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BOBLME contract: LOA/RAP/2014/29

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Postgraduate Certificate Course on Integrated Coastal Management
Asian Institute of Technology (AIT), Bangkok, Thailand
18 August – 26 September 2014

FINAL REPORT TO BAY OF BENGAL LARGE MARINE ECOSYSTEM PROJECT
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Appendix I Summary course evaluation: Integrated Coastal Management ................................. 11

Acronyms used

AIT  Asian Institute of Technology
BOBLME Bay of Bengal Large Marine Ecosystem
CCD  Coast Conservation Department (Sri Lanka)
DFID  Department for International Development
DMCR  Department of Marine and Coastal Resources
DPSIR  Driving forces, Pressures, States, Impacts, Responses
EAFM  Ecosystem Approach to Fisheries Management
FAO  Food and Agriculture Organisation
HRBD  Human Rights Based Development
ICM  Integrated Coastal Management
ISES  Institute for the Study and Empowerment of Society
IUCN  International Union for Conservation of Nature
LFA  Logical Framework Approach
MFF  Mangroves for the Future
PRA  participatory planning methodologies
UNDP  United Nations Development Programme
UNEP  United Nations Environment Programme
USAID  United States Agency for International Development
1. **Introduction**

This report fulfils requirement under 4a the Letter of Agreement between the Food & Agriculture Organization of the United Nations (FAO) and IUCN, International Union for Conservation of Nature and Natural Resources for the provision of services relating to the Integrated Coastal Management Training.

The Asian Institute of Technology (AIT), Mangroves for the Future (MFF) initiative and Bay of Bengal Large Marine Ecosystems (BOBLME) project jointly offered the fourth certificate course on Integrated Coastal Management from 18 August to 26 September 2014.

2. **Course description**

The ICM certificate course introduces the concepts, principles, process/ framework and tools of ICM a well-recognized ecosystems-based approach for the sustainable development of coastal areas. The ICM course is an intensive six week course for coastal resources management professionals held at the AIT campus Bangkok and includes one week facilitated practical field visit where participants apply their knowledge in a specific site. The course provides mid-career professionals from government and non-government organizations with an opportunity to learn from integrated coastal management programs and experiences from around the world with a focus on the Asia Region.

During the course participants develop the necessary theoretical and practical skills to design and implement ICM projects that integrate across sectors, involve diverse stakeholders and give consideration to the effects of climate change.

The course modules focused on:

- Marine and Coastal Ecosystems (2 credits)
- Principles of Integrated Coastal Management (2 credits)
- Tools for implementing Integrated Coastal Management (2 credits)
- Coastal Project Development, Evaluation and Management (3 credits)

3. **Overarching goal:**

To master integrated coastal planning and management and sustainable coastal development

4. **Overall learning outcomes:**

At the end of the course participants will be able to:

1. Describe the socio-ecological characteristics of and threats to coastal and marine ecosystems.
2. Explain the basic concepts, principles, process/ framework and tools of ICM.
3. Apply the process/ framework involved in developing and implementing ICM at the local, national, and regional level.
4. Apply tools and strategies for effective coastal management planning, implementation and monitoring.
5. Design an ICM project to resolve identified coastal management issues/ problems and present to stakeholders.
6. Share experiences within an international network
More specifically, students will be able to:

- Display increased understanding of the importance and benefits of an integrated sustainable coastal planning and management for socio-economic development, with respect to environmental impact, equality and benefit sharing, and with consideration for the sustainable livelihoods and human rights based approaches
- Describe the ecological, economic and social challenges of sustainable development.
- Display increased know-how about the principles and planning process for integrated sustainable coastal development.
- Describe the Integrated Coastal Management (ICM) planning process, including methods of spatial planning and international experiences of integrated coastal management
- Describe the legal and administrative (policy mechanisms) and good governance for Integrated Coastal Management
- Apply methods and tools for integration and inclusion such as stakeholder analysis, participatory approaches and strategic communication
- Appreciate methods and tools for analysis of the environmental and social situation on coastal areas
- Extend international and national networks for working with coastal development

5. Participants

The following participants sponsored by BOBLME were selected for the course of training:

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Institution and Location</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Miss Kyu Kyu Than</td>
<td>Coastal Livelihood and Environmental Assets Restoration Project, Rakhine</td>
<td>Myanmar</td>
</tr>
<tr>
<td>2</td>
<td>Mr. Zaw Myo Hien</td>
<td>Dept Marine Science, Pathein University</td>
<td>Myanmar</td>
</tr>
<tr>
<td>3</td>
<td>Ms War War Soe</td>
<td>Dept Marine Science, Myeik University</td>
<td>Myanmar</td>
</tr>
<tr>
<td>4</td>
<td>Mr. Thu Ya Kyaw</td>
<td>Forest Department, Bogon, Thandwe Township</td>
<td>Myanmar</td>
</tr>
<tr>
<td>5</td>
<td>Miss Yaowalak Chanthamas</td>
<td>Sustainable Development Foundations (SDF)</td>
<td>Thailand</td>
</tr>
<tr>
<td>6</td>
<td>Miss Satitporn Ritchoo</td>
<td>Department Marine and Coastal Resources (DMCR)</td>
<td>Thailand</td>
</tr>
<tr>
<td>7</td>
<td>Mr. Md. Saidur Rashid</td>
<td>Deputy Conservator Of Forests, Coastal Circle, Barisal</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>8</td>
<td>Mr. Abdul Mannan</td>
<td>Aroannayak Foundation</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>9</td>
<td>Mr. Faiz Md. Taimur</td>
<td>Institute of Marine Sciences and Fisheries, Univ Chittagong</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>10</td>
<td>Mr. Ritesh Joshi</td>
<td>Ministry of Environment, Forests and Climate Change, Gol, New Delhi</td>
<td>India</td>
</tr>
<tr>
<td>11</td>
<td>Mr. Panchagnula Hareesh Chandra</td>
<td>Dept of Environmental Sciences, Andra University, Visakhhatatnam</td>
<td>India</td>
</tr>
<tr>
<td>12</td>
<td>Mr. Mujiburrohman</td>
<td>Institute for the Study and Empowerment of Society (ISES), East Java</td>
<td>Indonesia</td>
</tr>
<tr>
<td>13</td>
<td>Mr. Hamid Nazeem Ibrahim</td>
<td>Felivaru Fisheries Maldives Ltd.</td>
<td>Maldives</td>
</tr>
<tr>
<td>14</td>
<td>Mr. Muaz Adnan</td>
<td>Mangroves for the Future Maldives (based at UNDP)</td>
<td>Maldives</td>
</tr>
<tr>
<td>15</td>
<td>Mr. Meragal D.L.R. Jayanimala</td>
<td>Coast Conservation and Coastal Management Department (CCD)</td>
<td>Sri Lanka</td>
</tr>
</tbody>
</table>
6. Course details

The course started on 18 August 2014, and the taught component of the course was completed on 26 September 2014. Altogether 30 candidates from 11 countries participated in the course.

The ICM certificate course introduces the concepts, principles, process/framework and tools of ICM - a well-recognized ecosystems-based approach for the sustainable development of coastal areas. The ICM course is an intensive six-week course for coastal resources management professionals held at the AIT campus Bangkok and includes one week facilitated practical field visit where participants apply their knowledge in a specific site. The course provides mid-career professionals from government and non-government organizations with an opportunity to learn from integrated coastal management programs and experiences from around the world with a focus on the Asia Region. This year the ICM course participants included university representatives from Pakistan, Cambodia and Myanmar. Over the coming years the ICM course will be decentralized and offered at the country level through select national university partners.

During the course participants developed the necessary theoretical and practical skills to design and implement ICM projects that integrate across sectors, involve diverse stakeholders and give consideration to the effects of climate change.

The course is divided into 4 modules and has a total value of 9 credits:

1. Marine and Coastal Ecosystems (2 credits)
2. Principles of Integrated Coastal Management (2 credits)
3. Tools for implementing Integrated Coastal Management (2 credits)
4. Coastal Project Development, Evaluation and Management (3 credits)
7. Course topics

<table>
<thead>
<tr>
<th>Course</th>
<th>Sub-topics/ modules</th>
<th>Teaching method/ materials</th>
</tr>
</thead>
</table>
| Course 1 Marine and Coastal Ecosystems      | 1. Status of marine and coastal ecosystems  
2. Ecosystem functions and services  
3. Major threats to marine and coastal ecosystems and their mitigations  
4. Environmental and social benefits and co-benefits of coastal socio-ecological systems  
5. Evaluation of selected coastal system in Thailand | Lectures, videos, focus group discussions, field trip |
| Main topic                                  | 1. Status of marine and coastal ecosystems  
2. Ecosystem functions and services  
3. Major threats to marine and coastal ecosystems and their mitigations  
4. Environmental and social benefits and co-benefits of coastal socio-ecological systems  
5. Evaluation of selected coastal system in Thailand | Lectures, videos, focus group discussions, field trip |
| Course 2 Concept, principles and implementation process of ICM (the ICM Framework) | 1. Introduction to ICM concepts  
2. Principles and approach of ICM* - Guiding principles related to environment, development and special character of coasts - challenges to sustainable coastal development.  
3. The ICM framework an ecosystems based approach for holistic management of multiple, complex, and cross-sectoral issues  
4. Governance/ regulatory frameworks that support ICM. Integrated policy making and management frameworks.  
5. Ecosystem-based Approach to Fisheries Management (EAFM)  
6. Resilience and ICM | Lectures |
| Main topic                                  | 1. Introduction to ICM concepts  
2. Principles and approach of ICM* - Guiding principles related to environment, development and special character of coasts - challenges to sustainable coastal development.  
3. The ICM framework an ecosystems based approach for holistic management of multiple, complex, and cross-sectoral issues  
4. Governance/ regulatory frameworks that support ICM. Integrated policy making and management frameworks.  
5. Ecosystem-based Approach to Fisheries Management (EAFM)  
6. Resilience and ICM | Lectures |

*Linking the ICM concept and principles to the fundamentals of
<table>
<thead>
<tr>
<th>Course 3 Tools for implementing ICM</th>
<th>Sustainable Development and Livelihoods Framework (DFID), Human Rights Based Development (HRBD) principles and Ethical Frameworks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main topic</strong></td>
<td>Understanding and applying tools and strategies for effective coastal management planning, implementation and monitoring</td>
</tr>
<tr>
<td><strong>Tools, strategies, approaches:</strong></td>
<td>Lectures, practical exercises, focus group discussions</td>
</tr>
<tr>
<td>1. Assessing social, economic and environmental characteristics and status of coastal ecosystems: Habitat mapping, Resilience mapping/ Vulnerability assessments – understanding social-ecological-systems/ DPSIR</td>
<td></td>
</tr>
<tr>
<td>2. Institutional Analysis – Analysis of governance arrangements/structures – institutional, legal and policy arrangements - that support are needed to support ICM</td>
<td></td>
</tr>
<tr>
<td>3. Stakeholder engagement: stakeholder analysis, gender equity and gender analysis, participatory planning methodologies (PRA), engaging private sector (the business and biodiversity argument), conflict resolution approaches</td>
<td></td>
</tr>
<tr>
<td>4. Assessing and addressing coastal management issues / coastal resource use conflicts:</td>
<td></td>
</tr>
<tr>
<td>- Vulnerability assessments</td>
<td></td>
</tr>
<tr>
<td>- Conflict resolution approaches – from conflict assessment to consensus</td>
<td></td>
</tr>
<tr>
<td>- Marine/ coastal spatial planning, marine protected areas management</td>
<td></td>
</tr>
<tr>
<td>- Urban environmental planning/ planning of coastal cities/ sustainable coastal tourism development</td>
<td></td>
</tr>
<tr>
<td>- Shoreline protection/ coastal erosion management</td>
<td></td>
</tr>
<tr>
<td>- Solid waste and wastewater management</td>
<td></td>
</tr>
<tr>
<td>- Water management (ground water, abstraction etc.)</td>
<td></td>
</tr>
<tr>
<td>- Managing energy demands (energy efficiency)</td>
<td></td>
</tr>
<tr>
<td>5. Strategic communications; public awareness, policy advocacy</td>
<td></td>
</tr>
<tr>
<td>6. Project cycle management and Logical Framework/ Results based management</td>
<td></td>
</tr>
<tr>
<td>Course 4. ICM Project Design in Practice</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Main topic</strong></td>
<td></td>
</tr>
<tr>
<td>Applying the process/ framework involved in developing and implementing ICM at the local, national, and regional level</td>
<td></td>
</tr>
<tr>
<td>Design an ICM project to resolve identified coastal management issues/ problems: Stakeholder engagement, Issue analysis, development of sustainable management plan and actions</td>
<td></td>
</tr>
<tr>
<td>Present the designed project with confidence to different stakeholders</td>
<td></td>
</tr>
<tr>
<td>Facilitated field project</td>
<td></td>
</tr>
</tbody>
</table>

7. Monitoring, learning and evaluating ICM
8. Sustainable financing and ICM
8. How sessions from course 3 relate to the ICM implementation framework

**Step 1. Situation Analysis Issue Identification and Assessment**

Modules / Sessions:

3.1 Assessing social, economic and environmental characteristics and status, Resilience mapping / vulnerability Assessments, DPSIR

3.2 Institutional Analysis – Governance arrangements regional, national, local

3.3 Stakeholder Analysis and engagement strategy (cross cutting throughout all 5 steps)

**Step 2. Preparation of Strategy / Plan**

Modules / Sessions:

3.4 Assessing and addressing coastal management issues / coastal resource use conflicts:
- Marine/ coastal spatial planning, marine protected areas management
- Urban environmental planning/ planning of coastal cities/ sustainable coastal tourism development.
- Shoreline protection/ coastal erosion management
- Solid waste and wastewater management
- Water management (ground water, abstraction etc.)
- Managing energy demands (energy efficiency)

3.5 Strategic communications; public awareness, policy advocacy

3.6 Project cycle management and Logical Framework/ Results based management

**Step 5 Assessment monitoring & evaluation**

Modules / Sessions:

3.7 Monitoring, learning and evaluating ICM

3.8 Sustainable financing and ICM
## 9. Day wise course schedule followed

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Courses</th>
<th>Learning outcomes/Goals</th>
</tr>
</thead>
</table>
| 1    | 18-22 August| Marine and Coastal Ecosystem  | At the end of the course, students will be able to:                                                                                                                                  • Describe the ecological and socio-economic characteristics of marine and coastal ecosystems  
• Describe ecosystem processes and interactions of the marine and coastal environment.  
• Evaluate (potential) impacts of human activities and climate change on the ecological character and ecosystem services of the main tropical marine and coastal ecosystems |
| 2    | 25-29 August| Principles of ICM             | At the end of the course, students will be able to:                                                                                                                                  • Analyze environmental impacts of different human-activity systems in the coastal and marine areas  
• Explain why integrated management is important in the marine and coastal areas  
• Evaluate ways in which economic development and environmental safeguard can be balanced  
• Explain the basic concepts and principles of ICM, processes involved in developing and implementing ICM framework (at the local, national, transboundary and regional levels) and the strategies for developing ICM programs at different localities  
• Explain functions of attributes (such as ecosystem services, innovative governance structures, biological diversity, and social capital/networks) of resilient social-ecological systems in marine and coastal environments  
• Evaluate how ecosystem based approaches can be used to manage human activity systems in the coastal and marine environments |
| 3    | 1-10 September| Tools for ICM                | At the end of the course, students will be able to:                                                                                                                                  • Evaluate the value and use of various assessment and management tools (such as tools for situation analysis, spatial planning, coastal area management, business planning, and project design and management)  
• Apply selected tools in real-life situations in the course 4 |
| 4    | 11-19 September| ICM Project Field based Koh Chang Trat Province | At the end of the course, students be able to:                                                                                                                                  • Describe participatory planning and management techniques  
• Conduct a field survey to identify coastal management issues/problems  
• Demonstrate hands-on practice on the stakeholder analysis and development of problem tree, objective tree and alternative analysis  
• Demonstrate the familiarity with theoretical basis project |
In addition to the AIT faculty lecturers, MFF Secretariat staff provided additional resource persons with practical field based experience. Invited experts from other regional programmes (UNEP, USAID’s Lowering Emissions in Asia’s Forests (LEAF), Sustainable Development Foundation (SDF), Kasetsart University) provided valuable input as external resource persons for the course.

10. Course evaluation

A student evaluation and internal evaluation of the course was undertaken at the end of the taught component of the course. All thirty participants took part in the evaluation. Responses were anonymous to encourage participants to provide honest evaluations. The evaluation results are in Annex 1.

Overall, the course was rated very well for the course design and content, teaching methods and materials, services and facilities, and for relevance to participant’s needs and interests. The consistent academic issue raised was that the course was intensive but on the other hand most aspects were considered essential. In future years, consideration will be given to extend the course from 6 weeks to 7 weeks to allow shorter days and more free time for study and revision. Some participants also requested that in addition to the online materials provided on the MFF document management system that a hard copy of all materials should be provided and preferably at least two weeks in advance of the course. Another comment made by about 20% of the participants is that the accommodation at the off campus site of TU Dorm was good, but that the lack of consistent internet access was a problem for many and a preference for on campus accommodation was suggested.

Participants were asked to identify at least three proposed actions they intend to initiate upon their return, concrete ways they would be able to use or apply or transfer the knowledge and skills gained during the course. A summary of these responses are included in Annex 1 as part of the course evaluation. The responses include; sharing the ICM materials/ learning with their current organizations, using information and materials to teach students, specific information to be applied in project design and implementation etc.

11. Student grades

The individual student grades are kept in records. The grades ranged between 65.17 % and 85%. 10 of them scored grade A (above 76%). 10 of them grade B+ (above 71%), and rest of them grade B (above 65%).

12. Field component

Participants very much appreciated the in-country practical project at both the one-day visit to Sirindhorn International Environmental Park (SIEP) Chaam and for the 5-day project field trip in week 5 to Koh Chang, Trat Province. The field project in Koh Chang was effective in bringing together all that was learned during the theory sessions and put into practice. The students worked in groups to
interview key stakeholders and assess the sustainable development issues of Koh Chang and to develop Sustainable Development/Integrated Management Plans for Koh Chang. These plans were presented internally on the last day of the field trip.

This is the second year that the course has organized for the field project to be completed in-country through group work, a departure from how the project work was conducted in the past where participants returned to their home countries to pursue individual projects. This system works well but requires substantial pre-course planning and liaison to design and prepare. The excellent experience for the participants, the results of the field work and analysis, and resultant management plans are a testament to the fact that this is the correct methodology for consolidating and applying the theoretical learning from the ICM course.

12.1. Student reports
Copies of the student reports are available below (files attached to this pdf document)

- Group 1 - Establishment of effective coordination mechanism for sustainable development of Koh Chang Island
- Group 2 - Development of an Integrated Management for Ecosystem-based Fisheries in Mu Koh Chang Marine Park for Sustainable Fisheries Resources
- Group 3 - Organic waste management and grey water treatment to improve environmental quality of Koh Chang – Western Region
- Group 4 - Go Green for Sustainable Tourism in Koh Chang, Thailand (GGST-Koh Chang) Project
- Group 5 - Sustainable marine based tourism for healthy coral reef

13. Packaging ICM course

One of the objectives of this work was also to start packaging the ICM course for wider dissemination as a replicable training course involving trained trainers. As a first step the training course was video graphed using professional support. The footages are now to be used to develop a professional training course package for the ICM course by IUCN/MFF
Appendix I  Summary course evaluation: Integrated Coastal Management

ICM Certificate Course Evaluation - 2014

A. Course Design and Contents (of the certificate course)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The course objectives were clear</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. The course objectives were achieved</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. The content of this course met my expectations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The order of the topics and learning activities made sense to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The scheduling of the activities was appropriate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The pace of the course delivery was appropriate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I was satisfied with the lecture time scheduling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments/suggestions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Its better if there is as possibility to expand course period for effective learning</td>
</tr>
<tr>
<td>- This course very short time to learning for each course needs to prepare longtime for each course.</td>
</tr>
<tr>
<td>- It is better to allocate more lecture times because everyone can understand easily.</td>
</tr>
<tr>
<td>- The contents are too basic &amp; theoretical to ‘experienced students’ who all students have certain knowledge &amp; practical experience and expect to exchange to/listen to good case studies instead of theoretical lectures</td>
</tr>
<tr>
<td>- Sometimes the schedule seemed hectic especially when there were 2 lectures in the afternoon.</td>
</tr>
<tr>
<td>- Class should break at 3 p.m.</td>
</tr>
<tr>
<td>- This is good course design and contents</td>
</tr>
<tr>
<td>- Need more time to study</td>
</tr>
<tr>
<td>- The contents of course somehow not related to coastal management in practical/field and most of lectures like Gender are repeated it should be only one lecture and it should be related to field</td>
</tr>
<tr>
<td>- Some contents on population (Anthropogenic) studies could be added in the course.</td>
</tr>
</tbody>
</table>
B. Teaching Methods and Materials (overall assessment)

<table>
<thead>
<tr>
<th></th>
<th>1 Strongly disagree</th>
<th>2 Disagree</th>
<th>3 Neutral</th>
<th>4 Agree</th>
<th>5 Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The course materials were sufficient/easy to understand</td>
<td></td>
<td>10</td>
<td>14</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2. The course materials were sufficient/easy to use</td>
<td></td>
<td>10</td>
<td>18</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3. Concepts were presented clearly in the lectures and course materials</td>
<td>2</td>
<td>7</td>
<td>17</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4. Examples and illustrations helped me understand the course materials</td>
<td>1</td>
<td>9</td>
<td>13</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>5. The mix of teaching/learning methods used in the course was appropriate</td>
<td>9</td>
<td>15</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The course activities stimulated my learning efforts</td>
<td>6</td>
<td>17</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. The class exercises and tasks were relevant and useful</td>
<td>1</td>
<td>6</td>
<td>15</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>8. The field trip and small group activities at Sirindorn Environmental Park, Cha-am, provided good experience to apply both the theory and tools taught to me</td>
<td>3</td>
<td>8</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. The field trip and small group activities at Koh Chang, Trat provided good experience to apply both the theory and tools taught to me</td>
<td>1</td>
<td>3</td>
<td>13</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>10. The assignments related to fieldtrips/work were very helpful for me to understand concepts better</td>
<td>1</td>
<td>2</td>
<td>15</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

Comments/suggestions for further improvements:
- Activities during field trip should be preplanned and informed to participants in advance; Quiz should be taken at the end of every course for evaluation, rather than full fledge 2 or 3 hours exam.
- Please to prepare long time for course 3,4 difficult to understand and give example for tool analysis.
- It is better to give course materials with hard copies. One or two days within trip time should be relaxed.
- I couldn’t catch during field work.
- Hard copies of lecture notes are important to read.
- More field learning oriented
- The assignments for the last field trip are too big and inappropriate in terms of time stay to learn the situation and right understanding of the issue and sufficient analysis to complete the work.
- Sundarban is the largest mangrove forest in the world with huge biodiversity. This course should include some topics related to Sundarban.
- The field trip was a very good learning strategy
- Stakeholders information in Koh Chang should be offered in advance
- This is good teaching methods and materials
• Should send to students the materials at least two weeks before starting
• The course is planned in intensive type and takes lot of time to understand fully, but have lot of presentations were presented and quizzes/exam. It’s not for professional people because we have no need of such type of course. In the field we remained busy to mid night it’s very difficult to achieve result in stress condition
• Good. Instead of giving soft version of the lecture notes, hard copies should be given. It would be easier to read those ones. Dr. Gallardo only did the same for course 2.

C. Services and Facility

<table>
<thead>
<tr>
<th></th>
<th>1 Strongly disagree</th>
<th>2 Disagree</th>
<th>3 Neutral</th>
<th>4 Agree</th>
<th>5 Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The classrooms was well-equipped with the facilities and supplies necessary to support the course work</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>2. I was satisfied with the dormitory room accommodation</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>3. I was satisfied with the food available on campus</td>
<td></td>
<td></td>
<td>7</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>4. I was satisfied with the coffee/tea break time scheduling</td>
<td>1</td>
<td>8</td>
<td>17</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5. I was satisfied with the transport and accommodation facilities during field trips</td>
<td>1</td>
<td>1</td>
<td>17</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>6. I was satisfied with the learning opportunities on the field trips</td>
<td></td>
<td></td>
<td>3</td>
<td>17</td>
<td>10</td>
</tr>
</tbody>
</table>

Comments/suggestions:
• Each room should have its own internet connection.
• Difficult to get internet
• Dormitory needs to have internet system, because students have to access internet every time to study and research.
• All good all audio visual, Air condition and furniture are of standard quality.
• Please help to prepare dormitory room in AIT easy to learn.
• I suggest that the food items supply by the canteen should be mentioned in English language.
• A dormitory room accommodation is good but there is no internet in the room. The internet at down stair is sometime not good, not active, and slow.
• Internet in TU-Dom not enough.
• Should have a vehicle service during class day (Peak and drop)
• No internet in dormitory room = huge problem to us to do assignments.
• In TU Dome, Ironing facilities and electric oven should be essential
• At the dormitory, there were some disturbances from other students and construction work
• Poor arranged at arrival
• Good services and facility
• In the field, there was not enough time to visit to any other places because all times are spent learning
• Should allow all students have accommodation on AIT campus
• In the modern era, the TU domes have no internet facility and access to room when we talk to our family after 10 p.m. The watchman shut the door and light. So it will be better to arrange in AIT residence in future.
• There should be a computer and printer for students

D. Relevance to your work and career

|   | 1 Strongly disagree | 2 Disagree | 3 Neutral | 4 Agree | 5 Strongly agree |
|---|---------------------|------------|-----------|---------|----------------
| 1. I can apply the theory and skills learned in my work | 2          | 19        | 9        |
| 2. I can use and adapt the course materials in my own workplace | 1          | 18        | 11       |
| 3. The course is very useful for me and my workplace | 3          | 16        | 11       |
| 4. I would recommend this course to my work colleagues | 4          | 15        | 11       |

Comments/suggestions:
• After completion of this course, I suggest to combine the conservation project carrying by the word organization like IUCN, MFF.
• Kindly allot more time for project work especially Dr. Amara session as a lot needs to be learnt & development of project will be more beneficial for implementing the tools & practices in our country. The first two courses enhance our knowledge but project is the real knowledge which will be implemented for future needs.
• I would suggest each individual to have to prepare own project proposal and start to learn how to do from the beginning of the course so everyone after the course will learn at a lot how to develop a proper proposal. Team work is not good in a way that quite many members very limited in doing the assignments!
• For course 4, could use more lecturers and modern methods
• Useful course that should be amended and turn into a master’s program
• This is related to my work
• The ICM course is fully related with the objectives of fisheries. Depth and for development of coastal areas the course is better but should be practical.
• I would try to give inputs in policy making decision.
Three concrete ways that I will be able to use and share the ICM training skills I have learned in my work, in my country:

1. As a university lecturer, the course is important in sharing my knowledge with my students.
2. Actively participating in research and study activities either in my NGO’s or my university through discussion & analysis.
3. Conduct working in coastal zone
4. Workshop
5. Can manage(provide) small workshop to my colleagues
6. Knowledge of mangroves system.
7. Teaching the ICM course for next generation
8. Resolution conflict in community (Resolution and resilience).
9. I will share my ICM training knowledge with my office colleagues.
10. I know how to write down a proposal.
11. Ecosystem concept
12. Initiate ICM tools in my country especially in Academic institutions
13. Rehabilitation of degraded ecosystem
14. Share to my students of university
15. Sharing the learning with colleagues
16. Analyze the problems – identify solutions – develop the logical framework
17. Spatial Integration of resources
18. Problem Tree
19. Marine & coastal Ecosystems
20. Making use of the project management strategies
21. Concept sharing with my colleagues and Government partners
22. Scientific Research (concepts framework)
23. I will share my experiences from this course to my department
24. Share the knowledge to my friends by phone
25. Discuss with my worker
26. Teaching for my students
27. The alternative source of energy like solar, wind etc will apply in field to energize the villages/new areas when it will possible
28. I am working in the Ministry and my role is to give suggestion/to draft the policies/projects. I would give my inputs

2. Conduct public seminar or workshop on ICM & the importance of Natural resources Protection and conservation.
3. Apply the knowledge of ICM to zoning in my province
4. Research paper on current coastal management practices and challenges for ICM.
5. Can take part in the activities regarding ICM in my country with other NGO like MFF.
6. Skill to write project proposal.
7. Conducting research on this subjects field
8. Science research
9. I tried to construct a ICM model in the coastal area (eg. Mangrove restoration project, sand dune conservation project etc.
10. I can apply ICM methods to our research.
11. Spatial planning
12. Have a proactive approach & initiate plans & develop strategies of problems in my coastal area.
13. Conservation and protection of coastal ecosystems
2.13 Apply in my projects and field work
2.14 Using the knowledge of ICM in own writing projects, those are in coastal areas.
2.15 Biological aspects of mangroves
2.16 Institutional integration (Stake holders)
2.17 LFA
2.18 Resilience Analysis
2.19 The communication strategies will be useful
2.20 Apply tools in practical work
2.21 Project proposal or land implementation
2.22 I will use skills and knowledge from this training in my work
2.23 Will teach the ICM course to my pupils in classroom
2.24 Adopt to my work
2.25 Discussing and sharing the ICM knowledge with my co-workers
2.26 The crab bank idea given by Dr. Don will be applied in my field for development/enhancement of field production of crabs
2.27 Several projects are running in the field which are being funded by Ministry, I can play an important role in providing inputs

3.

3.1 Involve in any work or practice on nature or coastal conservation activities as volunteers to learn and share knowledge capacity.
3.2 Good communicated with other sectors to work for coastal management.
3.3 Lecture.
3.4 Help UNDP and MFF in conduction seminars, workshops and in providing awareness programs in my country
3.5 Ecosystem-based approach.
3.6 Contribute for projects going on this stream.
3.7 Conservation ecosystem.
3.8 I tried to share & mark with other relative government bodies they conserve about conservation projects (e.g. Fisheries, World life, Forest, Livelihood etc.)
3.9 Create the network on ICM
3.10 Principal of ICM
3.11 Amendment of existing practices in some NGO which will be beneficial to larger community rather than small group of people.
3.12 Try to join with other department for ICM
3.13 Can contribute to work of the organization through consultancy
3.14 Spatial Planning/coastal zoning
3.15 Temporal integration.....
3.16 MPA’s
3.17 Participatory Planning & Project design
3.18 Utilizing the project planning methods learnt
3.19 Provide support in proposed development monitoring and implementation of ICM in my country
3.20 Added in University’s curriculum course of marine & coastal resource management and course of project management.
3.21 I can support in my work
3.22 Presented the ICM course
3.23 Apply skill learned to apply to my job
3.24 Training for some people in my project and sharing to the fishermen
3.25 The mangroves will be planted at the shore line of coast where it needed to protect from natural hazards and soil erosion

E. Additional course topics (individual course assessment)

1. What topics should be added or excluded in the following courses/subjects

<table>
<thead>
<tr>
<th>Marine and Coastal Ecosystems</th>
<th>Topics to be added</th>
<th>Topics to be excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coastal green belt Schemes (Projects)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>History of MFF: student is more interest in Mangrove</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turtle Conservation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economic tools to evaluate ecosystem services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Land use &amp; spatial in coastal zone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biodiversity assessment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cords more elaborated material required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seagrass more elaborated material required which should cover all aspects in-depth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tropical marine species (Food chain)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes it is very related to coastal area study &amp; management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Topics relating to Vertebrate fauna especially avian specie</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principles of ICM</th>
<th>Topics to be added</th>
<th>Environmental Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case study of successful model in any country, in terms of ICM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Case studies/study of applying the principles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More examples are required to make it worth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relevant to ICM policies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tools for ICM</th>
<th>Topics to be added</th>
<th>Topics to be excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The same above mention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIS and RS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alternative Analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PRA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More on spatial analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pace was too slow at times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This need comprehension. It could be improved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gender Equality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Too many tools &amp; too short time to really learn how to apply them</td>
<td></td>
</tr>
</tbody>
</table>

17
<table>
<thead>
<tr>
<th>Coastal Project Management and Evaluation (please also comment on Koh Chang field work arrangement)</th>
<th>But need to well designed and scheduled before leaving to respective sites.</th>
<th>Evening meetings with facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Total Economic valuation (TEV)</td>
<td>• Activities should be preplanned and informed to participants in advance</td>
<td>• Last day should be kept for preparing presentation/report</td>
</tr>
<tr>
<td>• GIS Lab</td>
<td>• Should afford information to each group before to field trip</td>
<td></td>
</tr>
<tr>
<td>• Population (Anthropology)</td>
<td>• Brief need to be shared in advance</td>
<td></td>
</tr>
<tr>
<td>• Intellectual Property Rights</td>
<td>• Clear communication on time and schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Should make long day trip to site seeing &amp; discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• More time for group work/meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• This course need orientation visit of site and classes. It was fun.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Offer clear concept/research framework for each tools/approaches in advance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Good place for field trip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Study of ecosystem in the field</td>
<td></td>
</tr>
</tbody>
</table>

Note: Please mention which sessions you would reduce or remove from the course. As it is a challenge to design a six week ICM course to fit the time availability of course participants (time away from work) so if there are sessions or session content to be added then something must also be removed.

- I want to remove the engineering concrete tool
- Course is fine but it needs to be very focused
- The duration should be more than 2 months and classes not more than 3 in a day.

2. If this certificate course will be expanded to become a one-year professional Master’s program, what courses should be included?

- It is important to include all subject materials/field in the course with a detailed course content e.g. For GIS- It’s better to teach with basic knowledge & then with application.
• No comments
• ICM courses.
• All that have been taught
• Budgeting, human resources, leadership
• Marine and coastal planning
• Research methodologies, project report writing and more detail information on coastal ecosystem biology.
• No need to include but just exposure the subject duration because some subjects needs time to be in lab
• Environmental engineering, Taxonomy (Species Identification)
• Ecosystem analysis using GIS & RS; Turtle Conservation-Biology, Tracking, Migratory paths etc.
• This certificate course is perfect
• Social, cultural & political aspect of coastal ecosystem, globalization perspective of marine & coastal ecosystem, National and International regional policy of ICM
• Business engagement, more social aspects (livelihood diversification, etc.)
• Environmental Economics
• Further elaborate tools of ICM
• Yes I think so
• Management of eco-tourism, Environmental management, Forest Management, Some course on computer application, Local Government, Fisheries etc.
• GIS application, coastal oceanography, coastal engineering, coastal resource management
• Environment management
• Coastal policies & law
• Biodiversity assessment techniques
• Structuring and zonation
• Trade-off and decision making
• Marine economics (Blue economic)
• Go to see some place it best and successful in management
• More subjects, Methodology, Co-management
• The topics should be elaborated and water resources management and alternate energy be added as a course
• Environmental management
• Environmental Economics
• Valuation of bio-resources
• Environmental microbiology
• Conservation Biology

3. **Would you be interested to enroll in the professional Master’s program? Why or why not?**
• At present, I am engaged with master program, since AIT is a standard International University with qualified staff members.
• No, I won’t be because that is not my field of interest.
• Yes, because I would like to learn more.
• Not at this stage, I already have Ph. D.
• Yes, I found his is an important field for my country
• My background is not very relevant with ICM, because I will not, but I am still interested at this short course.
• Yes
• Yes
• Yes, I would like to sharpen any professional.
• Yes, as it will enable me to enhance my knowledge & skill development in ICM
• Yes, it is related to my duties in my country.
• Yes, I need to know more detail and also need more time to study this course.
• Yes, it would increase my understanding & efficiency on ICM issues.
• Yes it is necessary for my work
• Yes. Lot of information on integrating coastal resources towards achieving sustainable development
• Not because this course is not directly to my topic work & knowledge
• Yes because the quality of education in AIT is good. Teachers are very much cordial.
• Depends on courses offered
• Yes, because if the environment management part is added then I believe the course will be complete
• Yes, this is an approach to address the issues using ICM approach
• Very much interested b/c it’s supporting to the currently career/professional
• I will be interested to enroll in the professional Master’s program because local people living in Myanmar have lack of awareness and knowledge on coastal ecosystem
• No. I not interested because it can learn in my country
• Yes, it is necessary for my job and my country
• Already in job no need
• No, since I am the employee of government of India. Working with the Ministry of Environment, Forests and Climate Change.

4. Do you think there would be benefit in developing national ICM curriculum/courses for your country? (i.e. adapts the ICM regional certificate course to your country).
• Yes, In Srilanka there is no proper ICM curriculum for universities, therefore it’s better to develop ICM curriculum & hence that will be important for conservation & sustainable development.
• Yes, because it meets the global need of nature and marine ecosystem vulnerability which required to be conserved in order to be resilience.
• Yes.
• Yes we have developed
• Yes
• Yes, especially for relevant agency.
• Yes, because this is the good way to have with fragmented institution.
• Yes
• Yes
• Yes, Definitely
• Yes
• Yes
• Yes, it is very important for my country, my country is coastal country. For sustainable coastal development, we need integration work between local people and government.
• Yes, especially for the government and non-government organizations staffs those work in coastal & Mangrove areas.
• Yes
• Yes
Yes. Because 32% of our total land is coastal area. 28% people live in coastal districts. We have the largest mangrove forest, Sunderbans in coastal area and also huge natural resources. So far the better management of coastal areas ICM courses should be developed.

Yes

If it is done regionally, I think it will be better, as there will be better qualified participants to choose from.

Yes, definitely but AIT faculty should be also part of the course.

Yes, I am strongly agree.

Yes

Yes

Yes

Yes

What so I learn from here will be adopted in ICM policy making in my country.

If yes, then who would be the key potential national partners (organizations and individuals/resource people) for the development and implementation of a national ICM course? These could include government, non-government agencies, academic institutions, or INGOs operating in your country, but they should already be engaged in teaching, or other capacity development activities, directly relevant to ICM.

University Students, Government bodies: NARA- National aquatic resources & research development agency.

Education & marine, fisheries department & university academician

NED University, Karachi-Pakistan; we have already developed one in Pakistan with support from MFF-SGF.

There are private and public colleges

General department of seas and Island-MONRE-Vietnam

Universities, coastal environmental protection IUCN

Center for Natural resource and Environmental Studies (CRES)

Academic institution

Government Organization

University, Government Department

Ministry of environment and Forests

Institute of Marine sciences & fisheries, Chittagong University

Major stakeholders, but any international NGO working on environment and coastal issues should be a lead.

Administration

All would be the key potential national partners

Yes, MFF/Government/Researcher

I think that Nha Trang University can do it in good way

Ministry of Environment, Forests and Climate change, Ministry of Earth Science and Ministry of Science and Technology would be the focal agencies and course should be organized by some autonomous bodies/organization under the ministries.

And are there any ICM courses already being offered in your country.

No

I don’t think so.

No

No

Yes
Who should be the target participants or beneficiaries of a national ICM course based on the ICM regional certificate course, and why?

- University students following degree related to aquatic resources. Acquired knowledge would be important to establish ICM strategy.
- Fisherman and coastal cities because they have proximity to coastal vulnerability/threats.
- Relevant stakeholder, to promote & implement ICM strategy.
- NGO’s, Government and local community.
- Making-policy person, researcher, NGO
- Who works with coast with at least bachelor degree
- The researchers and all sectors related to ICM
- Government officials & NGO staff
- NGO’s & Researchers, their inputs will be helpful for better local community.
- Those who are working in the coastal regions. Then ultimate benefits come to local people
- All local people and government.
- Government and non government organizations staff those work in coastal areas & also the key stakeholders of coastal ecosystem
- Relevant stakeholders, university students etc.
- Officers, University teachers and NGO employees working in coastal areas and research.
- Graduate students and PM practitioners (related to coastal science/Management)
- Scientists, University students and government/NGO officers working in the field of environment
- Young professionals from coastal line departments and communities
- Government, NGO, academic institutions and local people should be the target participants or beneficiaries of a national ICM course
- Best development (can work together)
- Lectures in fisheries, aquaculture, agricultural university because they can bring the ICM knowledge to many people
- Local coastal communities
- Local communities, since they are residing in the area long time ago and have traditional knowledge. Earlier they managed the same area.
Are there any other considerations we should keep in mind when planning to develop a national ICM course in your country?

- Consensus of all stakeholders.
- Should address national, international & trans-boundary issues.
- It must be based on our country’s ecosystem and environment.
- Cooperation with the different organizations that have capacity in ICM course training.
- If possible, if there will be expert from abroad to be a guest lecturer in my country.
- Integrated decision making i.e. by institutes, NGO & local government (Bottom to top approach) (Encourage to young people)
- Monitoring and long term survival
- Coastal development.
- Needs assessment and demand.
- Main focus on the need of the coastal area
- I think important thing is who should lead this course to make it a valuable course.
- Program
- Time
- Yet No
- Consultation with National co-coordinating body. National focal point.
Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand are working together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project to lay the foundations for a coordinated programme of action designed to better 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