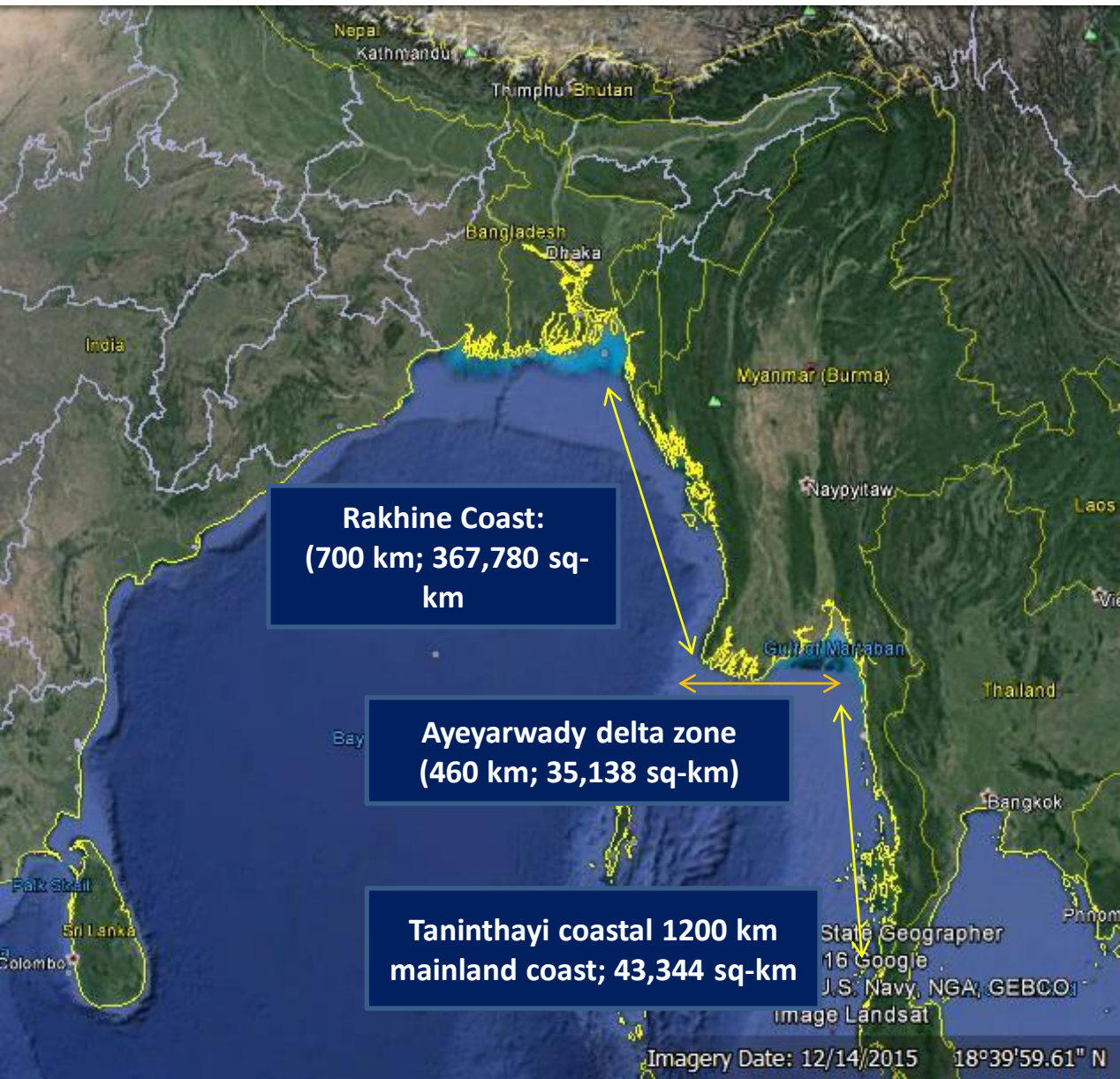




Information on Initiative Programme on Conservation and Management of Fisheries Resources and their Habitats in Myanmar

Maung Maung Lwin,
Deputy Director,
Research and Development Division
Department of Fisheries, Myanmar

Marine fisheries waters & environment:-



2832 km coastline:
228781 sq-km
continental shelf
-Territorial sea: 486,000
sq-km (EEZ)

Current National Policy of Fisheries

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

Vision

“Our vision is to ensure a sufficiency of fish supplies not only for the present entire national people but also for future generations by conserving of the fisheries resources with sustainable fisheries at all times.”

Mission

- Conservation and rehabilitation of fisheries resources;
- Promotion of fisheries researches and surveys;
- Collection and compilation of fishery statistics and information;
- Extension services; Supervision of fishery sectors;

Work plan for Fisheries Sector

- In order to upgrade research development of fisheries sector, coordination and cooperation will be carry out to get technology know-how and international assistance;
- Sustainable ecosystem approach fisheries and fisheries resources and environment conservation will be conducted;
- Laboratories and Resources Centers for fisheries sector will be expanded and established in Regions and States as necessary;
- Support related to breed, feed and medicine will be rendered for the economic assistance of fisheries business; and
- Upgrading the production of competent fishery graduates will be conducted.

Legislation

- 1990 : Current Myanmar Marine Fisheries Law and related Notifications, Directives, Rules etc.
- Myanmar Marine Fisheries Law will be promulgated. But 12^{ve} draft is submitted to the Parliament already.

REGIONAL AND INTERNATIONAL COLLABORATION

- **SEAFDEC, NACA, APFIC, IOSEA, BOBLME and FAO**

The DoF has trained trainees in under mentioned training courses:

- Stock assessment
- Ecosystem approach fisheries management
- Sharks and Rays
- Larvae identification
- Fish Taxonomy
- Integrated coastal zone management
- Capacity building programme for Marine Turtles

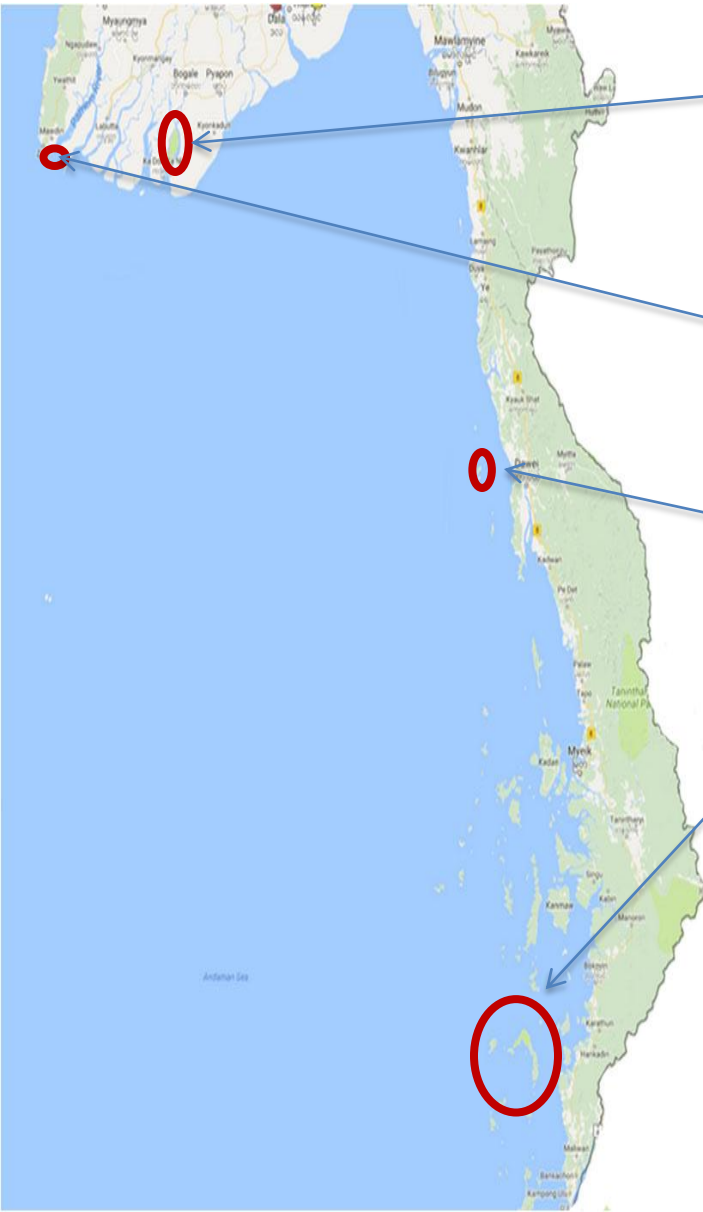
Signatory

- As a member of ASEAN, Myanmar signed an MoU for international cooperation for the conservation of sea turtles in Jakarta, Indonesia. This resulted in the extension of the conservation of sea turtles in Myanmar. (Source:

Myanmar is also a signatory to:

- Convention on Biological Diversity (CBD)
- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- UN Convention to Combat Climate Change.
- Convention on Migratory Species / MoU on Conservation and management of marine turtles and their habitats in Indian Ocean and South-east Asia (CMS/ IOSEA)
- CMS/ Dugong

Myanmar Marine Protected Areas

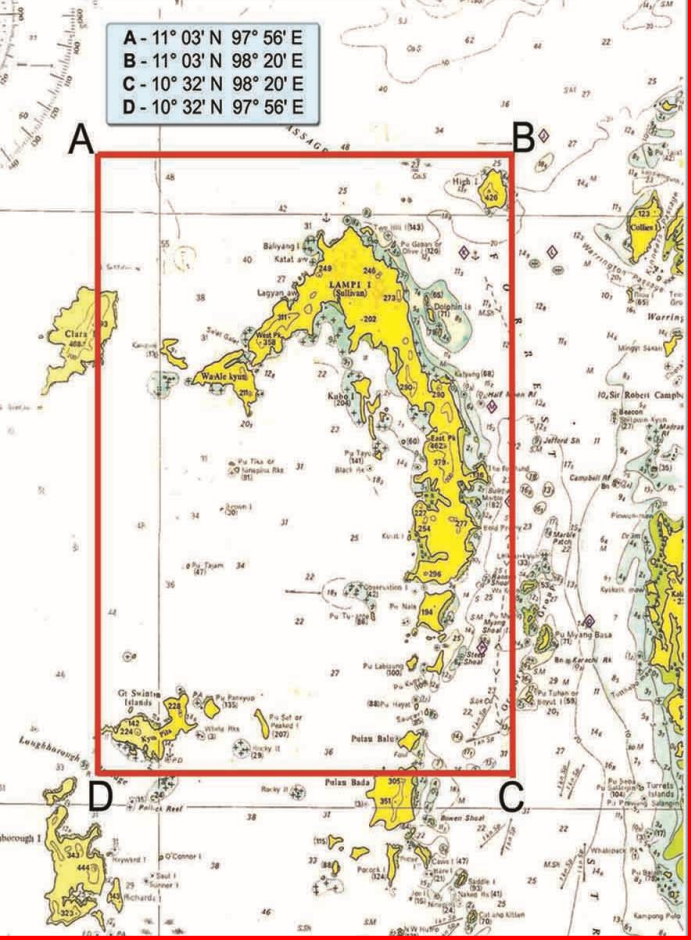


- **Meinmahla Kyun wilsanctuarydlife**
(Notification no.91/1993 (5-1-1993))

- **Thameehla Island**
(Notification no.289/1970 (12-10-1970))

- **Longlone Bok Island (Moscos Island)**
(Notification no.243/1927(1-11-1927))

- **Lampi Island**
(Notification no.40/1996 (20-8-1996))



Shark protected Area (I)

Lampi Island

Tanintharyi Coastal

Established on 5-5-2004

by

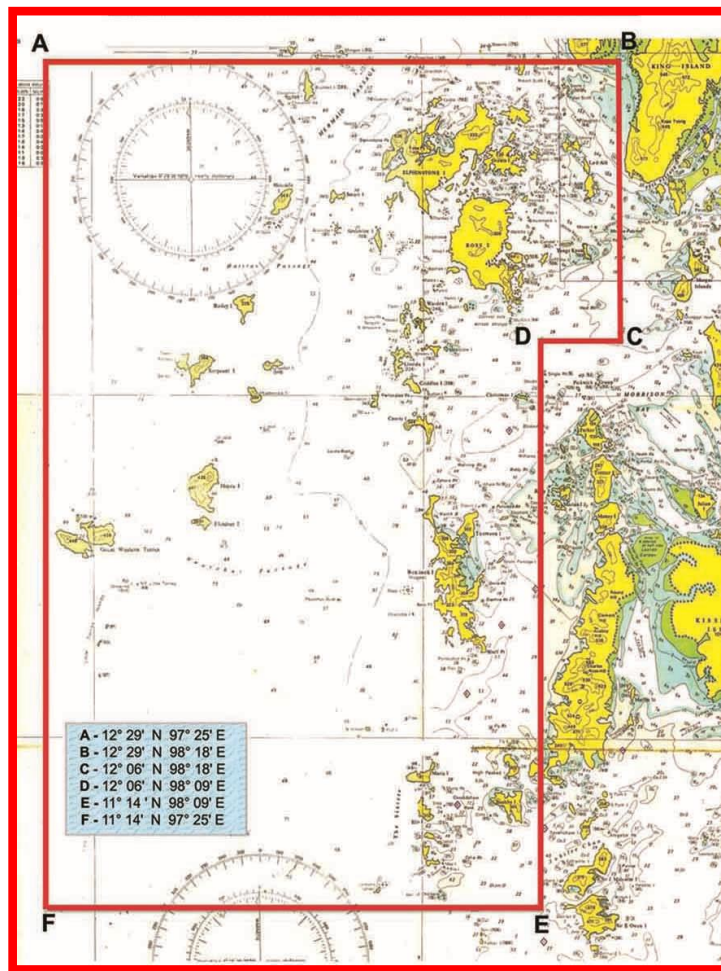
Department of Fisheries

Shark protected Area (II)

Ross Island

Tanintharyi Coastal

Established on 5-5-2004



Endangered Species Conservation and Management

Marine Turtles, Ayeyarwady Dolphin and Dugong



Collaboration with Wildlife Conservation Society (WCS)



A. Project Title: **Spearheading Marine Conservation in Myanmar: A national program for marine spatial planning and fisheries reform**

Partnership: DOF, MONREC, MFF, University of Exeter, Offshore Oil and Gas companies

Project Area: National, Rakhine

Project Duration: Enter into force upon signing date by both parties (2016-2017, 1-Year)

Project Activities (Action Plan)

The initiative will incorporate spatial planning for on-going and future development and conservation.

Objective- I. Promote the development of a national marine spatial plan for conservation and development

- Data collection from academic partners, government bodies, and NGOs;
- Gap assessment of additional data needs of Myanmar's EEZ;.
- Data overlay and analysis using marine spatial planning tools ;

- Stakeholder review/consultation process; and
- Draft marine spatial management strategy.

Objective- II. Promote the development of a Sustainable Fisheries Conservation Strategy

- Offshore fishery assessment and conservation strategy;
- Inshore fishery assessment and conservation strategy; and
- Species protection strategy.

B. Project Title: Securing marine fisheries, livelihoods and biodiversity in Myanmar through co-management

- **Partnership:** DoF, PyoePin, Rakhine Coastal Association, Rakhine Fisheries Partnership, University of Exeter
- **Project Area:** Rakhine State, (Thandwe, Kyentali and Gwa)
- **Project Duration:** Enter into force upon signing date by both parties (2016-2019 , 3 -Years)

Project Activities (Action Plan)

There are limited independently collected data on catch, landings or socio-economic trends, fisher interviews conducted by WCS in May 2015 suggested a >50% drop in catch over the past 5 years, particularly in sardine, anchovy and mackerel.

There is also evidence of inshore fisheries by-catch, including a range of globally threatened species like dugongs, turtles, sharks and rays.

The project focuses on the inshore small-scale fishery between Thandwe and Gwa townships in Rakhine State, and will provide a model for other States and Regions in Myanmar. The project consisting of three components.

- **Data collection:**

Project will use key informant interviews, semi-structured interviews, voluntary tracking and focus group discussions to map current inshore effort and inform a participatory data collection system on catch and landings.

Project partners will train fishing communities and district officials to assist with information collection on areas fished, fisher numbers, time-at-sea, weather, fishing and handling methods, gear used, species, length and sale price, resulting in a baseline catch per unit effort (CPUE).

Basic Necessities Surveys will be used to assess socio-economic conditions and measure the contribution of inshore fisheries to local livelihoods.

Using baseline data, the project will measure the long-term impact of co-management on building social capital, fisheries recovery and by-catch reduction.

- **Outreach and engagement in governance:**

Project will engage a broad suite of community and government stakeholders through An annual forum held to share collected data and ensure decision-making processes are open and equitable, and Training workshops implemented to improve stakeholder engagement, accountability and compliance with management rules.

- **Development and implementation of fishery co-management plan:**

Project will use biological and socio-economic information from stakeholder engagement workshops to help design and adopt an effective, collaborative co-management plan that includes participatory input controls (e.g. number of fishers, gear/practice conditions, seasonal/spatial restrictions, fishing days at sea) and output controls (e.g. catch and size limits) for small-scale fisheries, with the goal of improving CPUE, value capture and sustainability for fishers.

Project will oversee the implementation of this plan, and will disseminate lessons learned from this model to DoF government officials.

C. Project Title: Building Thriving Fisheries in Myanmar

- **Partnership:** DoF, MFF, Environmental Defense Fund (EDF)
- **Project Area:** National, Rakhine, Tanintharyi
- **Project Duration:** Enter into force upon signing date by both parties (Only 8-months in 2016) (will be extended pending funds)

Project Activities (Action Plan)

- WCS and EDF have a vision for a long-term commitment to set Myanmar's most important fisheries on a trajectory of growth by building a project and network of institutions aligned behind sustainable fisheries and protecting critical habitat based on principals of marine spatial planning, co-management, and ensuring Myanmar and its fishermen capture the bioeconomic upside of fisheries sustainability.
- Create a landscape analysis of fisheries policies and decision-making that will enable us to build effective partnerships with government, fishermen, and community organizations.
- Initiative a Marine Spatial Planning (MSP) process and a data inventory with early insights used to inform a strategy for filling gaps in fisheries and marine science.
- Identify prospective pilot sites and fisheries for developing sustainable fisheries management and marine reserves.
- Begin a value chain and market analyses.

Collaboration with Flora and Fauna International (FFI)



- Department of Fisheries (DOF) and FFI-Myanmar Programme have been agreed and signed Letter of Agreement (LoA) on “Collaborative Programme to support the Marine and Freshwater Biodiversity in Kachin and Rakhine States, Ayeyawaddy and Tanintharyi Regions ” on 17 December 2014.
- FFI is also implementing conservation projects in collaboration with the Department of Fisheries and supported by the Tanintharyi Regional Government to establish Locally Managed Marine Areas (LMMAs) in Done Pale Aw village and Lin Lon-Parawah village on the Thayawthadangyi Island and Langann village on Langann Island for the sustainability of the livelihood of the local communities in the Myeik Archipelago.

Activities

- Training for dive team
- Reef check surveys
- Liveaboard trips
- Seagrass surveys
- Shark assessments
- Socio Economic Monitoring (SocMon) surveys
- Mangrove surveys
- Fisheries assessments/data collection



MPA network development

- Priority sites for MPA network for Myeik Archipelago
- Includes recommendations for no-take, multiple use and gear restricted zones



Locally Managed Marine Areas (LMMA)

- **LMMA establishment**

An area of near shore waters and coastal resources that is largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area.

In the Myeik (Mergui) Archipelago, the LMMAs are co-managed by local communities and the Department of Fisheries (DoF); assisted by the Navy, the Department of Environment Conservation and Department of Forestry (MONREC), the General Administration Department and supported by conservation NGOs and INGOs.

Locally Managed Marine Areas

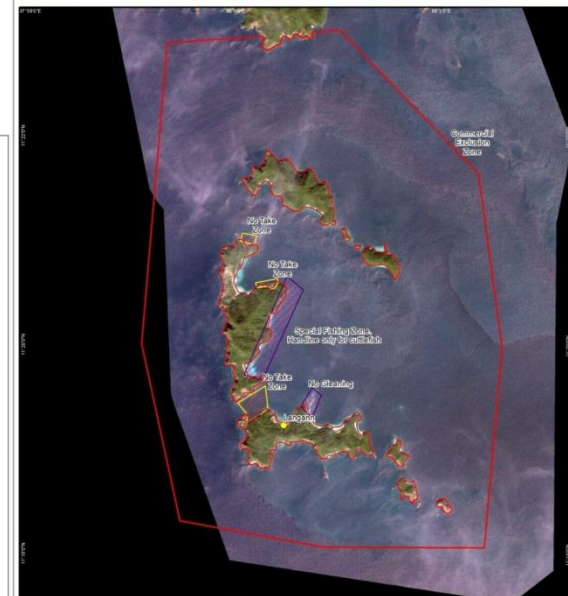
Proposed Fish Zoning Map of Lin Lon Village(8907 ac)(Draft)



Proposed Fish Zoning Map of Done Pale Aw Village(4637 ac)(Draft)



Proposed Fish Zoning Map of Langann Village(11099 ac)(Draft)



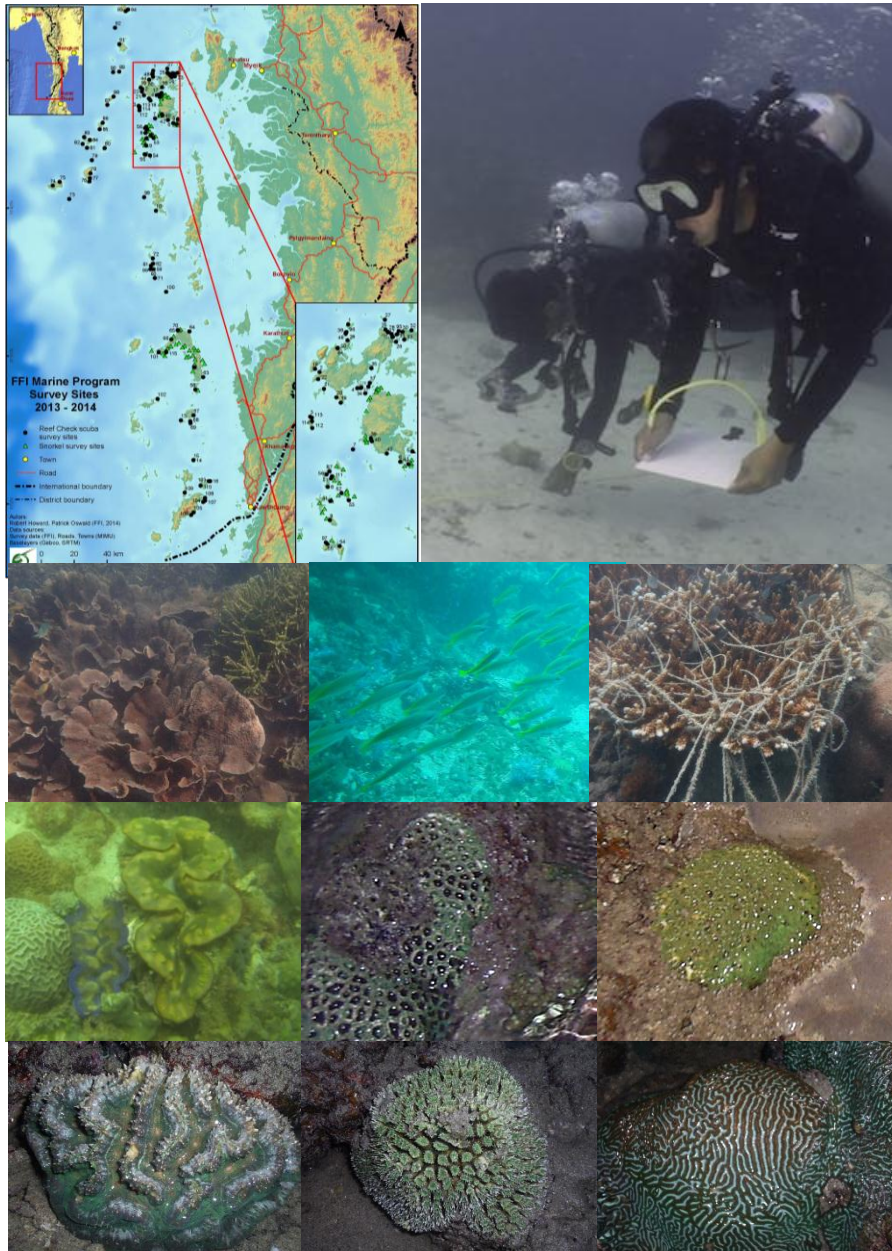
LMMAs Restrictions:

- Fishing area for the fishing community only
- No fishing zone

Fishing area for Fisheries community only

- No use dynamites;
- Banned Fishing by Trawl, purse seine and squid fishing;
- Fishing with allowable fishing gears only; and
- Others.

Reef Check Surveys



Methods

Reef Check:

1. Coral Cover;
2. Fish abundance and diversity;
3. Invertebrate abundance and diversity;
and
4. Human impacts;

Results

1. Reef Check:
2. Coral Cover: approx. 30% cover (poor to average), some sites over 90%!
3. Fish abundance and diversity: low
4. Invertebrate abundance and diversity:
low but many urchins
5. Human impacts: dynamite, anchor damage, discarded nets

- To implement as the pilot project, Department of Fisheries and FFI created a taskforce for LMMAs which involves local Universities, Line Ministries Government staff and other concerned organizations. And marine mapping are being produced to use of the resources with communities, identified the zoning systems within LMMA and developed rules and regulations for LMMA.

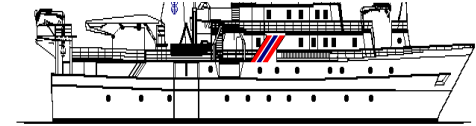
According to the results:

1. Coral species in Myeik Archipelago: 287 hard coral species (68 genera, 17 families)
2. Seagrass species in Myanmar: 12 species
3. Fish species in the Myeik Archipelago: 495 species
4. Sharks: 21 Species under 5 Families 2 orders ; Rays: 41 Species under 10 Families 4 orders; and Skates: 2 Species under 1 Family.





Marine ecosystem surveys in Myanmar by Dr. Fridtjof Nansen Research Vessel Survey



Summary of Results



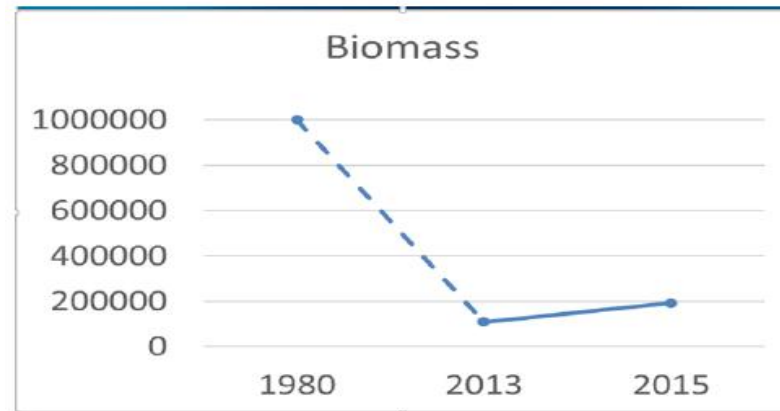
Studied Period:

- 1) 1979, September - October
- 2) 1980, March - April
- 3) 2013, November-December
- 4) 2015, April-June

PELAGIC FISH ABUNDANCE

The average pelagic biomass estimated in the 1979-1980 surveys was about 1 million tonnes.

The average pelagic standing stock biomass estimated from the 2013 and 2015 in Myanmar waters was estimated at only 190 000 tonnes.



DEMERSAL FISH ABUNDANCE

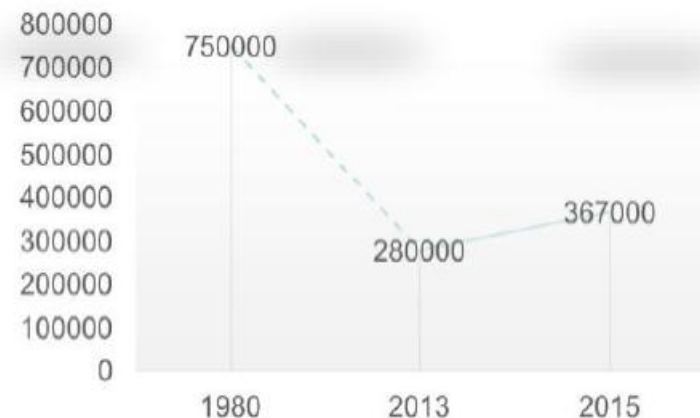
The average demersal biomass estimated in the 1979-1980 surveys was about 750,000 tonnes.

The average demersal standing stock biomass in the 2013-2015 survey was estimated at 320 000 tonnes.

The updated demersal biomass estimates represent a 50% decrease from the 1970-1980 estimated biomass.

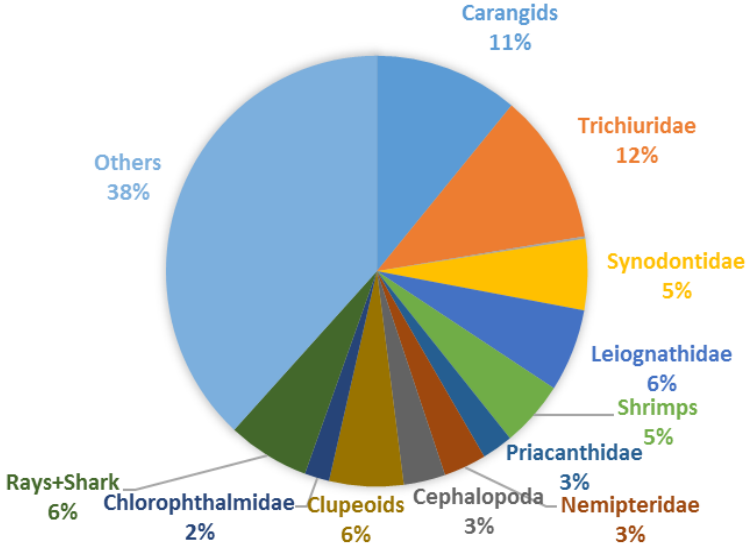


Demersal Biomass

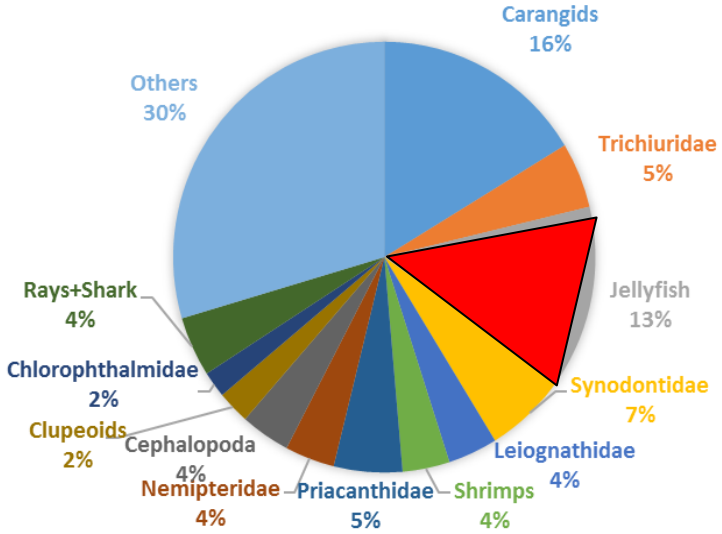


Comparisons of catch composition show seasonal variations

2013 SURVEY



2015 SURVEY



Jellyfish population is increasing

Recommendations

- Consistent with the Myanmar Vision, management actions and policies should be directed to rebuild the stocks;
- Current yields, based on the standing biomass of demersal stocks are well below the fishable yield of the 1970s;
- The target would be to rebuild pelagic and demersal stocks to at least the level of the early 1970s;
- In order to achieve this target, the total allowable catches should be in order about 100,000 MT (both pelagic and demersal); and
- A combination of management measures to reduce fishing effort are required achieve to this target

These measures must also be

- Possible to implement
- Cost effective
- Acceptable by stakeholders
- Balance with respect to short term social and economic impacts and long term benefits to economy, environmental and employment.

Proposed Projects

SEAFDEC/UNEP & GEF should consider to support and implement such kind of fisheries refugia projects in:

- Andaman sea (Indonesia, Thailand, Malaysia and Myanmar)
- Freshwater areas in Myanmar

Please contact to akthar.mgmglwin@gmail.com if you need more information

- **Thank you**