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Club Andaman Beach Resort, Phuket, Thailand
18-19 January 2011

Prepared by
Asian Coastal Resources Institute Foundation (CORIN-ASIA)

Submitted to
Bay of Bengal Large Marine Ecosystem Project
Food and Agriculture Organization
Regional Office
Bangkok

27 January 2011
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<td>Full Form</td>
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<tr>
<td>ASEAN</td>
<td>Association of South East Asian Nations</td>
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<td>BOBLME</td>
<td>Bay of Bengal Large Marine Ecosystem</td>
</tr>
<tr>
<td>CORIN-Asia</td>
<td>Asian Coastal Resources Institute Foundation</td>
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<tr>
<td>RCU</td>
<td>Regional Coordination Unit</td>
</tr>
<tr>
<td>DG</td>
<td>Director General</td>
</tr>
<tr>
<td>DNP</td>
<td>Department of National Parks, Wildlife and Plant Conservation</td>
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<tr>
<td>DMCR</td>
<td>Department of Marine and Coastal Resources</td>
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<td>DoF</td>
<td>Department of Fisheries</td>
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<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<td>FD</td>
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<td>GIS</td>
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<td>IUU</td>
<td>Illegal, Unreported and Unregulated Fisheries</td>
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<td>MFF</td>
<td>Myanmar Marine Fisheries Federation</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non Government Organizations</td>
</tr>
<tr>
<td>PCD</td>
<td>Pollution Control Department</td>
</tr>
<tr>
<td>SAP</td>
<td>Strategic Action Programme</td>
</tr>
<tr>
<td>SEAFDEC</td>
<td>Southeast Asian Fisheries Development Center</td>
</tr>
<tr>
<td>TAT</td>
<td>Tourism Authority of Thailand</td>
</tr>
<tr>
<td>TDA</td>
<td>Trans-boundary Diagnostic Analysis</td>
</tr>
<tr>
<td>VA-SIM</td>
<td>Vulnerability Assessment and Social Impact Monitoring</td>
</tr>
<tr>
<td>WAP</td>
<td>Wetlands Alliance Program</td>
</tr>
<tr>
<td>WG</td>
<td>Working Group</td>
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EXECUTIVE SUMMARY

The Workshop was organized by the Asian Coastal Resources Institute Foundation (CORIN-Asia), in collaboration with the Department of Fisheries in Thailand and Department of Fisheries in Myanmar, as an activity of the Bay of Bengal Large Marine Ecosystem (BOBLME) Project, under its “trans-boundary critical habitat management component (2.4), with financial support from the Food and Agriculture Organization (FAO). This is the third in a series of three workshops aimed at developing a workplan to identify appropriate processes and support activities leading to the development of a bi-national collaborative institutional approach and system-wide master plan to facilitate joint management of Myeik (formerly called Mergui) Archipelago.

The Workshop focused in addressing the following issues (i) data and information gaps, and related monitoring requirements that included identifying trans-boundary issues, e.g. fisheries movement and habitat; (ii) alternative livelihood opportunities that included production and habitat benefits for local livelihoods, e.g. for adoption by sea gypsies (Moken and Salone); (iii) local views on environment, critical habitat and development issues that include managing tourism growth and deep sea port development to protect environment and cultural integrity; and (iv) policy, planning and institutional development options leading to a strategic action programme through the creation of a collaborative institutional framework for programme implementation, e.g. fisheries and tourism administration.

Workshop participants represented various sectors such as community and local government representatives, staff from concerned NGOs, academic institutions, national government agencies, private sector and regional organizations.

The Joint Workshop came up with priorities as part of the workplan and a collaborative management framework.

Recommendations for the Joint Workplan include the following components based on the group discussion outputs.

Six Components of Proposed Workplan (Initial Activities)

<table>
<thead>
<tr>
<th>Component</th>
<th>Indicative Activities</th>
<th>Expected Outputs and Outcomes (in 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborative Management Structure</td>
<td>Establish structure and organize collaborative management structure</td>
<td>Functional Collaborative Management Structure</td>
</tr>
<tr>
<td>Resources Profiling</td>
<td>Mapping using Remote</td>
<td>Preliminary map of existing</td>
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</tbody>
</table>

1
<table>
<thead>
<tr>
<th>Component</th>
<th>Indicative Activities</th>
<th>Expected Outputs and Outcomes (in 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing and GIS analysis</td>
<td>resources and resource uses</td>
<td></td>
</tr>
<tr>
<td>Data collection and Research</td>
<td>Surveys of critical habitats and endangered species</td>
<td>Meta-database of already available and newly generated information</td>
</tr>
<tr>
<td>Alternative Livelihood</td>
<td>Vulnerability Assessment and Social Impact Monitoring</td>
<td>Report identifying vulnerable groups, WHERE are they located and WHAT projects should be implemented</td>
</tr>
<tr>
<td>Capacity development</td>
<td>Cross-site visits/learning (exact nature and extent to be determined)</td>
<td>Government staff and local people gain knowledge through exchange learning visits</td>
</tr>
<tr>
<td>Monitoring System</td>
<td>Identify management parameters to be monitored and establish mitigation and adaptation mechanisms</td>
<td>Identified monitoring parameters Established mitigation and adaptation mechanisms to address development issues</td>
</tr>
</tbody>
</table>

The institutional arrangement and joint mechanisms were also discussed and the participants agreed to the following proposed structure that includes the following groups and functions.

![Proposed Collaborative Management Structure for managing Myeik Archipelago](image)

Proposed Collaborative Management Structure for managing Myeik Archipelago
• **Executive Committee**: Composed of high level (decision-makers) (BOBLME to write to relevant departments to recommend member to the Executive Committee; Workshop participants to inform DGs about result of the BOBLME workshop).

• **Technical Advisory Group**: It will be a multi-stakeholder and broad-based body composed of Technical Experts (each relevant department/stakeholder to propose members to the group). The current BOBLME National Task Force (NTF) members in each country could form the basis of the group.

• **Secretariat**: unit responsible for maintaining records, liaising, coordinating and doing other secretarial duties to support project implementation. In the first instance, this role will be provided by the BOBLME Project.

• **Working groups**: Collaborative working groups will be formed when required (e.g. on data collection and research; alternative livelihood and capacity-building; and development issues).
1.0 INTRODUCTION
1.1 Background
Myeik Archipelago consists of 804 islands, located under Tanintharyi Division. It is a resource-rich area with very high biological diversity. The Myeik Archipelago system extends across the Myanmar and Thailand national boundaries, and covers a maritime area of approximately 48,000 km² out to the 200m isobath. Insular waters are characterized by an abundance of coral reefs and extensive sea grass beds. In addition to these critical habitats, the area is characterized by a large number of rare and endangered species including five species of marine turtle, a number of marine mammals and elasmobranches (whale shark and rays). One of the features of the area is the presence of a large number of species of sharks.

In Myanmar, protected areas in the archipelagic chain consist of the Lampi Marine National Park, an ASEAN Heritage Site, and the recently declared National Shark Reserve. On the other hand, the Thailand side of the archipelago has Laem Son, Phayam, Phra Thong, Similan Island and Surin Island National Parks.

Major tribal groups living within the islands include the Moken and Salone which live on boats during the dry season and move to land only during the rainy season. Their livelihood is based primarily on reef gleaning.

Major fisheries include sea cucumber, mollusks, and fin fish (e.g., Indian mackerel, scad, grouper, snapper, spiny lobster, tuna, and sardine). The archipelago is increasingly becoming a major tourist attraction, particularly for recreational dive operations.

Major threats to the area include: illegal logging, illegal fishing, poorly managed tourists operation and recently, the planned development of a major port in the area can be a threat if not properly addressed. As a result of the threats, many of the reefs in the archipelago are coming under increasing stress. Specifically, threats from illegal fishing activities include dynamite fishing, over fishing and other forms of non-sustainable fishing practices, sedimentation, anchor damage, and trampling, among others. Many of these issues are trans-boundary in nature. Habitat degradation in turn, has affected fish populations, which are already under pressure due to over-fishing.

Constraints in relation to appropriate actions to address the existing issues include lack of resources, data and budget, and the absence of an institutional framework which would allow for a coordinated effort among concerned countries and authorities.
1.2 The Workshop

The Workshop was organized by the Asian Coastal Resources Institute Foundation (CORIN-Asia), in collaboration with the Department of Fisheries in Myanmar and Thailand, as an activity of the Bay of Bengal Large Marine Ecosystem (BOBLME) Project, under its “trans-boundary critical habitat management component 2.4, with financial support from the Food and Agriculture Organization (FAO). This workshop was intended to develop a workplan to identify a process and support activities leading to the development of a bi-national collaborative institutional approach and system-wide master plan to facilitate collaborative management of Myeik (formerly called Mergui) Archipelago. A map of the area appears in Appendix 4.

The workshop addressed factors linked to the sustainable management of living resources of the Myeik Archipelago Protected Area System. Discussions dealt with issues related to the following, (i) updating of the existing environmental baseline data and information; (ii) identified major data gaps in the baseline associated with basic oceanography, fish larval patterns, rare and endangered species, and the prevailing current regime; (iii) promotion of environmental services; (iv) promotion of livelihood interests by both local people and different levels of governance to mitigate existing non-sustainable fishing practices; (v) the systematic monitoring practices based on current “best practices” in the region; (vi) the increasing need for public awareness particularly among decision makers, tourists, and the public at large, of the existence and significance of the archipelago; and the (vii) the potential impacts of the planned port development in the area.

A total of 44 participants from various stakeholder groups from Myanmar and Thailand attended the workshop. Participants came from different organizations such as the Department of Fisheries, Department of Marine and Coastal Resources, Department of Forestry, Department of National Parks, National Commission for Environmental Affairs, Ministry of Education, Ministry of Hotel and Tourism, Ministry of Transport, Myanmar Marine Fisheries Federation (MFF), State Advisors, Fishing Boat Owners, CORIN-Asia, Southeast Asian Fisheries Development Center (SEAFDEC), Wetlands Alliance Program (WAP), and BOBLME Regional Coordinator. The list of participants is attached as Appendix 1, the agenda is provided in Appendix 2, and a photo of participants appears as Appendix 5.

2.0 WORKSHOP OBJECTIVES

The Workshop was intended to develop recommendations and a workplan for activities in the following areas: (i) data and information gaps and related monitoring requirements that will lead to the establishment of environmental baselines and monitoring; (ii) alternative livelihoods; (iii) local views on environment, critical habitat and development issues; and (iv) policy, planning and institutional development.
3.0 WORKSHOP PROCEEDINGS AND OUTPUTS

The workshop was attended by various stakeholders coming from the national government, local government offices, research institution, academic sector, NGOs, private sector and local fishermen from Myanmar and Thailand.

Day 1
3.1 Opening of the Workshop

3.1.1 The Bay of Bengal Large Marine Ecosystem Mergui Archipelago Joint Stakeholder Workshop – Myanmar and Thailand, was held at Club Andaman Beach Resort, Phuket, Thailand on 18-19 January 2011.

3.1.2 U Khin Ko Lay, the Director General of Department of Fisheries, Myanmar gave an opening speech (Appendix 3.1.1). In his statement, the DG expressed his profound gratitude to DoF Thailand for hosting the workshop, BOBLME RCU and CORIN-Asia for co-organizing the joint workshop. He underscored the positive implications of the third workshop in terms of strong commitment to sustainable fisheries and environment between the two border nations, Myanmar and Thailand. He also thanked all Government Institutions, Local Authorities and NGOs for their time and expertise. He pointed out that Myeik Archipelago and its natural resources are important to support the economy and livelihood of the coastal population in Myanmar just like in Thailand. He expressed hope that the Project and the Workshop will come up with a workplan to significantly improve the management of Myeik Archipelago, its critical habitats through ecosystem-based approaches towards sustainable development, which is beneficial to both countries. Furthermore, he urged BOBLME Regional Coordinator to facilitate provision of financial support for project implementation.

3.1.3 Dr. Nanthiya Unprasert, Deputy Director General of the Department of Fisheries in Thailand in her opening remarks (Appendix 3.1.2) mentioned about the timeliness of the workshop in bringing together scientists, technical experts and decision-makers from the two countries to address trans-boundary issues and collaborative management of Myeik Archipelago. She emphasized the importance of preventive approach in tackling major environmental changes and human interventions.

3.1.4 Dr. Chris O’Brien, the Regional Coordinator of the BOBLME Project also gave an opening remark (Appendix 3.1.3) and provided a brief introduction to the BOBLME Project. He pointed out that the BOBLME Project aims to contribute to the improvement of the standard of living and the quality of life of small-scale fishers in the region. He described the five LME to sustainability. He also defined the project outcomes, the development of two major documents, Trans-boundary Diagnostic Analysis (TDA) and the Strategic Action
Programme (SAP) that include the establishment of financially-sustainable institutional arrangements, institutional collaborative mechanism, stronger governance, improved resources management, improved well-being of rural fisher communities, better knowledge of marine ecology and ecosystem health indicator. He also provided an overview of what has been accomplished so far regarding the BOBLME Project Component 2.4 including the stakeholders workshop. After which, a brief question and answer session followed to clarify certain issues in the mind of the participants regarding the project and the workshop.

3.1.5 Dr. Chumnarn Pongsri, Secretary General of SEAFDEC in his opening remarks (Appendix 3.1.4) appreciated the efforts of the two countries to come together to discuss the important aspect of collaborative management of the Myeik Archipelago. He stressed the commitment of SEAFDEC with their full capacity in supporting work in the area because they also have started initial activities that contribute to sustainable fisheries management in the area.

3.1.6 Dr. Somsak Boromthanarat, Director of CORIN-Asia, presented and discussed results from the first and second Stakeholder Workshop conducted in Ranong, Thailand and Yangon, Myanmar, respectively. In addition to the results of the first two workshops, he presented a proposal on the “Management of Myeik Archipelago Large Marine Ecosystem Programme: an ecosystem-based approach”. He encouraged the participants to be open to discuss ideas and potential areas for collaboration for the protection of coastal resources and upliftment of the living conditions of coastal inhabitants. The participants were divided into three working groups for the workshop discussions based on the identified thematic areas, and a common theme regarding issues related to policy, planning and institutional development options.

3.2 The Workshop Output

The workshop discussions in three breaks out groups followed the opening program. The three thematic areas that were assigned per group are as follows:

Group 1: To address data and information gaps, and related monitoring requirements that included identifying trans-boundary issues, e.g. fisheries movement and habitat

Group 2: To address alternative livelihood opportunities that included production and habitat benefits for local livelihoods, e.g. for adoption by sea gypsies (Moken and Salone)

Group 3: To address local views on environment, critical habitat and development issues that include managing tourism growth and deep sea port development to protect environment and cultural integrity.
The three working groups were given a common theme to discuss in addition to the specific thematic area assigned to them as mentioned above, which is “To address policy, planning and institutional development options leading to a strategic action programme through the creation of a collaborative institutional framework for programme implementation, e.g. fisheries and tourism administration.

A brief presentation of group outputs for the first round of workshop discussions were made before the closing of Day 1 of the Workshop.

The first day of Workshop ended at 5:30 P.M. and it was followed by a welcome dinner at 7:00 P.M.

**Day 2**

The second day of the workshop started with a brief recap and synthesis of the previous day’s outputs after which, workshop discussions in break out groups continued until the afternoon, before the plenary discussions to come up with the recommendations and a collaborative workplan and the proposed collaborative management structure in Figure 1.

**Group 1 Addressing data and information gaps, and related monitoring requirements that included identifying trans-boundary issues**

**Background**

In Thailand, research works by scientists have been conducted on marine resources and habitats such as coral reefs, coral fish populations and endangered species as well as socio-economics of the area. In contrast, not so much scientific research has been conducted on the Myanmar side. Thai DOF and SEAFDEC have conducted studies and surveys concerning commercial and small scale fisheries, and the landing sites.

There is lack of data regarding Myeik Archipelago marine life, its biodiversity, fishing effort, fish migration and tourist flow are not known, and in some cases the data is not up to date. Data and information have been collected based on need of certain projects or topics, specialization of researchers or institutions. As a result, there is a variety of fragmented and segregated bits of information with partial and incomplete data, which have never been placed within the framework of an integrated management-oriented plan. Moreover, the local communities have always been treated as a passive object of study, whose opinions, views and perception of reality have not been considered as scientifically relevant. As a
consequence, there has been no support of the research work toward the formulation of a comprehensive strategy for the management of marine resources involving direct participation of the users.

Project rationale should not only support research “per se” with never ending data-gathering processes, but on the contrary, should clearly establish the relevance to the intended objective in relation to resources, critical habitats and people. Research results should be assessed and analyzed within reasonable time frame, and subsequently monitored, e.g. the key features of the fish habitat and socio-economic benefits of the area in support to a participatory and integrated management plan. There is a need to use quick appraisal techniques to get an insight on the different problems through selected indicators rather than just building up a scholastic compilation of data sets that may not be relevant.

**Major Objectives for the Strategic Actions to Achieve**

- To provide a comprehensive insight into the status of marine resources, the pattern and use of marine resources, the socio-economic and cultural features of the users, the problems and conflicts generated by the multiple competing human activities Myeik Archipelago socioeconomic scenario.

- To monitor the change and impact of the pilot application of the concerted management measures on the resources and their use through updating and comparison of data summarized and/or collected and feedbacks from the stakeholders.

**Strategic Actions/Proposed Activities**

- To provide an updated comprehensive cultural, historical and socio-economic background of the context and trends of development in Myeik-Archipelago.

- To collect and synthesize available past data, studies and survey reports on the Myeik Archipelago on the main topics of marine ecology and biodiversity, commercial fisheries, small scale community fisheries, and tourism development.

- To update these data through specific research and assessment activities and to monitor the change on:
  - Marine ecosystems, with particular focus on mangrove, seagrass, coral reefs and coral reef fish, and endangered species.
- Commercial fisheries operations and use of the resources in Myeik Archipelago, particular trans-boundary pelagic species at the fish port
- Small scale fisheries in Myeik Archipelago, utilizing methods such as interview of fishers and middlemen, landing site surveys, impact analysis, identification of specific fishing grounds by gear/season/target species within the area as well as an analysis of sea-gypsies economic and financial system.
- Present pattern, impact and trend of tourism activities in Myeik Archipelago, with reference to the broader tourism scope emanating from Phuket.

**Group 2. Alternative livelihood opportunities**

**Background**

Although the stakeholder analysis will start first in identifying WHO are the vulnerable groups, WHERE are they located and WHAT tasks are appropriate, local people call for an immediate implementation of activities that will benefit them. The activities indicated are outputs of Group 2 discussions but are not exhaustive. Many of the activities need sharing of experiences between Myanmar and Thailand, e.g. management and organization skills. There are intermediate factors that may be necessary to do first before these activities can be fully implemented depending on stakeholders’ feedbacks.

**Coastal environment degradation impact large scale and small scale fisheries**

Extensive use of dynamite fishing in the area has contributed to serious damage to reef areas. Diving fishing is over utilized on the Thai side and potentially degraded in Myanmar for underwater collection of more lucrative products, such as lobster, giant clams and sea cucumber.

**IUU Fisheries**

The main cause identified in relation to IUU fishing is attitudinal, lack of alternatives and lack of economic incentives to do otherwise. Aquaculture development can be an alternative livelihood activity that can be promoted to lessen fishing pressure through IUU fishing practices. However, the poorer segment of the local community should not be excluded in the development of aquaculture activities. There is scope for lessons-learned sharing that will lead to exchange of technology that focuses on small-scale operation. Initial activities may include training, study tours and implementation of pilot projects.
Eco-tourism development
Tourism development so far has not involved the sea-gypsies community. The local people in Myanmar can learn from Thai experience concerning the role of sea-gypsies as tourist guide during diving trips and providers of fresh fish for tourists. Proposed activities include training for local people especially sea gypsies regarding tour guiding, and study tours to learn from each other particularly in terms of laws and regulations – Myanmar learning from Thailand experiences.

Post-harvest activities include processing
Fish price paid is very much market dependent, which is affected by the low state of preservation or reduced quality once taken to distant mainland markets. The use of ice is limited due to logistic problems. Activities may include construction of ice storage facilities and salting.

Conflict between different gears
Live bait hook and line fishing for pelagic fishes in the off shore waters is the main fishery income source for local people. Income from this activity can be improved through installation of fish aggregation devices (FAD) that attract migratory pelagic species, supporting small scale fisheries (usually having conflict with commercial pelagic fisheries) in near-shore (island) areas.

Strategic Actions/Proposed Activities
Activities may include a mini-workshop to establish plan of action of each specific activity, organizing of cross site visits to both countries to learn by example.

Objectives
- To build awareness of large and small scale fishers regarding resources conservation and sustainable management, and support the development of community self-organization.
- To upgrade fisheries activities and the preservation (hygiene in handling and processing) of the catch in a sustainable framework, inorder to raise the income of local fishers/sea-gypsies and guarantee a more equitable share of benefits.
- To demonstrate simple alternative sources of income through pilot projects.
- To promote local involvement in support services for eco-tourism activities capitalizing on their traditional life skills to ensure a more equitable share of benefits from tourism development.
1. **Stakeholders Analysis** will consider the use of Vulnerability and Social Impact (VA-SIM) Assessment as a tool in identifying WHO are the vulnerable groups, WHERE are they located and WHAT activities should be chosen appropriate for alternative livelihood.

2. **Stakeholder Groups** will be formed, e.g. fishermen’s group, coastal women’s group, youth group, and tourism development group.

3. **Support to fishing communities and sustainable fisheries development that will include:**
   - **Joint survey of trans-boundary fish species**, e.g. seasonal and spatial distribution and the capture strategy of sharks, Indian mackerel and hilsa, in order to get consensus on a sustainable distribution of fishing effort and to plan the use of gear type and closing season based on conservation needs of the area.
   - **Develop Fish Aggregating Devices (FAD)** to improve the live-bait hook and line fisheries for pelagic migratory species. Provision of material, equipment and technical assistance for the design, installation and management system are needed.

4. **Aquaculture development to address IUU fisheries:**
   - Set up a pilot sanctuary area for release of hatchery reared juveniles of giant clams (*Tridacna* spp.) to support restocking of this important economic species and as awareness building action. Thai expert will conduct training in breeding technique for Myanmar staff.
   - Upgrading of aquaculture stocking techniques to minimize loss of valuable resources and reduce the unequitable income as a result of the reduced catch during the dry season or closing season.

5. **Support establishment of ice storage facilities** for fish catch conservation. It will be locally managed by the fishermen group. Provide training on postharvest handling, hygienic practices and quality assurance.

6. **Promote the involvement of local fishermen in eco-tourism** activities as an alternative livelihood. The sea gypsies belong to a community of sea dwellers. Their skill in diving must be capitalized for tour guiding.

**Group 3: Addressing local views on environment, critical habitat and development issues that include managing tourism growth and deep sea port development to protect environment and cultural integrity.**

**Background**

Group 3 has identified that the planned development of Myeik Archipelago will be non-sustainable unless appropriate precautionary measures are put in place at the very start. Development and use of Archipelago ecosystem services will have great impact to the
livelihood of the local community. This in turn leads to severe ecosystem/environment deterioration with loss of ecosystem structure, function, composition and biodiversity.

The focal problem can be classified into four, with corresponding primary problem causes and effects as follows:

**Inappropriate land-use** for coastal development and urban development:

Tourism development can lead to increased eutrophication and solid waste management issues, coastal resources degradation, and changes in local livelihood.

Deep sea port and industries development can lead to water pollution and siltation, mangrove degradation, and coastal erosion.

Oil and gas exploration and operation can lead to contamination of hydrocarbon and heavy metal in the water and in fish.

Sand mining can cause coastal erosion that will adversely affect critical habitats and livelihood of coastal communities.

**Unsustainable harvesting practices**

Illegal fishing gear leads to loss of species number and diversity.

Destructive fishing methods (small mesh size, poison, dynamite, electro) causing depletion of fish stock and diversity

Over-harvesting of shell and coral, and fishing in spawning areas can result to loss of species number and diversity

The development of intensive and super-intensive aquaculture leads to adverse consequences like soil degradation and water pollution.

**Poor-water management: Water quality** (oceanographic) data/monitoring

Wastewater discharges from industries, establishments and other point-sources due to development activities can lead to water pollution and loss of species and productivity.
Natural phenomena
Low level of local awareness regarding negative effects of sea level rise causing coastal erosion, flooding, and saltwater intrusion has to be properly addressed.

In addition, low level of knowledge on increasing sea temperature causing coral diseases, migration of marine species and invading species, changes in species composition and declining fishery production is also a serious issue that has to be properly addressed due to their potential impacts to the environment and livelihood.

Objectives

- To establish a monitoring system that appropriately deals with sustainable development of Myeik Archipelago and links it with regional and national level initiatives.

- To build the knowledge of the local people to increase their awareness and capacity regarding potential adaptation measures in terms of their livelihood activities to be able to deal with change.

Strategic Actions/Proposed Activities

1. Organize a series of the workshops to establish marine water quality criteria
   - review and propose outline of system for monitoring
   - discuss with stakeholders a full proposal for monitoring system
   - implement the monitoring system

2. Organize a series of workshop on resources monitoring including data collection, mapping and setting up the database management system
   - Agree on site specific indicators for critical habitat, mangrove, seagrass and coral reef monitoring
   - Establish the overall monitoring system and conduct training for relevant stakeholders

3. Establish basic water quality (oceanographic) data collection and monitoring system of coastal water and study basic oceanography
   - Establish technical support systems for implementation
   - Provide technical support and training leading to operational monitoring plan
4. **Establish a network of early warning systems**  
   - Document experiences and lesson learned, and share between Myanmar and Thailand  
   - Identify constraints and opportunities for the project implementation  

5. **Assessing the status of land use and zoning practices**  
   - Identify issues and opportunities related to current land use and zoning practices  
   - Develop management guideline for appropriate land use and zoning practices  

**Plenary Discussions: Trans-boundary Collaborative Management**  

**Background**  
The project activities will be undertaken by the Departments of Fisheries (DOF) in Myanmar and in Thailand. DOFs will act as the catalyst in a process that will promote multi-stakeholder participation, contributions and consensus. It will include a broad-based multi-stakeholder approach involving various institutions and organizations. Planning for and implementation of plans for Myeik Archipelago cannot be the result only of the unilateral actions of the DOFs. Many actors have a stake in this area, including representatives of national and local government institutions, private investors in commercial fisheries and small scale fisheries, the sea-gypsies in particular.  

**Objectives:**  
- To support DOFs in acting as the catalyst in the progressive establishment of a collaborative management framework with other concerned stakeholder groups and with sea-gypsies in particular, by developing a network in which issues related to management of growth in tourism, fisheries and port development to protect environment and cultural integrity are properly dealt with.  
- To support the proper collaborative management mechanism for the implementation of the collaborative trans-boundary program.  

The collaborative project management structure proposed during the workshop is shown in Figure 1. The structure reflects the working groups and implied functions in the management of Myeik Archipelago.
Figure 1. Proposed Collaborative Management Structure for managing Myeik Archipelago

Notes:

- **Executive Committee**: Composed of high level (decision-makers).
- **Technical Advisory Group**: It will be a multi-stakeholder and broad-based body composed of Technical Experts (each relevant department/stakeholder to propose members to the group). The current BOBLME National Task Force (NTF) members in each country could form the basis of this advisory group.
- **Secretariat**: unit responsible for maintaining records, liaising, coordinating and doing other secretarial duties to support project implementation. In the first instance, this role could be provided by the BOBLME Project.
- **Collaborative Working groups**: It will compose of specialization in the subject area. The **working groups** will be responsible for e.g. data collection and research; alternative livelihood and capacity-building; and development issues.

**Strategic Actions/ Proposed Activities**

The Project will implement the following specific activities:

1. **To conduct consultation and establish collaboration mechanisms and corresponding structure and bodies**
   - Conduct stakeholder workshops to discuss and launch collaborative management body
- Conduct overall stakeholder analysis of their tasks and responsibilities, and their interests in Myeik Archipelago.

2. Trans-boundary management collaborative mechanisms in operation
   - Establish and operate the Executive Committee
   - Establish and operate the regular technical meetings and coordination activities of an Advisory Group.
   - Establish technical working groups as needed

3. Review the effectiveness of the Committee and Advisory Group annually, as well as of the working groups

4.0 CONCLUSIONS

The goal of the project activities is to inform management and improve governance that aim at striking a balance between sustainable resource use and social well-being. The two-day workshop concluded with an agreed list of potential activities that can be implemented in Myeik Archipelago to address the issues related to coastal and marine resources within the project area as well as to address the social, economic institutional, management and administrative aspects. The group outputs classified into 6 components are as follows:

The Collaborative Management Structure will consist of an executive committee, comprised by the decision-makers of government agencies, which have mandates in the region to govern and regulate resource use; a multi-stakeholder technical advisory group to assist the committee in its deliberations; and working groups to do particular tasks that will contribute to the achievement of the overall Project goal and objectives, e.g. to jointly collect and collate information and undertake various analyses.

Profiling of resources and resource users will include (i) Remote Sensing Analysis: analysis of resource changes over time using remote sensing analysis (mangrove, seagrass, beach, coral reef, evergreen forest), and (ii) GIS Analysis: survey to incorporate scientific and local people’s engagement with resources over time).

Creation of a meta-database. A Programme of data collection, review and analysis, and research, among others, involving a wide range of government bodies, universities and non-government organisations to include (i) survey of and research on endangered species (turtle, dolphins, etc.) and critical habitats (mangroves, seagrass, coral reef, beach), and (ii) survey of and research on fisheries and habitats (trans-boundary).
Alternative livelihood activities will consider the use of Vulnerability Assessment and Social Impact Monitoring (VA-SIM) as a tool in identifying WHO are the vulnerable groups, WHERE are they located and WHAT projects are appropriate (ideally linked with fisheries).

Capacity development will include trainings, cross-site visits and other forms of experience and lessons-learned sharing.

A continuing Monitoring System will include activities such as identifying parameters to be monitored and identify mitigation and adaptation measures for any change that may happen in the area that affects the environment, resources, critical habitats and people.

5.0 WORKSHOP CLOSURE

The workshop was closed with concluding remarks from the DG of the Department of Fisheries in Myanmar, Mr. Khin Ko Lay (Appendix 3.2.1), from Mr. Pongpat Boonchuwong (Appendix 3.2.2), Fisheries Economic Expert, representing the DG of the Department of Fisheries in Thailand and from Dr. Chris O’Brien, the Regional Coordinator of the BOBLME Project.
Appendix 1
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Appendix 2
Programme

Day 1, Tuesday 18th January 2011

08:30-09:00  Registration

09:00-09:40  Opening remarks by Mr. Khin Ko Lay Director General, Department of Fisheries of Myanmar and Dr. Nanthiya Unprasert, Deputy Director-General, Department of Fisheries, Thailand

09.40-10.15 Opening remarks and presentation on BOBLME component 2.4: Critical habitat management by Dr. Chris O’Brien, Regional Coordinator, BOBLME Project

Opening speech by Dr. Chumnarn Pongsri, Secretary General, SEAFDEC

10.15-10.30  Group photo and Coffee Break

10:30-11:00  Presentation and discussion of results from the Stakeholders workshop 1 and 2, and comments to the results of both countries by Dr. Somsak Boromthanarat

11:00-12:00 Proposal on “Management of Myeik Archipelago Large Marine Ecosystem Programme: An ecosystem-based approach” and grouping for the small group discussion by Dr. Somsak Boromthanarat

12:00-13:30 Lunch Break

13:30-15:30  Workshop in breakout groups to discuss the establishment of “Joint Mechanism” considerations per thematic area

Group 1
A. To address data and information gaps and related monitoring requirements
   • Trans-boundary issues identification (e.g. movement of fisheries related to habitat)
B. To address policy, planning and institutional development options related to strategic action programme
• Create proper joint institutional framework for the implementation of the Programme (e.g. fisheries and tourism administrations)

Group 2
A. To address alternative livelihoods opportunities
   • Production and habitat benefits for local livelihoods (adaptation of sea Morgan, joint closing season of indo-pacific mackerel fisheries)
B. To address policy, planning and institutional development options related to strategic action programme
   • Create proper joint institutional framework for the implementation of the Programme (e.g. fisheries and tourism administrations)

Group 3
A. To address local views on environment, critical habitat and development issues
   • Managing tourism growth and deep sea port development to protect environment and cultural integrity
B. To address policy, planning and institutional development options related to strategic action programme
   • Create proper joint institutional framework for the implementation of the Programme (e.g. fisheries and tourism administrations)

15:30-15:45  Coffee Break
15:45-16:45  Continuation of workshop discussions in small groups
16:45-17:00  Closing of Day 1 and announcements
19:00-21:00  Welcome dinner
**Day 2, Wednesday 19th January 2011**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>08:30 – 10:00</td>
<td>Reporting of results of the small group workshop and discussions</td>
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<tr>
<td></td>
<td><em>Group 1 and Group 2</em></td>
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<tr>
<td>10:00 - 10:20</td>
<td>Coffee Break</td>
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<tr>
<td>10:20 - 11:05</td>
<td>Continuation of reporting of the results of the small group workshop and discussions</td>
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<td></td>
<td><em>Group 3</em></td>
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<tr>
<td>11:05 - 12:00</td>
<td>Question and Answer</td>
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<tr>
<td>12:00 - 13:30</td>
<td>Lunch Break</td>
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<tr>
<td>13:30 – 15:00</td>
<td>Finalization of conclusions, recommendations and proposed joint action plan based on plenary discussions</td>
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<tr>
<td>15:00- 15:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>15:30 - 16:15</td>
<td>Comment on the outputs and closing of workshop by DG, DoF Myanmar and representative of DoF Thailand</td>
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Appendix 3
3.1 Opening Remarks

Appendix 3.1.1 Opening remarks by DG, DoF, Myanmar, Mr. Khin Ko Lay, Director General of the Department of Fisheries, Myanmar

Dr. Nanthiya, Department of Fisheries, Royal Government of Thailand
Dr. Chris, BOBLME Project, Regional Coordinator,
Dr. Chumnarn, SEAFDEC,
Dr. Somsak, Director from CORIN-Asia,
Representatives from government institutions and various organizations,
All Relevant Stakeholders, Distinguished guests,

Ladies and gentlemen,

Good Morning,

On behalf of The Department of Fisheries under the Ministry of Livestock and Fisheries of the Union of Myanmar, and on my own behalf, I would like to express my sincere thanks to be here, at the BOBLME Joint Stakeholder Workshop on "Myeik Archipelago Critical Habitat Management" in Phuket, Thailand.

This occasion is honored today by the presence of Dr. Nanthiya, DoF, Thailand and representative government officials, as well as representatives from concerned ministries, SEAFDEC intergovernmental organization, INGO, NGO and stakeholders from Myanmar and Thailand.

First of all, I wish to express my profound gratitude to the Department of Fisheries, Thailand for hosting this joint workshop. As you aware - This joint stakeholder workshop comes after two countries national stakeholder workshops concerning the Myeik Archipelago’s Critical Habitat Management and Sustainable exploitation. It shows that we have the strong commitment of sustainable fisheries and environment between two border nations, Myanmar and Thailand, towards the responsible use of the natural marine resources for our local coastal people.

As you are fully aware of Myanmar is one of the largest main land countries in ASEAN; also relatively long coastline stretching and touching two bodies of water, Bay of Bengal and Andaman Sea.
Distinguished guest, ladies and gentlemen,

Myeik archipelago being only archipelago in our region, it covers approximately 36,000 sq km (14,000 sq miles), located in southernmost part of Myanmar, comprises over 804 beautiful islands. The Lampi Marine National Park is one of an ASEAN heritage site, stretching from more than 70 kilometres.

Lampi and Ross Island are being recently declared National Shark protected refugia. The area is characterized by a large number of rare and endangered species. One of the features of the area is the large various number of shark species.

Major fisheries in this area are purse seining the Indian mackerel, bottom trawling for demersal fish and shrimp and squid fishing. The archipelago is increasingly becoming a major tourist attraction for recreational dive operations.

The Government of Myanmar has promoted several steps towards protection measures of this endangered aquatic animal sustainable use and conservation of its habitats.

The Department of Fisheries collaborated with International Organizations, for example, MoU agreement for Marine Turtle and marine mammal research and conservation with (UNEP, CMS, IOSEA, and also Wildlife Conservation Society (WCS)) for the purpose of research and conservation of the endangered aquatic animal of Myanmar waters.

I do appreciate very much SEAFDEC support for conducting pelagic and demersal fishery survey in early 2002, allowing MV SEAFDEC II research vessel in Ayeyarwady delta, Gulf of Mottama (Martaban) and Andaman sea area.

Distinguished guest, ladies and gentlemen,

Same as Thailand people, Myanmar people mainly depending on fisheries and fishery related industries and most of the daily foods for Myanmar people depend on fish and fishery product. Almost all of the coastal people are living in rural areas depending on rice and fish. Rural people are engaging in coastal fishing, marine farming and traditional fish processing.

I hope this joint workshop outcome will significantly improve the management of Myeik Archipelago, the critical habitat, by eco-based approaches beneficial to both countries. This workshop is timely for the both countries for implement of environmental conservation, fish resources management, livelihood improvement and for the development of sustainable environmental management in our Myeik Archipelago region.
Distinguished guest, ladies and gentlemen,

It is my humble request to the resource persons and participants to participate with your valuable experience elaboration to have comprehensive and particularly applicable conclusion and suggestion out of this workshop.

I would like to urge BOBLME regional coordinator to seek means and ways to formulate further facilitate on project and support funding for the implementation. I would also like to request SEAFDEC to continue support and extend the activities in collaboration with BOBLME for the sustainable fishery and food security in the Myeik Archipelago.

Distinguished guest, ladies and gentlemen,

Once again, I am grateful to DoF Thailand, BOBLME RCU and Corin-Asia for hospitality and excellent arrangements extended to our delegation and I am confident that with your determination and cooperation, the joint workshop will be certainly and successfully achieved. Finally, let me express our sincere thank and I am certain that we are going to have meaningful and fruitful workshop. I also wish this important workshop a great success.

Appendix 3.1.2 Opening remarks by Deputy DG, DoF, Thailand, Dr. Nanthiya Unprasert, Deputy of Director General, Department of Fisheries, Thailand

Mr. Khin Ko Lay, Director General,
Dr. Chris O’Brien, BOBLME Project Coordinator,
Dr. Chumnarn Pongsri, Secretary General of SEAFDEC

Delegates, Ladies and Gentlemen,

Good morning, welcome to the land of smile, Thailand at our beautiful island, Phuket.

It is a great honor for me to address this important workshop. There is an increasing need to bring together scientists, technical experts and decision makers of both countries to create the mutual understanding on our roles to develop trans-boundary activities. I wish to express my appreciation to FAO for its leading role on the commitment of Myeik Archipelago trans-boundary between Myanmar and Thailand. I am impressed by the excellent workshop preparation to assure the most useful outcomes.

Let me dwell briefly on the Thai marine resources, the rapid expansion of the Thai marine fisheries has affected the great pressure on the available resources. The result of intensive exploitation of resources, without systematic management and rehabilitation, lead to great conflict among users. Similarly, critical the marine fisheries resources which contributes to national economy, has now become constraints for future development. Similarly, critical
habitats have also been damaged due to natural and economic factors, particularly fisheries and tourism as you certainly have read or heard about the threats that arise due to a human induced change of marine resources. The marine fisheries, a resource which greatly contribute to national economy have now become constraints for future development.

DoF has set up various management measures through the Fisheries Act of 1901 and was consequently revised in 1947 and 1982. The objectives of these regulations aim to determine the size and kinds of fishing implementations that are permitted in fisheries; prohibiting the use of certain types of fishing gear during the said season and areas; mesh size regulation for purse seining, gill netting and squid lift netting; limiting the new entry of trawl fisheries.

Recently, DOF has established a project on artificial reef installation with the purpose to provide habitats for marine resources and their juveniles allow more resources to reach marketable size and reproductive size. These artificial reefs will establish conservation areas and physical shelter to prevent near trawling and push netting.

Ladies and gentleman, it is clear that a workshop on Myeik Archipelago critical habitat management is of great importance as a preventive approach in major of environmental change and associated increase of the human intervention. More need to be learned and much needs to be done together for our people in the future. I am very delighted to see this workshop getting underway.

Thank You.

Appendix 3.1.3 Opening Remarks and Presentation on BOBLME Introduction Component
2.4: Myeik Archipelago Critical habitat management by Dr. Chris O’Brien, Regional Coordinator, BOBLME Project

A very warm welcome to our distinguished guests and to you all for attending this workshop. I have very much decided to take a back seat role in this workshop, but I feel compelled to say it is great to see the high level of support we have for the project and its work in the Mergui/Myeik Archipelago. I think that this reflects well the countries commitment to the Project - it is fantastic to see.

I would like to convey my special thanks to the governments of Myanmar and Thailand for supporting this workshop, and to CORIN-Asia, Dr. Somsak and his team, for their excellent organization.

A presentation on the BOBLME Project is given in Appendix 8.1.1.
Appendix 3.1.4 Opening Remarks by Secretary General, SEAFDEC, Dr. Chumnarn Pongsri,  
Secretary General, SEAFDEC

Director-General of Department of Fisheries, Myanmar, Mr. Khin Ko Lay  
Deputy Director-General of Department of Fisheries, Thailand, Dr. Nunthiya Unprasert  
The Regional Coordinator of the Bay of Bengal Large Marine Ecosystem project, Dr. Chris O’Brien  
Distinguished guests from Myanmar and Thailand, Ladies and gentlemen,

Good morning!

First of all, I would like to thank you the organizer in inviting SEAFDEC to join this important event, the BOBLME Joint Stakeholder Workshop.

As you know that the Bay of Bengal Large Marine Ecosystem Myeik Archipelago Stakeholder Workshops were conducted last year in Thailand and Myanmar, respectively, this time, again, is another important steps for both countries to gather here to conduct the Joint Workshop between Thailand and Myanmar with aiming to develop the a bi-national collaborative institutional approach and system-wide master plan to facilitate joint management of the Myeik Archipelago.

As fisheries is one of the major activities in this area, it has been addressed in perspective of fisheries management through the BOBLME project including SEAFDEC. As you aware that, SEAFDEC is a regional organization which always clearly express the views on the importance of the sustainability of fisheries in the region by providing technical support to the Member Countries in strengthening their capacity and promote the effort towards sustainable fisheries management. Therefore, on behalf of SEAFDEC, we would like to see the cooperation between the countries and we are willing to provide support and cooperation to the BOBLME project and Member Countries in our full capacity.

With that, I wish to express my appreciation and look forward for the successful workshop. With the valuable contributions from all of you for the discussion, I certainly hope that this workshop would be able to concretize the recommendations and achieve the envisaged outcomes to enable us to take further steps for the better management of fisheries between two countries and for the Region.

Thank you for your kind attention.
Appendix 3.2 Closing Remarks

Appendix 3.2.1 By Mr. Khin Ko Lay, DG, DoF Myanmar

Good afternoon, ladies and gentlemen

The Myeik Archipelago Critical Habitat Management Joint Workshop is going to be completed successfully very soon. I appreciated very much all participants for your hard working and your enthusiasm during in these two days.

On behalf of the Ministry of Livestock and Fisheries of Myanmar and on my own behalf, I would like to thank Director General of the Department of Fisheries, Thailand, BOBLME Project, Regional Coordinator Dr. Chris O’Brien, Director of CORIN – ASIA, Dr. Somsak Boromthanarat, Chairman and facilitator of the Joint workshop, for their good supreme chairmanship doing for these two days workshop.

Last not the least, we had promote better understanding between the government officials, environment concerned NGOs, stakeholders, about the important of the management and sustainable use of Myeik Archipelago for the benefit of the present and our future generations. I hope that this joint stakeholder’s workshop between our countries will be a milestone of Myanmar and Thailand, improve the management of Myeik archipelago habitat its fishery, and community.

I am confident that our experiences, knowledge, skills and expertise will ensure that the project will get off the best possible start to recover the Myeik Archipelago critical habitat, rejuvenate its living resources, and improve the livelihoods of the coastal populations and health of the Bay of Bengal as well. Now we are taking a very fast step forward in identifying our future direction and implementation for the management of living marine resources and it environment.

Now, it is the right time for implementing the recommendation and suggestions set up by this workshop.

Best wishes

Appendix 3.2.2 Representative of DoF Thailand by Mr. Pongpat Boonchuwong, Fisheries Economic Expert, Department of Fisheries, Thailand

Mr. Khin Ko Lay, Director General,
Dr. Christ O’Brien, BOBLME FAO Project Coordinator,
Delegates,

Ladies and Gentleman
On Behalf of DoF, firstly I would like to thank all of participants, BOBLME and CORIN-Asia. After 2 days all of us have worked very hard on the “Myeik Archipelago Myanmar-Thailand Stakeholder Workshop”. We have identified 3 working groups:

1. Data and information gap and related monitoring requirements
2. Alternative livelihoods opportunities
3. To address local views on environment, critical habitat and development issues

They work on common issues and priorities, threats and root causes. Then prepare the strategic action plan and create the proper joint institutional framework for implementation of programme on fisheries, ecology and tourism.

I am impressed by the careful preparations for the workshop and am sure that the outcome is going to be most useful.

Ladies and gentleman,

It is clear that a workshop as the present one on Myeik Archipelago critical habitat management is of great importance as a basis both for preventive actions in case of major environmental change and associated increase of the human intervention. The outcome from this workshop will be fulfilling the management of critical habitat from Myeik Archipelago in Myanmar to Similan Island in Thailand for sustainable and optimal utilization of natural resources.

Thank you.

Appendix 3.2.3 Regional Coordinator, BOBLME Project by Dr. Chris O’Brien, BOBLME Regional Coordinator

Thank you for your three days of hard work. This meeting has been the launching point for the management in the Myeik Archipelago.

Thanks to you all for your expertise, patience and good humour. Special thanks to the Director General of the Ministry of Fisheries of Myanmar, Khin Ko Lay, for attending and bringing his expertise to the meeting; and Dr. Nanthiya, Deputy Director General, Department of Fisheries, Thailand. Thanks also for CORIN-Asia team who organized the meeting.

Thank you very much again. I hope I will meet you again in the future.
Appendix 4
Map of Project Area
Appendix 5
Picture of Workshop Participants
Appendix 6
Small Group Discussion Members

Group 1
1. Mr. Tint Tun
2. Mr. Tin Htut
3. Mr. Win Hlaing
4. Mr. Weera Pokapunt
5. Mr. Pirochana Saikliang
6. Mr. Udom Bhatiyasevi
7. Ms. Penchan Laongmanee, SEAFDEC (Secretary)
8. Ms. Peeranuch Dulkul Kappelle
9. Dr. Jes Kettratad
10. Mr. Tassapon Krajarngdara
11. Ms. Panida Chalee
12. Dr. Anchana Pratep, PSU (Facilitator)

Group 2
1. Mr. Thiha
2. Mr. Ye Myint
3. Mr. Pongpat Boonchuwong
4. Mr. Somsak Chullasorn
5. Ms. Pattaratjit Kaewnuratchadasorn, SEAFDEC (Secretary)
6. Ms. Nopparat Nasuchon
7. Mr. Sanchai Tandavanitj
8. Mr. Athasit Danchutham
9. Mr. Satapon Charoenlarp
10. Mr. Prapat Kawmanee
11. Mr. Hans Guttman, WAP (Facilitator)

Group 3
1. Mr. Mya Than Tun, DoF Myanmar (Chairman and Facilitator)
2. Mr. Thet Soe
3. Mr. Nyunt Win
4. Mr. Vatid Charoensiri
5. Mr. Chaiphum Sittiwoung
6. Ms. Poonsri Wanthongchai, (Secretary)
7. Mr. Somkiat Khokiatiiwong
8. Ms. Nalinee Thongtham, Phuket Marine (Secretary)
9. Mr. Win Naing
10. Mr. Hla Win
11. Mr. Nithiwat Therananthakul
12. Mr. Phongtheera Buapet
13. Dr. Aung Naing Oo
Appendix 7

Group Output

Appendix 7.1. Output of Group 1

Group 1

Data and Information Gap and related monitoring requirements

Identify Knowledge Gaps

- Oceanography
  - Bio
  - Chem
  - Phy
- Marine Biodiversity
  - Fisheries resource
  - Marine bio-diversity
Identify Knowledge Gaps: Marine Biodiversity

<table>
<thead>
<tr>
<th>Endanger sp./Critical habitat</th>
<th>Commercial sp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sea grass, seaweed</td>
<td>1. Pelagic fish (Indian mackerel, Indo-Pacific mackerel, King mackerel, Hilsa)</td>
</tr>
<tr>
<td>1. Coral reef</td>
<td>2. Demersal fish (Grouper, Red snapper)</td>
</tr>
<tr>
<td>1. Mangrove</td>
<td>3. Crab (Mud crab, Swimming crab)</td>
</tr>
<tr>
<td>3. Marine mammal (Whale, Dolphin and Dugong)</td>
<td>4. Sea cucumber</td>
</tr>
<tr>
<td>2. Turtle</td>
<td>5. Squid</td>
</tr>
<tr>
<td>5. Giant clam</td>
<td></td>
</tr>
<tr>
<td>6. Spiny lobster</td>
<td></td>
</tr>
<tr>
<td>7. Sea bird</td>
<td></td>
</tr>
<tr>
<td>8. Saw fish</td>
<td></td>
</tr>
</tbody>
</table>

Information need

<table>
<thead>
<tr>
<th>Group</th>
<th>Information need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whale, Dolphin</td>
<td>Diversity, Abundance, Migration, Habitat</td>
</tr>
<tr>
<td>Dugong</td>
<td>Habitat</td>
</tr>
<tr>
<td>Shark</td>
<td>Diversity, Abundance, Habitat</td>
</tr>
<tr>
<td>Seagrass, seaweed</td>
<td>Area, diversity, population genetic, abundance</td>
</tr>
<tr>
<td>Sea bird, Sawfish, Giant clam, Spiny lobster, Coral reef, Mangrove</td>
<td>Diversity, Abundance, Biology, Habitat</td>
</tr>
<tr>
<td>Commercial spp.</td>
<td>Diversity, Life history</td>
</tr>
</tbody>
</table>
Establishing working group/sub working group

1. Oceanography
   - Physical
   - Chemical
   - Biological (Plankton-Benthose)
2. Fisheries (resource & fishing gear)
3. Marine Biodiversity
   - Coral
   - Sea grass, seaweed
   - Mangrove
   - Endanger species

How to get information

<table>
<thead>
<tr>
<th>Oceanography</th>
<th>Marine Biodiversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review</td>
<td>Review</td>
</tr>
<tr>
<td>Research vessel</td>
<td>Research vessel</td>
</tr>
<tr>
<td>Remote sensing and GIS</td>
<td>Remote sensing and GIS</td>
</tr>
<tr>
<td></td>
<td>Fish landing survey</td>
</tr>
<tr>
<td></td>
<td>Demonstration site (Lampi island, Surin Prathong and Similan Island)</td>
</tr>
<tr>
<td></td>
<td>Database</td>
</tr>
</tbody>
</table>
### Action plan-1

<table>
<thead>
<tr>
<th>Month</th>
<th>Activities</th>
<th>Agency concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short term</td>
<td>1. Working group/sub WG set up</td>
<td>DOF, DNP, FD, DMCR, University, SEAFDEC, NGO</td>
</tr>
<tr>
<td>6th</td>
<td>2. WG/sub WG meeting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Proposal preparation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Review status (include participatory need analysis, local wisdom)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Resource mapping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Training (study protocol)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Site visiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Survey planning/preliminary survey (Marine biodiversity, fish landing)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Meeting for survey result</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Awareness building (poster, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

### Action plan-2

<table>
<thead>
<tr>
<th>Month</th>
<th>Activities</th>
<th>Agency concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th</td>
<td>11. Review proposal</td>
<td>BOBLME</td>
</tr>
<tr>
<td>8th</td>
<td>12. 1st Field survey for Oceanography &amp; fisheries</td>
<td>WG</td>
</tr>
<tr>
<td></td>
<td>- Data collection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Data analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Capacity Building (On the job training)</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 7.2 Output of Group 2

### Group 2

**Alternative livelihoods opportunities**

**Major groups**

- Large scale fisheries
- Small scale fisheries
- Non fisheries including fisheries related in coastal areas
Main threats and challenges to each group listed.
Root causes of the threats and challenges listed, not exhaustive
Identification which root causes can be addressed by alternative livelihoods
Explore the most promising areas of interventions... what can be done jointly?
What policy planning and institutional development & framework can support this

Common issues/Priority: Declining Fisheries Resources

- Large Scale Fisheries

Definition

<table>
<thead>
<tr>
<th></th>
<th>Myanmar</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>&gt; 10 nm</td>
<td>&gt;3 nm</td>
</tr>
<tr>
<td>Size of Boat</td>
<td>&gt; 30 m, 10HP</td>
<td>&gt;10 m</td>
</tr>
</tbody>
</table>

- characterised by multispecies catch. Some exceptions to this e.g Spanish Mackerel and Neratic Tuna
- Inspection demonstrates decline in catch and in size of fish caught
- Demersal fish resources in decline pelagic fisheries resources fully utilized
- IUU cause a problem in according the pressure on fisheries resources.
- Coastal environment degradation impact large scale fisheries HIGH
- Biological linkages and coastal areas are more sensitive
- Ghost fishing gear LOW
- Conflicts between fishers of different gears and between small and large scale and between themselves HIGH
- Fishing as a business value can lead to too much focus on short term returns may lead to unsustainable practices
- Pollution to fishing Vessels negative impact on environment

Priorities issue: LSF

1. Coastal environment degradation impact large scale fisheries
   → External causes not fishing itself to address root cause need to go outside fishing section
2. Pollution by fishing boats
   → Lack of awareness of impact
   → Lack of enforcement
3. IUU Fisheries
   → Attitude
   → Lack of alternative
   → Economic incentives
4. Ghost fishing gear
   → Lack of awareness on many levels
5. Conflict between different gears
   → Lack of management framework for gears use
   → No zonation
   → Too many fishers

➢ Small Scale Fisheries

Definition

<table>
<thead>
<tr>
<th></th>
<th>Myanmar</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>&lt; 10 nm (Myeik)</td>
<td>&lt; 3 nm</td>
</tr>
<tr>
<td>Size of Boat</td>
<td>&lt; 30 m, 10HP</td>
<td>&lt;10 m</td>
</tr>
</tbody>
</table>

☐ Limited fisheries resources
   - Fishing grounds (restricted management)
   - Fishing season
   - Fish catch declining
   - Impact of destructive fishing gear and other unsustainable practices

• IUU Fishing
• Coastal damage including pollution
• Ghost fishing gear
• Conflict between gears
Non fishers/ fisheries related groups

• Potential threat from tourism if not systematically developed
• Post harvest and are dependent on sustained fish catch negatively affected by decline.

Scope for Alternative Livelihoods

• IUU is exaggerated by lack of alternative by coastal villagers
• Conflict between different gear users exaggerated by too many actors involved and in unstructured way
• Post harvest processors (including process) and are directly dependent on fish catch → vulnerable

Alternative livelihoods

• Eco tourism – marine and coastal
  Potential: scope to learn from Thailand
  → Study and learning from Thai experience, esp. laws, regulation
  → discussion on how to follow up with relevant agencies
• Aquaculture
  But may exclude poorer groups usually capital is needed
  In Thailand as an additional livelihood activity, not primary
  → Share experience, experience views
  → Learn about ongoing initiative leading to exchange of technology focus on small scale
• Household/community post harvest processing to add value to catch
  → e.g. SEAFDEC FOVOP program and quality control
• Promotion of “typical” products from a region/area e.g Batik
  → follow up the OTOP, Thailand
Notes

1. Addressing issues related to marginalized groups (e.g. morgan)
   → How can livelihood be improved
   → How to engage constructively
   → Cooperation between Myanmar and Thai initially to exchange views and experiences
2. Indo-Pacific Mackerel Issue: More seen as a joint management issue

Action plans

Expected outcomes: **Eco tourism**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. study experience information related to tourism geographical, law and regulation between two countries</td>
<td>1st-2nd Month</td>
</tr>
<tr>
<td>2. Training on the set up the eco tourism program</td>
<td>3rd – 4th Month</td>
</tr>
<tr>
<td>3. Training for the Sea Morgan to be a local tour guide include eco-based tourism knowledge</td>
<td>5th month</td>
</tr>
<tr>
<td>3. Implementation TH-Koh Chang/MY-Kow Thuong</td>
<td>6th-12th Month</td>
</tr>
<tr>
<td>4. Monitoring and Evaluation</td>
<td>Year 2</td>
</tr>
<tr>
<td>5. HRD Training to building up local capacity</td>
<td>Year 2</td>
</tr>
</tbody>
</table>

Proposed Responsible agencies: Thailand Tourism Authority, Ministry of Natural Resource and Environment, DOF (TH-MY) and Local organization (TH-MY), Directoric of Hotel and Tourism of Myanmar
### Aquaculture

<table>
<thead>
<tr>
<th>Activities</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. study experience of Mariculture of both countries (grouper, seabass, <em>Tridacra gigas</em>, <em>Pinctada maxima</em>)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;-2&lt;sup&gt;nd&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>2. Training on technique of Marine Culture (eco-friendly) technology transfer in term of environmental friendly (e.g. fish cage culture)</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; - 4&lt;sup&gt;th&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>3. Study the technology and process in Sea Ranching: TH-Kapur, Ranong/ farming (e.g Crab Bank) Salon- Health Welfare</td>
<td>5&lt;sup&gt;th&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>4. Implementation in selected sites</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>5. Monitoring and Evaluation</td>
<td>Year 2</td>
</tr>
<tr>
<td>6. HRD Training to building up local capacity</td>
<td>Year 2</td>
</tr>
</tbody>
</table>

Proposed Responsible agencies: DOF (TH-MY), SEAFDEC, Private Sectors

### Local Communities Fisheries business

<table>
<thead>
<tr>
<th>Activities</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Learning and sharing experience from the Successful cases through training, education and demonstration (e.g. fish product, non fisheries product)/SME</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;-2&lt;sup&gt;nd&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>2. Technology Transfer of the post harvest fish product through training</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; - 5&lt;sup&gt;th&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>3. Implementation in selected sites</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; Month</td>
</tr>
<tr>
<td>4. Monitoring and Evaluation</td>
<td>Year 2</td>
</tr>
</tbody>
</table>

Proposed Responsible agencies: DOF (TH-MY), Agriculture Extension Department, Community Development Department, Local Organization (TH-MY), SEAFDEC
Appendix 7.3 Output of Group 3

A. To address local views on environment, critical habitat and development issues

- Managing tourism growth and deep sea port development to protect environment and cultural integrity

B. to address policy, planning and institutional framework for the implementation of the programme (e.g. fisheries and tourism administrations)

- create proper joint institutional framework for the implementation of the program (e.g. fisheries and tourism administrations)

Common issues and priorities, threats and root causes

1. Impact of coastal development on coastal environment
   a. Tourism development
      - Increasing of nutrient
      - Coastal resources degradation
      - Changing of livelihood
      - Pollution : garbage, waste water
   b. Deep sea port and industries
      - Sedimentation
      - Coastal erosion
      - Pollution : water quality, air pollution
      - Alien species
- Mangrove degradation  
c. Fisheries  
  - Illegal fishing gear (bomb, puship net, small mesh size, poisoning, fishing in coral reef/sea grass)  
  - Coastal aquaculture  
d. Sand mining  
  - Sediment, suspended soled  
  - Habitat degradation (benthic)  
  - Coastal erosion  
e. Oil and gas exploration and operation  
  - Contamination of petroleum hydrocarbon  
  - Heavy metal  
f. Coastal development  
g. Urban development  

2. Habitat degradation  

<table>
<thead>
<tr>
<th>Resources</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural</strong></td>
<td><strong>Human</strong></td>
</tr>
</tbody>
</table>
| Coral reef | Silting  
Changing of temp  
Coral eater A crown of thorns (predators) | Pollution  
Tourist activity  
Illegal fishing  
Sedimentation  
Illegal Trading (coral reef) |
| Sea grass | Silting diaster | Pushnet  
Trawler  
Sedimentation  
Pollution  
dreaging |
| Mangrove | Diseased diaster | Mangrove degradation (shrimp farming, housing)  
Mangrove deforestation (fuel, charcoal, cage) |

3. Oceanographic data/monitoring  
  a. Sea surface temperate  
  b. Chemical parameters profiles  
  c. Species composition of phytoplankton  
  d. Fish larvae  
  e. Jellyfish blooming
4. Climate change
   a. Sea level rise
      - Coastal erosion
      - Flooding
      - Intrusion of seawater
      - Fresh water contamination
   b. Sea surface temp
      - Coral diseased
      - Migration of marine sp. & invading sp.
      - Sp. Composition changing
      - Fishery production

Strategic action plan

1. Establishing criteria of marine water quality for Mergui/Myeik Archipelago
   Action
   1) Arranging at least 3 workshop;
      a. the first workshop: the propose
         - review the existing standard/criteria of marine water quality
           of ASEAN, Thailand, Myanmar
         - conduct work plan to set standard of marine water quality
           for the Mergui/Myeik Archipelago
      b. The second workshop: the propose
         - progress from the first workshop
         - To set up water quality monitory system
      c. The third workshop: the propose
         - Outcome from water quality monitoring (reference the
           second workshop)
         - evaluating water quality monitoring system

Responsible agency: Thailand  PCD, DMCR, Myanmar DOF, Univ.

2. Establishing resource monitoring system (include data collation & mapping) &
   database management system
   Action
   1) Arranging workshop on site selection for 3 habitats (mangrove; sea grass
      and coral reef)
   2) Setting up 3 working groups
      Capacity building; standard method, database system and GIS (series
      workshop of each working group)
3) Final workshop to summaries all habitats

4) Responsible agency: Thailand   PCD, DMCR, DNP, NGO
        Myanmar   DOF, Univ.,NGO, Forestry Department

3. establishing basic oceanographic system in coastal water & study oceanography
   Action

4. Establish network early warning system
   Action

5. Accessing status of land use & zoning practices
   Action

Appendix 8
List of Presentations

8.1 Presentations

1. BOBLME Introduction (Appendix 8.1.1)
2. Presentation of the results from the Stakeholders workshop 1 and 2, and comments to the results of both countries: Myeik Archipelago Issues
3. Discussion on Management of Myeik Archipelago Large Marine Ecosystem Programme: An ecosystem-based approach
4. Myanmar Ports and BOBLME

Video
1. Dawei Deep Sea Port

Appendix 8.1.2 Presentation of the results from the Stakeholders workshop 1 and 2, and comments to the results of both countries: Myeik Archipelago Issues
Myeik Archipelago Issues

Thailand

Thailand: Myeik Archipelago

- Laem Son
- Payam Island
- Surin Island
- Koh Ra
- Koh Prathong
- Similan Island
Coastal areas in Thailand have been undergoing rapid land-use, socio-economic and environmental change.

**Economic Issues on Sustainability**

- **Fisheries Resources and Fisheries**
  - Growth of squid traps, pair trawler and otterboard trawlers, purse seiner and smaller squid light luring boats
  - **Degradation of the critical habitat** - Most of the key spawning and nursery grounds are associated with healthy of critical habitats (mangrove, seagrass beds, coral reefs)

- **Abandoned Aquaculture**

- **Over Capacity Tourism**

Coastal areas in Thailand have been undergoing rapid land-use, socio-economic and environmental change.

**Policy/ Political Issues** *(Mix of Conservation and Politics)*

- Combination of inadequate land rights with contradictory policy
- Weak implementation of land-use plan
- Top-down imposition of protected area not recognized by fisheries
- Sensitive Border Area and illegal trade Flow
- Future of Sea-gypsies / Future of Marine Resources
- etc
Coastal areas in Thailand have been undergoing rapid land-use, socio-economic and environmental change.

- **Biodiversity and Environmental Issues**
  - Resources overexploitation
    - Marine endangered species... sea turtles, dugongs, whales and dolphins, whale sharks and sharks
    - Critical habitats... coral reefs, mangroves, sea-grass beds, mudflats, beaches and evergreen forests
  - Environmental degradation
**Economic Development Issues**

(newly opened Virgin)

- Fisheries
- Aquaculture
- Tourism and Other Business Opportunities
  - Mining
  - Forest
  - Trade
  - Pearls
  - Rubber
  - Hotel and Resorts

---

**Issues to Protecting the Fragile Island Environments: Regulation**

The island group in Archipelago constitute a physical link between a variety of biotopes:

---

**Marine endangered species**

- Declining in Numbers of Sea Turtle
  (beaches, collection of their eggs, water pollution, long line fishing lines and nets)

- Dugongs
  (hunting, eradication of sea grass beds)

- Whales and Dolphins

- Whales Sharks

- Sea Cucumber

---

**The Others**

- Coral Reefs
- Mangroves
- Evergreen Forests
- Salon People

Tourism may become a threat to the islands in the future.
The Protected Area and Marine Park Policy

- **Preserve Coastal and Marine Ecosystems** (main spawning and nursery grounds of important economic marine species)
- **Preserve the Biodiversity Assets**
- **Preserve the Environmental Quality and Scenic Beauty** (in support of recreation and tourist activities)
- **Support the Sustainable Livelihood**
- **Apply the Integrated Coastal Area Management Approach**, in order to maximize the returns and benefits from the needed investment

Appendix 8.1.3 Presentation of “Discussion on Management of Myeik Archipelago Large Marine Ecosystem Programme: An ecosystem-based approach”

**Discussion on Management of Myeik Archipelago Large Marine Ecosystem Programme: An ecosystem-based approach**

Somsak Boromthanarat  
CORIN-Asia

3rd BOBLME Myeik Archipelago Stakeholder Workshop

Club Andaman Beach Resort, Phuket, Thailand  
January 18-19, 2011
Why Trans-boundary Myeik Archipelago

- Large Marine Ecosystem Cross Boundaries of Two Countries (Myanmar and Thailand)
- Non-existent Bi-national Collaborative (institutions, policies, legal frameworks)

A Collaborative Myanmar-Thailand Third BOBLME Workshop Intend to Develop Recommendation and Work Plan

- Pollution: ecosystem impacts, human health
- Overfishing/Depleted Oceans: Ecosystem disruption, species extinction, livelihoods
- Critical Habitat & Species Loss: Loss of spawning & nursery areas, storm surge protection, livelihoods, carbon sinks, etc.
- Peace, stability, security
Group Discussion on “The Common Issues and Unilateral Issues”

- Trans-boundary issues identification
  - Data and information gaps and related monitoring requirements
  - Prioritize coastal resources issues, socioeconomic impacts, root causes

- Strategic Action Programme
  - Policy and planning, legal and institutional development options to address priority issues

- Indicators to benefits to Local Livelihoods
  - All activities contribute to livelihoods (directly or indirectly) - rely on the concept of valuation of ecosystem services and sustainable use of resources (harmonize among productivity, fish and fisheries, pollution and ecosystem health, socioeconomic and governance)
  - Presented are identity issues of particular relevance to the ecosystem—production—environment connection.
    - Production systems that provide environmental benefits;
    - Myeik ecosystems that provide essential services for fisheries, tourism and others;
    - Adaptation responses relevant to change from a range of drivers.
## Group Discussion Continue
**Major Issues Need to be Identified**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Trans. Issues Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>issue, threats, root cause analysis</td>
</tr>
<tr>
<td>Fisheries, and Tourism</td>
<td>issue, threats, root cause analysis</td>
</tr>
<tr>
<td>Pollution and Ecosystem health</td>
<td>issue, threats, root cause analysis</td>
</tr>
<tr>
<td>Socio-economics (livelihoods)</td>
<td>issue, threats, root cause analysis</td>
</tr>
<tr>
<td>Governance (Collaborative mechanism)</td>
<td>Socio-economic impact analysis, Governance analysis, stakeholder analysis</td>
</tr>
</tbody>
</table>

- Resources problems
  - Socio-economic analysis of impacts/consequences of agreed trans-boundary problems
  - Final prioritization of trans-boundary problems
  - Identify immediate, underlying and root causes of problems (Causal Chain Analysis - CCA)
  - Undertake a governance analysis
Strategic Action Programme

- Productivity
- Fish resources and fisheries, and tourism
- Pollution and Ecosystem health
- Socio-economics
- Governance
- Conservation tools e.g. MPA etc.
- Sustain fisheries and tourism
- Reduce pollution and sustain ecosystem
- Economic instruments, livelihood opportunity etc as a tool for implementation
- Collaborative mechanism, measures, policy and stakeholder involvement

The Strategic Action Programme

- The Strategic Action Programme is a process of reaching political consensus on the policy, legal and institutional reforms, investments and capacity building requirements needed to address the priority trans-boundary issues identified.

- It requires the best possible technical advice and is based on the principle of Collaborative mechanism problem solving

- Requires broad intersectoral participation to facilitate addressing sectoral issues at root cause level
Steps for Developing the Strategic Action Programme

- Develop a long term vision for the shared resources trans-boundary including Ecosystem/Marine Resource Quality Objectives
- Brainstorm ways to attain the Ecosystem/Marine Resources Quality Objectives
- Assess the acceptability of the options, including: technical feasibility, as well as economic and political
- Set short-term targets and priority actions
- Develop indicators

Strategic Action Programme (workplan): Some Example

Myeik Archipelago Large Marine Ecosystem Programme
Trans-boundary Collaborative Mechanism to Manage Myeik Archipelago

- Collaborative mechanism structure established
- Various working group established

Collaborative Mechanism Forum: An Example

- Collaborative Board
- Secretariat
- Collaborative Committees
- Collaborative Working Groups
  - Working Group I
  - Working Group II
  - Working Group III
Conservation Action Planning for Priority Trans-boundary Habitats and Species

Assessment of most vulnerable species and habitats
- Collaborative surveys and assessments of shared stocks
- Harmonizing management of shared stocks
- Assessment of non-exploited species
- Harmonization of national protected area policies
- Development of regional marine biodiversity conservation management plan

Development of trans-boundary monitoring system
- MCS
- IUU
- Data Management
- etc
Collaborative Mechanism in Fisheries Management

- Increased fish stocks through ecosystem-based fisheries management

- Tools:
  - Collaborative fishing effort regulation
  - Marine protected area networks
  - Collaborative Monitoring (scientific & participatory);
    progress metrics
  - Collaborative enforcement

Tourism Development

- Strategy and Action Plan
- Thailand examples
- Transboundary context
Capacity development

- municipal and ministry staff,
- Salon and villagers,
- NGOs,
- fishermen association
- etc...

Appendix 8.1.4 Myanmar Ports and BOBLME

What does it impact about natural resources development?
- The living of natural resources quantity :: For what
- Usage::::::: How to use
- The right answer :: Sustainable use::::
- ...........................................................
- Point of Tourism
- Point of Production, Place, Price Standard
- Point of raise up civilian livelihood
- Point of transportation
- Point of Economic development.
- Point of the balance of natural resources development and Economic development
INTEGRATION OF NRD + ECOD

- TOURISM ➔ PPP STANDARD ➔ LIVELIHOOD

LIVING AND SUSTAINABLE USE ➔ TRANSPORTATION

NATURAL RESOURCES ⇔ ECONOMIC DEVELOPMENT

The limitation of natural resources need

- Natural Resources Management  NRM for sustainable use
- Marine
- Forest
- Energy  ➔ Tourism + Transportation (micro go to macro scale)
- Agriculture
- Mine & Gem  ➔ raise up civilian livelihood and PPP

BOBLME ➔ GDP=C+I+G+X-M  ➔ BIMSTEC
Strategies of Management 6W 2H

- What can we do for Meik Archipelago?
- Where should we start with pilot program to develop or monitoring and control the impact of country development?
- When can we do it?
- Who should joint into? Who is the host?
- Why shall we have to do?
- Whom shall we do with?
- How much?
- How to?

The development of user (fisherman) BF.
1997-2011

- Myanmar export fish by border trade officially 0% before 1997
- Myanmar export fish by border trade illegally 100% by Thai fishing vessel

- Myanmar export fish by fishing license 80%
- Myanmar export fish by local vessel illegally 15%
- Myanmar export fish by local vessel legally 5%
Collaboration for integration management

1. Network Group
   - Private sector
   - Fisherman, vessel owner, buyer,
     - Local Fisheries Association and Coordinator (TBC, Commercial, and Tourism)
   - Government (Central and local sector)

2. Responsible of multi dimension
   - Labor
   - Cost of business and possibility of success
   - Defence and stability

3. Change Understanding – Perception of participant
   - Experience learning
   - Information and Knowledge
   - use understanding on right time

4. Society Policy from any sector....
   - Public policy
   - Government
   - Participant group (Local association)

Which network group agree and collaborate.
Myanmar Ports

Current and future plan
Official Brief on Country Report
(from the MTO workshop)

Main Rivers in Myanmar

- 4 major rivers
  - Ayeyarwaddy
  - Chindwin
  - Thanlwin
  - Sittaung
- Minor rivers in Ayeyarwaddy delta
- Minor rivers in Rakhine State
  - Katatan
  - Lemyo
  - Mayyu
  - Neth
- Minor rivers in Kayin and Mon State
  - Atatran
  - Gyne
Most of Myanmar Rivers are navigable. The rivers and their tributaries offer over 8000 kilometers commercial navigable waterways and other thousand of kilometers used by country boats for the principal mode of travel and transport. The most heavily used part of extensive waterways system is the Ayeyarwady River and its delta. The navigability lengths of inland waterways is summarized in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Total Length (km)</th>
<th>Navigable Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayeyarwady</td>
<td>2000</td>
<td>1534</td>
</tr>
<tr>
<td>Chindwin</td>
<td>337</td>
<td>837</td>
</tr>
<tr>
<td>Thanlwin</td>
<td>1220</td>
<td>88</td>
</tr>
<tr>
<td>Kaledan</td>
<td>650</td>
<td>300</td>
</tr>
</tbody>
</table>
Road Transport in Myanmar

North-South  36 lanes / 9652 miles.
East-West   45 lanes / 5692 miles.
Goods transport in future

- (a) Hinthada-Sittwe-Paban-Mysagyan Line  282.00 mile  457.20 km
- (b) Mawlamyine-Bago-Mawlamyine Line  128.00 mile  206.30 km
- (c) Mawlamyine-Mandalay Line  10.60 mile  17.00 km
- (d) Mawlamyine-Ye-Dahe-Myawk Line  323.33 mile  517.32 km
- (e) Pathein-Nyaungdon-Yangon Line  89.00 mile  142.40 km
- (f) Sittwe-Ahmm-Minbu Line  257.00 mile  411.20 km

From MTO's Country Report

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Missing link between Myanmar and Thailand

Total missing length between Thanbyuzayat and Namtok via Three Pagoda Pass is about 263 kms and the length between Thanbyuzayat and Three Pagoda Pass in Myanmar territory is about 110 kms. The feasibility study on that missing link had been made by the Korea International Cooperation Agency (KOICA) in 2005 and the final report was submitted in April 2007.

Mr. Wiinath R. from MTO's Country Report
Terminals and Dry Port functions of Yangon Port

Container Terminals at Yangon Port
1. Dab Aung Kyaw Street Wharf (DSW)
2. Myanmar International Terminals Thawta (MITT)
3. Asia World Port Terminal (AWPT)
4. Myanmar Industrial Port (MIP)
### Summary of Deep Sea Ports Project

#### Location of Deep Sea Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Division/State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyaukphyu</td>
<td>Rakhine</td>
</tr>
<tr>
<td>Pathein</td>
<td>Ayeyarwaddy</td>
</tr>
<tr>
<td>Kalaikuk</td>
<td>Mon</td>
</tr>
<tr>
<td>Dawei</td>
<td>Tanintharyi</td>
</tr>
<tr>
<td>Bokpyin</td>
<td></td>
</tr>
</tbody>
</table>

#### Dawei Deep Sea Port Project

**Location**
- Lies between Tanintharyi range and South Moseos Island

**Approach channel**
- LAD 51 m, Tide Range 5m

**Habour Area**
- LAD 15 m
- Sea Room 3.2 km

**Prosperity**
- Industry,
- Tourism,
- Fisheries,
- Mining
Current Situation in Sea Transport

National Feeder Carrier
(between Yangon, Malaysia and Singapore)

- Myanmar Five star Line
- KMA Shipping Co Ltd
- Lann Pyi Marine Co Ltd

<table>
<thead>
<tr>
<th>Sr</th>
<th>Shipping Line</th>
<th>Vessel Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MFSL</td>
<td>M.V SAGAING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.V BAGO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.V MAGWAY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.V MANDALAY</td>
</tr>
<tr>
<td>2</td>
<td>KMA</td>
<td>M.V KMA 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.V KMA II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.V KMA III</td>
</tr>
<tr>
<td>3</td>
<td>LANN PYI</td>
<td>M.V KENG TUNG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M.V DELPHINI ALPHA</td>
</tr>
</tbody>
</table>

Summary of Deep Sea Ports Project

Kalegaung Deep Sea Port Project

Location
Lies between Mawlamyine and Ye township

Approach channel
LAD 15 m.
Tide Range 3~5 m

Harbour Area
LAD 18 m
Sea Room 4.8 km

Prosperity
Good access to three pagoda pass
Connection linkage to GMS Highway and Western Corridor of Indian Ocean
Summary of Deep Sea Ports Project

Bokpyin Deep Sea Port Project
Location
Between Myeik and Kawthaung
Approach channel
LAD 30 m, Tide Range 3m
Habour Area
LAD 20 m
Sea Room 3.2 km
Prosperity
Pipe Line connection to link Industrial Area (Thailand)
Road access to Bang Saphan
Steel Industry

Mr. Winbrah from MTO’s Country Report
Figure 6-4: Total container throughput annual growth rate of ESCAP economies (2005-2015)

(Source: Study estimates)
Current Situation on Multimodal Transport Development in Myanmar

U Thaw ka
Dept. of Marine Administration

Ministry of Transport
Myanmar Port Authority
National Workshop for Multimodal Transport Operation (2010)

U Thein Oo
Deputy General Manager
Special Thank you for all of information from
The officers who had made the presentation on
the Country Report.

The slide are arranged with the story
concerned with Dawei Port Development only.
Others information are only background and
comparative study.
There are no final conclusion about future in
this report.
Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand are working together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project and to lay the foundations for a coordinated programme of action designed to improve the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries.

The Food and Agriculture Organization (FAO) is the implementing agency for the BOBLME Project.

The Project is funded principally by the Global Environment Facility (GEF), Norway, the Swedish International Development Cooperation Agency, the FAO, and the National Oceanic and Atmospheric Administration of the USA.

For more information, please visit www.boblme.org