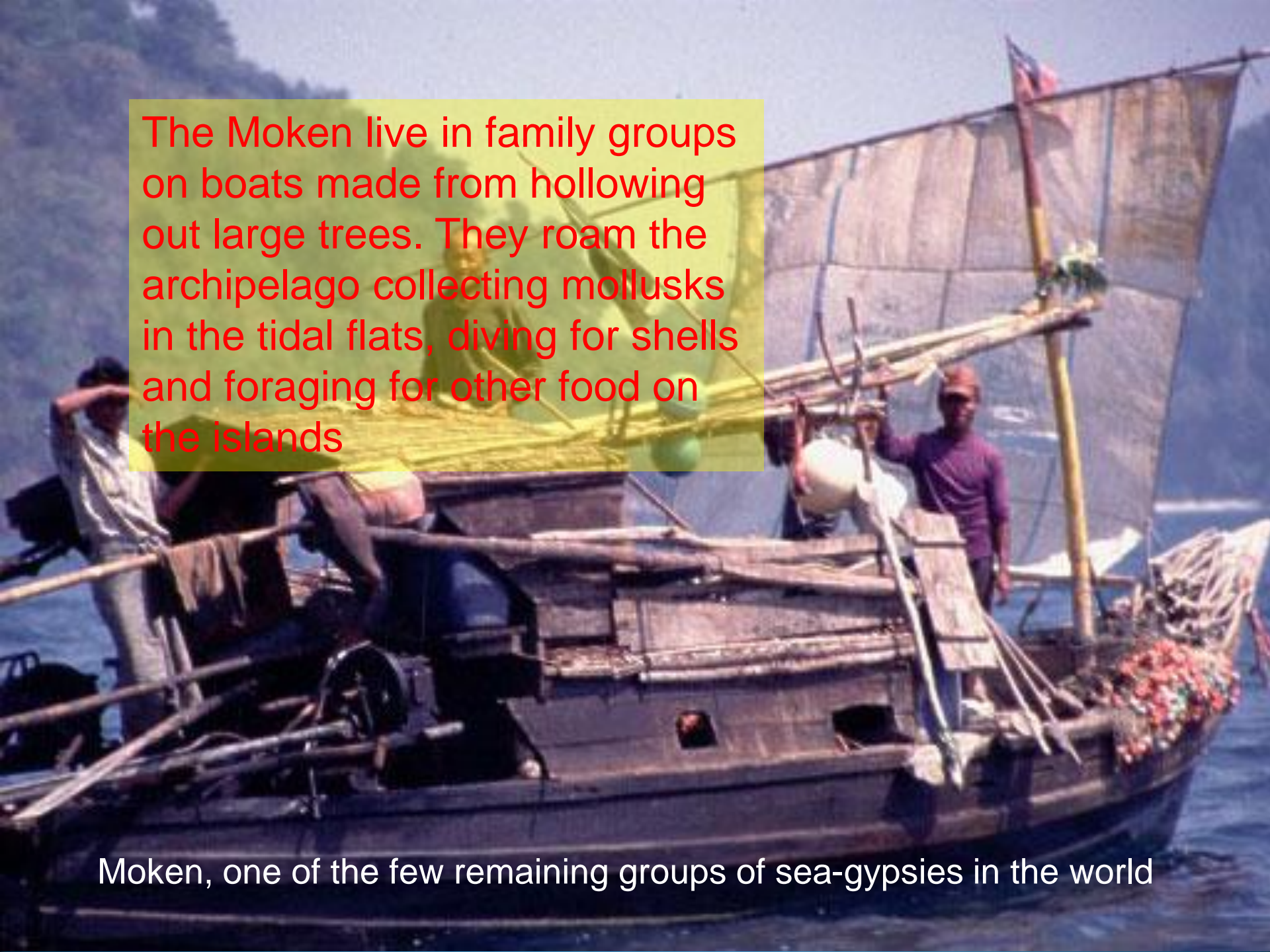
A large school of blue fish, possibly sardines or anchovies, swimming in deep blue water. The fish are densely packed in some areas and more spread out in others, creating a dynamic pattern of movement. The lighting is slightly dim, emphasizing the blue tones of the water and the fish.

Underwater, this region offers scenic reefs, fascinating topography and prolific fish and invertebrate life. One of the main attractions for divers is the strong possibility of seeing big animals, especially sharks and rays. More dependable, however, is the tremendous variety of smaller fish and reef creatures, including many unusual species, some of which are rarely encountered in other water.

The only human inhabitants in the area are sea gypsies, called Salones by Myanmar. They live on boats during dry seasons and remain on land during rainy seasons. They still practice the same fishing and boat building techniques used for generations.



The Moken live in family groups on boats made from hollowing out large trees. They roam the archipelago collecting mollusks in the tidal flats, diving for shells and foraging for other food on the islands



Moken, one of the few remaining groups of sea-gypsies in the world

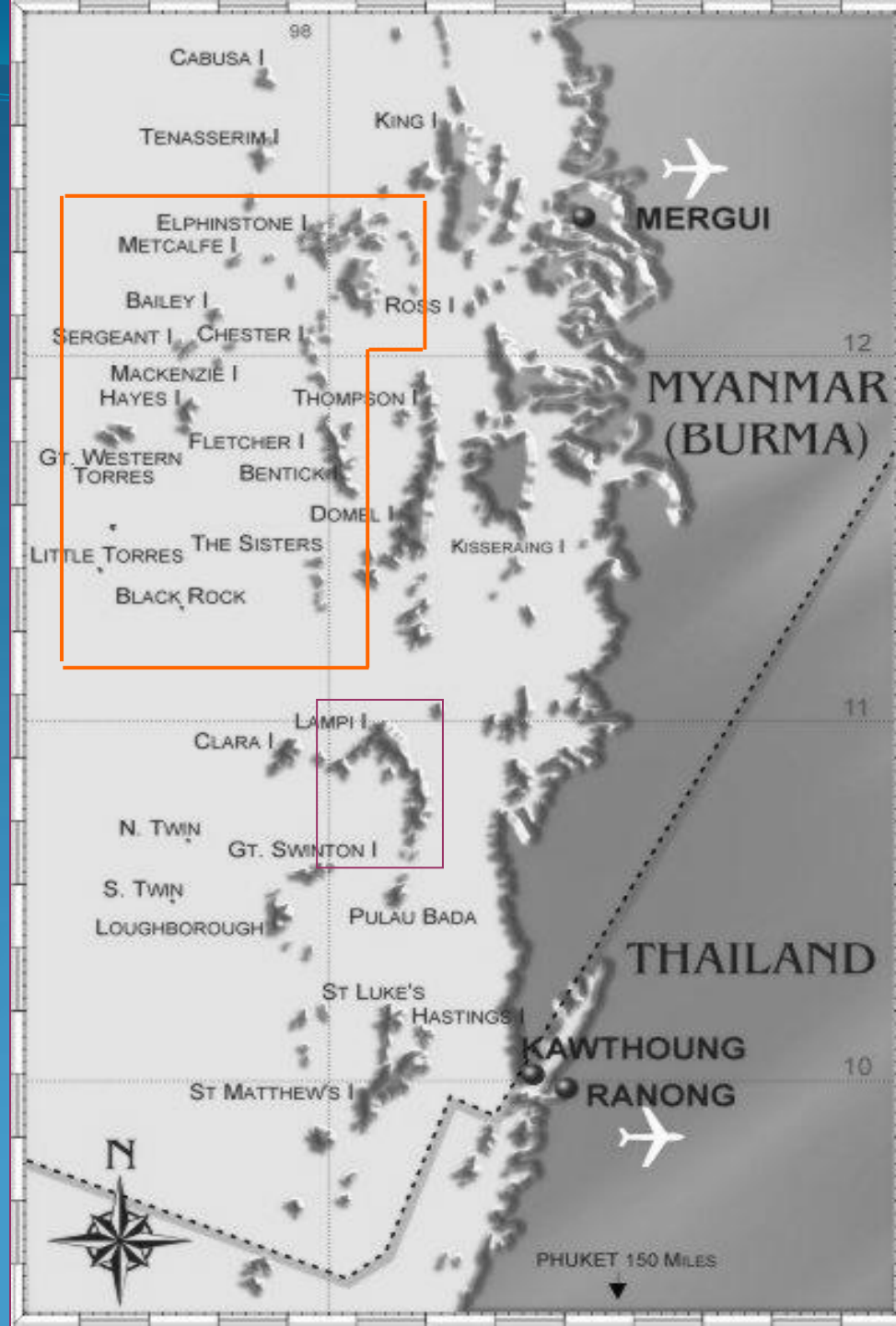


Burma Banks

A largely unexplored area, the Burma Banks are a series of large underwater flat-topped sea-mounts that lie approximately 180 kilometres (100 nautical miles) northwest of the Similan Islands. The Banks' surrounding waters are over 350 metres deep and large areas rise to within the depth limits of recreational scuba diving. The name derives from the fact that this 1,500 square kilometre area lies within the exclusive economic zone of Burma.

Sharks are perhaps the most misunderstood of marine animals. Often portrayed as bloodthirsty, evil killers, in reality sharks should be far more afraid of humans than vice versa. While people routinely kill sharks for pleasure and profit, shark aggression toward human! is rare, and unprovoked attacks on divers are almost unheard of. Fortunately, attitudes toward sharks are slowly changing.

As of May 24, 2004, the Myanmar Government has outlawed all shark fishing north of Lampi Island in the Myeik (Mergui) Archipelago.



Steps have already been taken to preserve the islands, and developing the area in a positive way.

Unfortunately, many sites show signs of wear and tear that the dynamite causes. Meanwhile, the diving is excellent, but could be better if more controls were implemented.

The Preliminary Coralreef Assessment Survey At Rakhine Coastal & Mergui Archipelago



**Preliminary Coralreef
Assessment Survey
Rakhine Coastal 2000
Mergui Archipelago-2001**



Preliminary Coral reef Survey at myanmar

- Myanmar
- Scientist



Preliminary Coral reef Survey at myanmar

- Since 2000 March and April, Myanmar Team Collect data and Species at sea.



Preliminary Coral reef Survey at myanmar



Preliminary Coral reef Survey at myanmar

- Myanmar Scientist identified The Coral species



Collecting the Data and Information of Whale stranding along the Myanmar coastal Area



Significant rare Whale Stranding at Yangon River mouth, July 2005

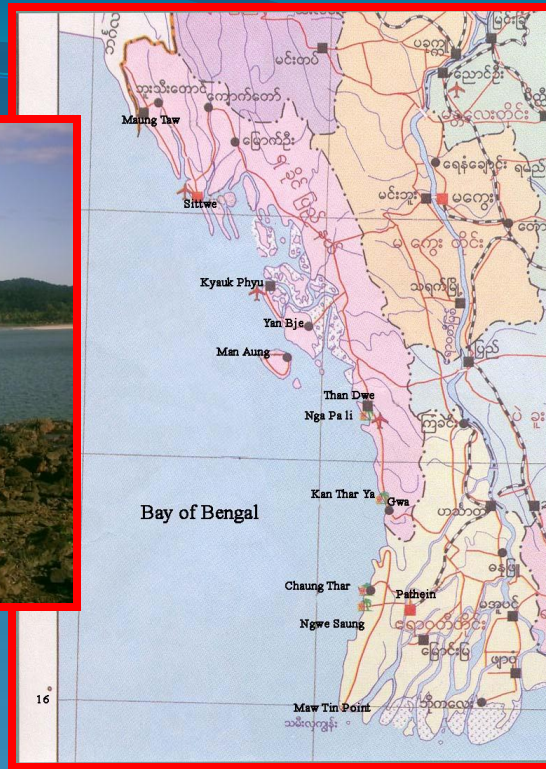
Longman's-Beaked Whale



Pygmy-Killer Whale rescue & releasing at Rakhine Coastal (Kan Thar Ya) -2000

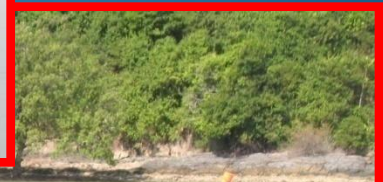


Dugong Survey Area



Rakhine Coastal Area & Myeik Archipelago





**Myeik Archipelago
Dugong & Seagrass
Survey-2006-2007**

Information Gathering

Inside the Mergui
Archipelago
All island, all communities
all stakeholders



**Dugong carcass at Rakhine Coastal Area, accidental kill
In fishing Gear-2005**



Utilization of Shark

Landing site and Market



Shark Data Collection





**Illegal Shark
fin production and
Fishing boat**



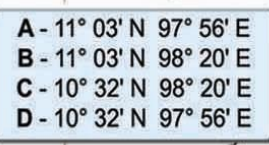


**Illegal Shark fin production
at Mergui Archipelago**

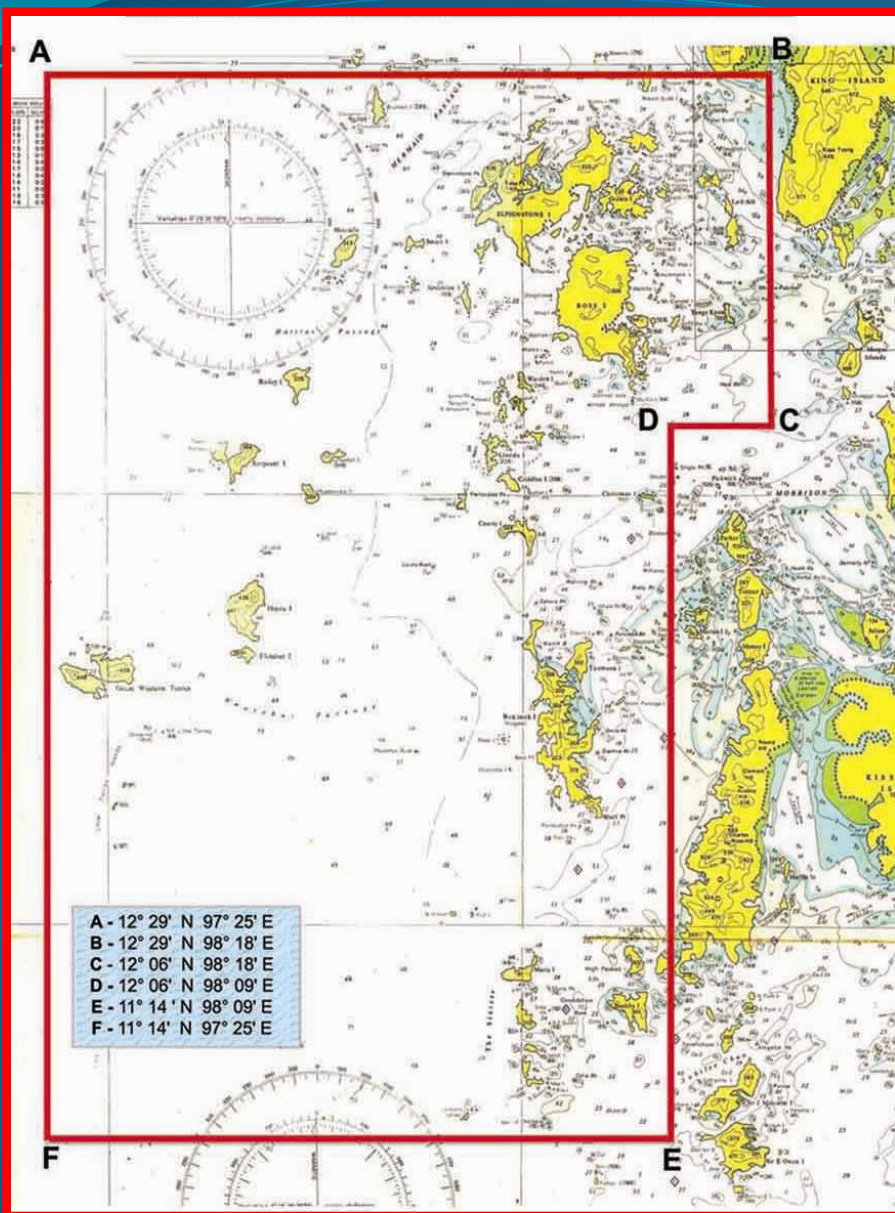
Shark Protected Area

Public Awareness for Shark Conservation Poster





**Shark protected Area (I)
Tanintharyi Coastal
Lampi Island
Established 5-5-2004
By
The Department of Fisheries**



**Shark protected Area (II)
Tanintharyi Coastal
Ross Island
Established 5-5-2004**

Indian mackerel & Hilsa fisheries

Present time the Indian mackerel tagging program was conducted with SEAFDEC organization at the Myeik Archipelago, now the program is still going condition.

Department of Fisheries is collaboration with BOBIGO and collection the data and information program of Hilsa fisheries at landing site; it's also still implementing stage.

Cetacean Survey in Myanmar

During April 1996, boat based visual surveys for coastal cetaceans along the Rakhine Coastal area, especially Sittwe, Kyaukpyu and Thandwe coastal area. Total 566.6 km (57.7 hours) of search effort conducted in coastal/bay/inlet habitat along the Rakhine Coastal area. A team recorded 18 sightings of cetaceans: bottlenose dolphin 38(*Tursiops truncatus, aduncus-type*) ayeyarwady (Irrawaddy) dolphin 19(*Orcaella brevirostris*), spinner dolphin 361(*Stenella longirostris*) and 1 Bryde's Whale,





**Mergui Archipelago
Cetacean Survey -2005
DoF and WCS**





Marine Fisheries Survey

Training and Research Vessel

M.V. SEAFDEC 2
arrived at Myeik Jetty

Warmly Welcome
to
M.V. SEAFDEC 2
from Myanmar
Scientists



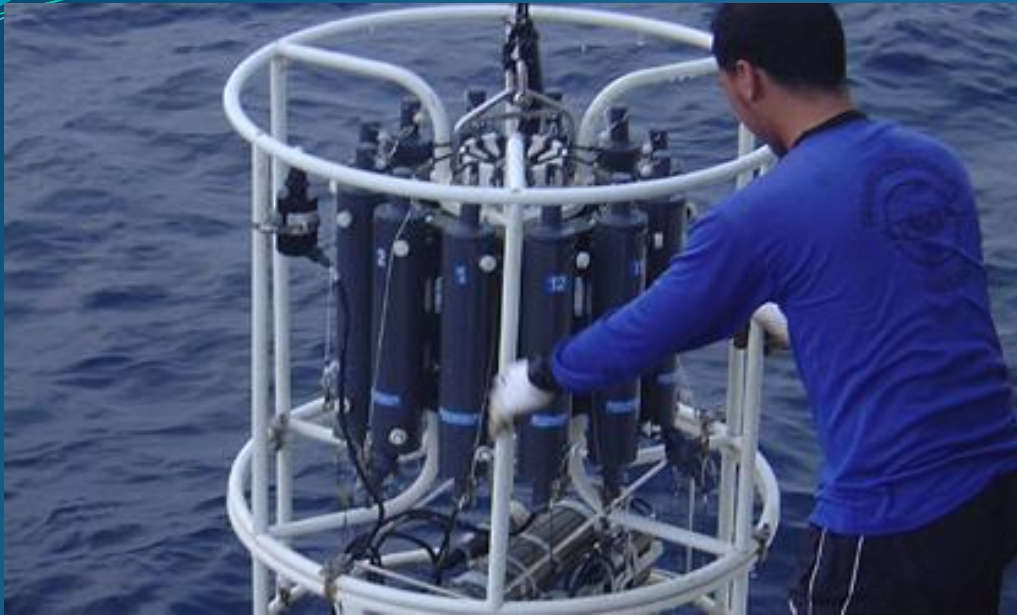
Warmly Welcome M.V. SEAFDEC Scientists and Crews



Myanmar Scientists at Works



Oceanographic Study at Sea



Conducting CTD

Bongo net for Plankton



Myanmar- India Oceanography Joint cruise

- ✓ Flagged off by Dr. Harsh K. Gupta, Sec. DOD, Govt. of India

15 April 02
Chennai





INDO-MYANMAR TIES

The cruise programme will help scientists to get baseline data on the biological characteristics of the region

ORV Sagar Kanya flagged off from Chennai

INDIAN EXPRESS-
ENS Economic Bureau

Chennai, April 15

AMID cheers of 'bon voyage', the 20-year-old Oceanographic Research Vessel (ORV) Sagar Kanya was flagged off by Harsh K Gupta, Secretary to the Department of Ocean

Development, Government of India, from the Chennai Port on Monday for the Indo-Myanmar joint oceanography cruise.

The cruise is to conduct surveys to study the physical, chemical, biological and geological processes in the Andaman sea adjoining the Myanmar coast, said Nation-

al Institute of Oceanography (NIO) Chief Scientist PS Rao, who is leading the cruise along with Myanmar team leader Swe Thwin.

This programme will provide an opportunity to get additional information and samples to take up basin scale studies in the Andaman sea in the shelf and

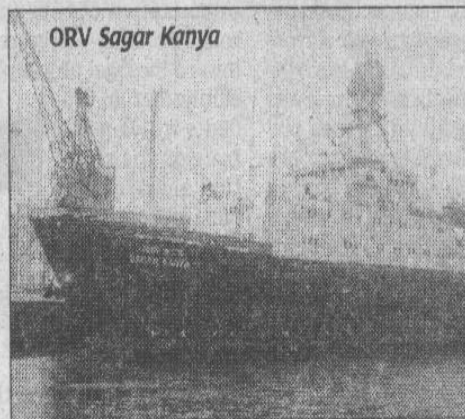
slope regions, he said.

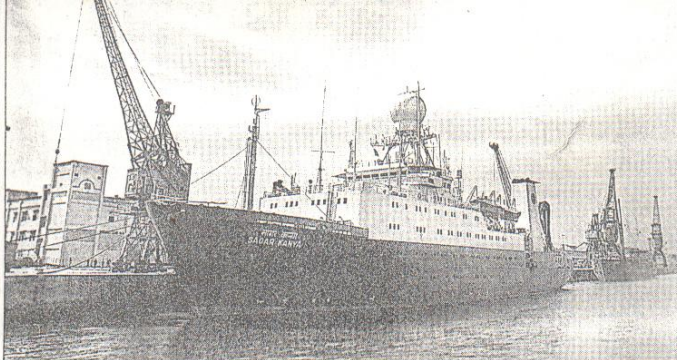
Rao said the cruise programme will also carry out biological sampling aimed at documenting species diversities of phytoplankton, zooplankton and benthos. Rao said the studies, being conducted under the Collaborative Oceanographic Research and Learning

(CORAL) of NIO, will "add to our understanding of the phenomenon of monsoon."

The cruise will return to Chennai in May and proceed to NIO in Goa. The cruise is funded jointly by the NIO and the Ministry of External Affairs. Harsh Gupta said nearly Rs 30 lakhs had been spent on the project.

ORV Sagar Kanya





Research vessel Sagar Kanya, on which India and Myanmar will launch joint oceanographic studies, being flagged off at the Chennai Port on Monday

India, Myanmar ocean study in Andaman Sea

Our Bureau
CHENNAI, April 15

INDIA and Myanmar will conduct the first joint oceanographic study in the Andaman Sea to organise a multi-disciplinary field data and sample collection in the shelf and slope regions influenced by the Irrawaddy River.

The joint exercise to understand the "basin scale processes" would consist of biological sampling aimed at documenting species diversity of phytoplankton, zooplankton and benthos (organisms that live on or in the bottom of a body of water), said Dr Harsh K. Gupta, Secretary, Department of Ocean Development.

Flagging off the India-Myanmar Joint Oceanographic Cruise, on board the Oceanographic Research Vessel, Sagar Kanya, at the Chennai Port here on Monday, Mr Gupta said the joint study would help in obtaining base line data on the biological characteristics of the region and in understanding the productivity and standing stock of microbial, zooplankton and benthic communities.

The Andaman Sea is part of the north-eastern Indian Ocean bordered by Myanmar, Thailand and Malaysia in the north and east, Andaman and Nicobar Islands in the west and Sumatra in the South. It occupies an area of around 800,000 sq km. The hydrography of the sea is influenced by the monsoon and seasonal observations are required to record the variability in water masses and currents.

Large fresh water influx received through the Irrawaddy and Salween rivers induce salinity changes in the region where complex air-sea interactions release energy for the genesis of

tropical cyclones. These cyclones frequently impact the east coast of India, southern Bangladesh and the Arakan coast of Myanmar.

Further, the Andaman Basin receives sediments mainly from Irrawaddy, which in turn is controlled by the Asian monsoon. The sedimentation rate that is rather high compared to other basins provides a high-resolution record of sedimentary history, important in the study of paleo-monsoonal precipitation and variability, says a release.

The release further says the geological study in the cruise would also include bathymetry, a sub-bottom profile and side scan images that would be collected along with some transects to understand the morphology and nature of the

seafloor on the continental shelf. Sediment samples would be collected at several locations and analysed for grain size, mineralogy, chemical and faunal compositions.

The India-Myanmar Oceanographic Studies was initiated by the Ministry of External Affairs, India, along with the National Institute of Oceanography (NIO), Goa, which has jointly funded the implementation of the programme.

The one-month cruise will have 32 members on board from the two countries. Dr P S Rao, Chief Scientist, NIO heads the 20-member Indian delegation while the 12-member Myanmar side is headed by Prof Sew Thwin, Mawlamyine University.

Projects in Indian Ocean

A FEW important oceanographic projects in the Indian Ocean are on the anvil, including the Argo programme and GOOS (Global Ocean Observation System), said Mr Harsh K. Gupta, Secretary, Department of Ocean Development, Government of India.

A broad-scale global array of temperature/salinity profiling floats, known as Argo, is planned as a major component of the ocean observing system. Conceptually, Argo builds on the existing upper-ocean thermal networks, extending their spatial and temporal coverage, depth range and accuracy, and enhancing them through addition of salinity and velocity measurements.

The Argo project in the Indian Ocean will involve a

number of countries to put up 300-400 floats. India will take the lead in the project by putting up around 150 floats, which would cost Rs 35-40 crore.

India would collect various data from the floats including ocean circulation and weather changes in the Indian Ocean. The data would then be distributed to other countries, he added.

On the GOOS programme, Dr Gupta said worldwide the programme had been going on for 8-9 years, while India was yet to implement it in the Indian Ocean. To undertake the project, a GOOS meeting would take place in Mauritius this November in which around 40 countries would participate to implement the oceanographic programme in the Indian Ocean, he added.



ORV Sagar Kanya, which set sail from the Chennai Port on Monday on an India-Myanmar joint oceanographic study.

MULTINATION INITIATIVE / SPECIAL FLOATS TO TRANSMIT DATA

Study on salinity changes in Indian Ocean

By Our Special Correspondent

CHENNAI, APRIL 15. India proposes to invest during the Tenth Plan period more than Rs. 30 crores for a multinational initiative to study salinity and temperature changes in the Indian Ocean region, the Ocean Development Department Secretary, Harsh K. Gupta, said today.

The countries in the region would come together to drop about 400 'special floats' in the ocean, at places outside Indian's exclusive economic zone (EEZ). The floats would sink up to a depth of two km and come back to the surface periodically. They would transmit recorded data on salinity and temperature changes in the marine atmosphere via satellite. India's share would be to drop about 150 of these floats. The data from the floats would be retrieved by India, which could then make the information available to other countries.

"This will give us important information about the ocean condition so that we will be able to establish climate changes and forecast weather trends," Dr. Gupta said after flagging off an Indo-Myanmar joint oceanographic cruise by the Oceanographic Research Vessel (ORV) 'Sagar Kanya'.

The Indo-Myanmar joint exploratory project was significant as scientists from either country would jointly conduct oceanographic surveys to study physical,

chemical, biological and geological processes in the Andaman Sea and collect samples to take up basin scale studies in the Andaman Sea. The idea would be to develop joint marine science capabilities.

Legal Continental Shelf

The Department of Ocean Development (DOD), he said, was also collecting data to survey the country's Legal Continental Shelf (LCS) along the coastline. The existing data was made available in the 1960s after which several changes had taken place. The effort now was to survey the extent to which sedimentation had increased under the sea, as this would decide the legal continental shelf (which would in turn decide the extent to which explorations and surveys can be carried out).

The National Institute of Oceanography director, E. Desa, said the joint initiative would help "us understand local processes from remote changes in the sea." In that sense the effort by the two countries was a large step in strengthening bilateral ties using science and technology. The NIO was coordinating the effort taken by the Ministry of External Affairs, using a vessel belonging to the DOD, acquired from Germany in 1983. The External Affairs Ministry had sanctioned Rs. 30 lakhs for the 35-day study, including a port call at Yangon. Later the Myanmar scientists would spend

about six weeks at the NIO, Goa, to analyse the data. Dr. Desa said that besides the 'ORV Sagar Kanya', the NIO (an affiliate of the Council for Scientific and Industrial Research) planned to acquire another ship for similar oceanographic research.

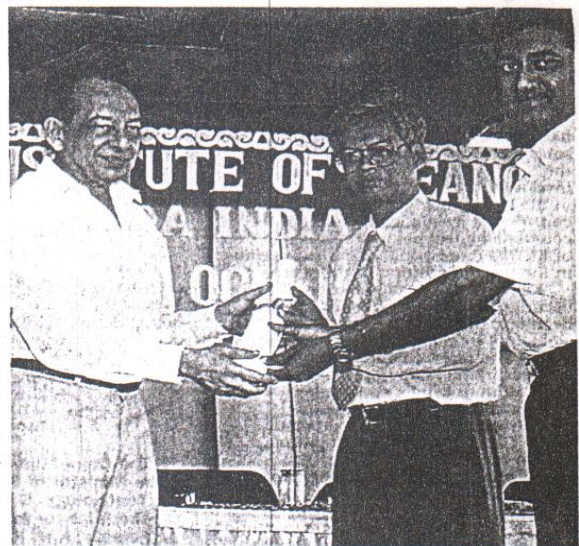
It would be named 'RV Gaveshani-II'. "We have acquired special equipment worth Rs. 10 crores for the proposed vessel."

The NIO chief scientist, P.S. Rao, and the Myanmar Team leader, Swe Thwin (of Mawlamyine University), said the proposed work consisted of documenting and obtaining baseline data on biological species diversity of phytoplankton, zooplankton and benthos.

The studies would also focus on temperature and salinity changes in Andaman Sea, geological studies and sub-bottom profiles. Sagar Kanya Master, Bomi H. Dadachanji, said the Indo-Myanmar initiative would mark the multidisciplinary deep sea research vessel's 175th cruise.

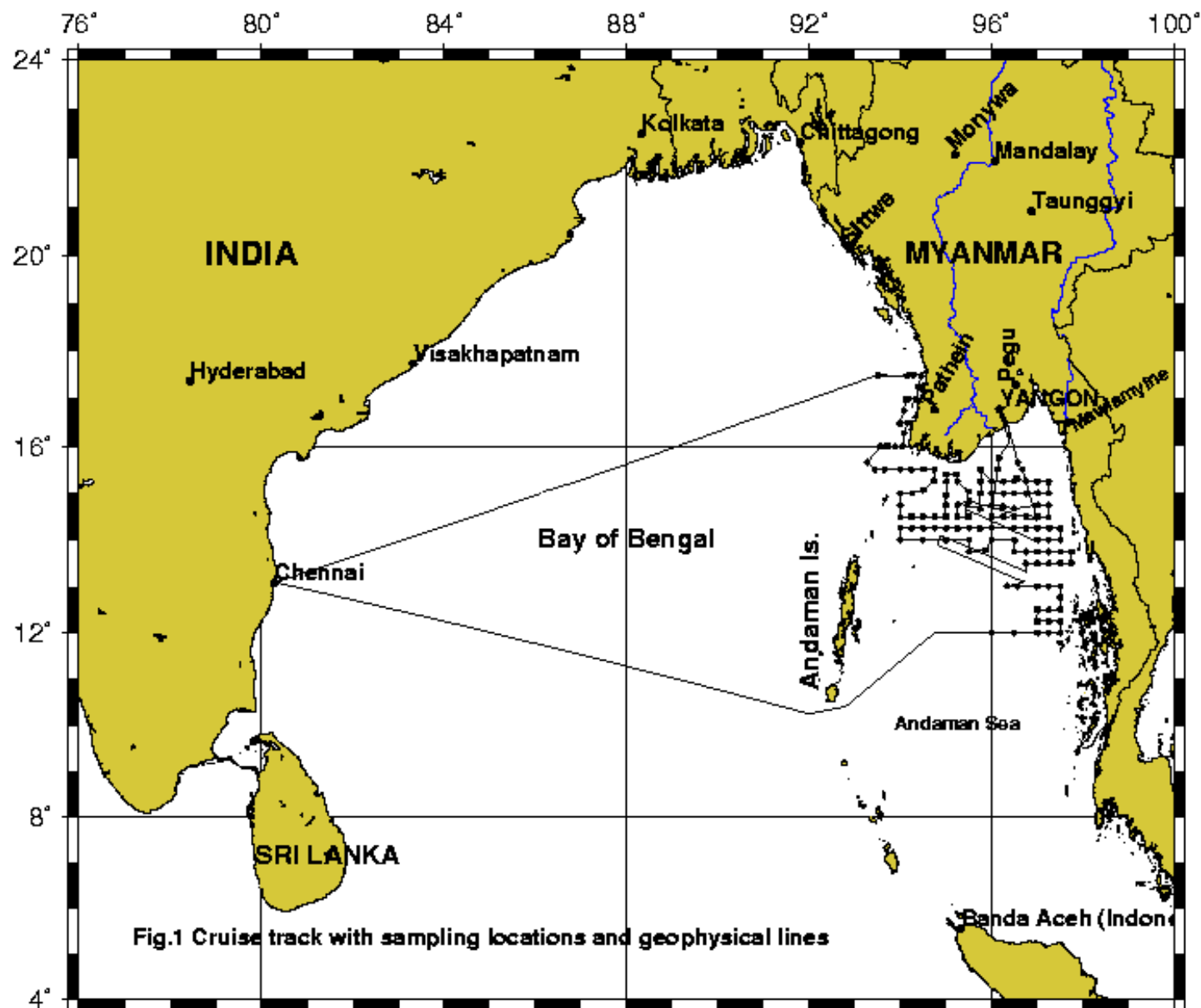
The 100-metre long, electrically powered vessel had advanced equipment that would reduce "too much rolling" to facilitate precise data collection and studies.

The Chennai Port Trust chairperson, P. Bhaskaradoss, and the Shipping Corporation of India regional general manager, S.K. Bhalla, highlighted the importance of the venture.



Harsh K. Gupta, Secretary, Department of Ocean Development (left), handing over the 'Cruise Plan' to the Myanmar team leader, Swe Thwin and P. S. Rao, Chief Scientist, National Institute of Oceanography (right) in Chennai. —Photos: M. Moorthy

Excellent Cruise



Total 130 locations

CTD – 70 stations

Water samples – 68

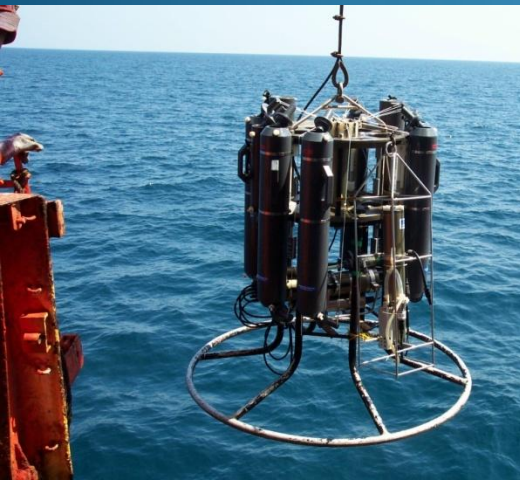
Surface sediments- 125

Sediment cores- 15

TSM (surface)– 160

TSM (profile)- 30

Geophysical data – 850 lkm





Celebrating 100th station

Multi-disciplinary training

Zooplankton & fish larva; primary productivity; benthic biology

DO, nutrients, DMS

Micropaleontology - benthic foraminifera

Instrumental techniques - SEM-EDAX; NMR; XRD; design & development of instruments

Bathymetric maps using computers

SST, salinity data and surface met observations



A sunset scene with a statue on a rock and a person splashing in the water. The sun is low on the horizon, casting a warm glow over the scene. The statue is a dark, slender figure standing on a rock. The water is choppy, and a person is seen splashing in the water near the statue.

Thank You