Bay of Bengal Large Marine Ecosystem Project

BOBLME Mergui Archipelago Stakeholder Workshop. Yangon, Myanmar. • 11-12 October, 2010.

BOBLME-2010-Ecology-08

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The Bay of Bengal Large Marine Ecosystem (BOBLME)
Myeik Archipelago Stakeholder Workshop – Myanmar

Final Workshop Report Document

Prepared by

Asian Coastal Resources Institute Foundation (CORIN-ASIA)

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ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
BOBLME	Bay of Bengal Large Marine Ecosystem
CORIN-Asia	Asian Coastal Resources Institute Foundation
CMS	Convention on Migratory Species
DG	Director General
DMA	Department of Marine Administration
DoF	Department of Fisheries
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization
IMO	International Maritime Office
IUU	Illegal, Unreported, Unregulated
MCS	Monitoring, Control and Surveillance
MFF	Marine Fisheries Federation
MoU	Memorandum of Understanding
MPA	Marine Protected Area
NGO	Non- Government Organization
SAP	Strategic Action Programme
SEAFDEC	Southeast Asian Fisheries Development Center
TDA	Trans-boundary Diagnostic Analysis
UNEP	United Nations Environmental Program

အကျဉ်းချုပ်

နိဒါန်း

ဤအလုပ်ရုံဆွေးနွေးပွဲသည် Asian Coastal Resources Insitute Foundation (CORN-Asia) နှင့် မြန်မာနိုင်ငံငါးလုပ်ငန်းဦးစီးဌာနတို့ပူးပေါင်း၍ Bay of Bengal Large Marine Ecosystem (BOBLME) Project ၏နယ်နိမိတ်ဒေသလူနေမှုစီမံခန့်ခွဲရေးအပိုင်း (၂.၄) တွင်ပါဝင်သောလုပ်ငန်းစဉ်တစ်ခုအဖြစ် Food and Agriculture (FAO) ၏ငွေကြေးထောက်ပံ့မှုဖြင့် ကျင်းပခဲ့သော အလုပ်ရုံဆွေးနွေးပွဲတစ်ခု ဖြစ်ပါသည်။ ဤဆွေးနွေးပွဲ၏ အဓိကရည်ရွယ်ချက်မှာ နှစ်နိုင်ငံကြား ပူးပေါင်းဆောင်ရွက်နိုင်ရေးနှင့် မိတ်ကျွန်းစုဒေသ၏ပူးပေါင်းစီမံခွဲမှုဖြင့် ရေးဆွဲရန်လိုအပ်သော စီမံကိန်းများတွင် ပါဝင်အထောက်အကူပြုရန် ဖြစ်ပါသည်။

ဤအလုပ်ရုံဆွေးနွေးပွဲတွင် မိတ်ကျွန်းစုရှိ သက်ရှိသယံဇာတများ ဆက်လက်တည်ရှိရေးစီမံခန့်ခွဲမှုကို ဆွေးနွေးခဲ့ပါသည်။ ဤသို့ဆွေးနွေးရာတွင် အောက်ပါအချက်အလက်များ ပါဝင်ပါသည်။ (၁) နယ်နိမိတ်ပတ်ဝန်းကျင်အခြေအနေပြ အကြောင်းအချက်အလက်များကို အချိန်နှင့်အလျှောက် ဖြည့်ဆွက်ဖော်ပြရန်၊ (၂) အခြေခံပင်လယ်ပထဝီ၊ ငါးသားပေါက်အခြေအနေ၊ နှင့် ပျောက်ဆုံးလုနီးဖြစ်နေသော သတ္တဝါများနှင့်ပတ်သတ်သော အချက်အလက်များ ကွာဟမှုကို ဖော်ထုတ်ရန်၊ (၃) ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးလုပ်ငန်းများ တိုးချဲ့နိုင်ရေး၊ (၄) ရေရှည်တည်တံ့ရေးကို အန္တရယ်ပြုနိုင်မည့် ငါးဖမ်းလုပ်ငန်းများကို ကာကွယ်နိုင်ရန် ဒေသခံများနှင့် အစိုးရဌာနများ၏ အသက်မွေးဝမ်းကြောင်းလုပ်ငန်းများအပေါ် စိတ်ပါဝင်စားမှုကို ကူညီလမ်းပြပေးရန်၊ (၅) လုပ်ထုံးလုပ်နည်းများကို စနစ်တကျ ဖြစ်စေရန်ဆောင့်ကြပ်ကြည့်ရှုပေးရေး (၆) မိတ်ကျွန်းစုတည်ရှိမှုနှင့် အရေးပါမှုကို ပြည်သူများ၊ နိုင်ငံခြားသားများနှင့် ဆုံးဖြတ်ပိုင်ခွင့်ရှိသူများအား တိုးချဲ့အသိပေး ပြောကြားပေးရန် တို့ဖြစ်ပါသည်။

အလုပ်ရုံဆွေးနွေးပွဲတွင် ဒေသစိတ်အမျိုးမျိုးမှ ကိုယ်စားလှယ်များပါဝင်သူများသည်။ (က) အသုံးပြုသူများ – ဒေသခံလူထု၊ ပုဂ္ဂလိကနှင့် ပြည်သူပိုင်ဖွဲ့ဖြိုးရေးဒေသစိတ်များ၊ ကာကွယ်ထိန်းသိမ်းမှုကိုလိုလားသူများ စသည်ဖြင့် လုပ်ငန်း၏အကျိုးသက်ရောက်မှုခံစားရသူများ နှင့် အကျိုးသက်ရောက်မှုကိုဖြစ်ပေါ်စေသူများ၊ (ခ) အာဏာပိုင်များ – အစိုးရကိုယ်စား ဒေသတွင်းနေထိုင်သူများ၏ အကျိုးဆောင်ပုဂ္ဂိုလ်များ၊ (ဂ) ထောက်ခံအားပေးသူများ – သုတေသနနှင့်ဖွံ့ဖြိုးရေးအဖွဲ့အစည်းများ၊ တိုးချဲ့ရေးနှင့် သတင်းအချက်အလက်လုပ်ငန်းများ၊ ပညာရေးဆိုင်ရာ အဖွဲ့အစည်းများနှင့် စွမ်းဆောင်ရှင်များနှင့် စုဆောင်းရေးအင်အားစုများ စသည်ဖြင့်ပါဝင်ပါသည်။

လုပ်ငန်းစဉ်နှင့်ပတ်သတ်၍ အဖွဲ့လိုက်ဆွေးနွေးမှုများ

၁။ ပတ်ဝန်းကျင်နယ်နိမိတ်သတ်မှတ်ခြင်းနှင့် ဆောင့်ကြပ်ကြည့်ရှုခြင်း

- ဖက်စပ်အရင်းအမြစ်စစ်ဆေးလေ့လာမှု – ဤလုပ်ငန်းသည် ပါဝင်သောအရင်းအမြစ်များနှင့် ဒေသခံလူထုများနှင့် ၎င်းတို့၏ဗဟုသုတအပေါ် စစ်ဆေးလေ့လာမှုများအတွက် ပုံစံရေးဆွဲချမှတ်ရန် ရည်ရွယ်ပါသည်။ မိတ်ကျွန်းစုတွင်း ရေရှည်ဆက်လက်တည်ရှိနိုင်သော အရင်းအမြစ်များ မည်မျှကျန်ရှိသည်ကို တွက်ချက်နိုင်မည့် ဖက်စပ်သုတေသန လုပ်ငန်းစဉ်များပါဝင်မည်ဖြစ်ပါသည်။ ဤလုပ်ငန်းသည် ဒေသခံလူထု၏စီမံခန့်ခွဲရေးလုပ်ထုံးလုပ်နည်းများကို ခေတ်မှီကာကွယ်ထိန်းသိမ်းရေးကြိုးပမ်းမှုများနှင့် ပေါင်းစည်းရာ၌အရေးပါသောနေရာတွင် ပါဝင်မည်ဖြစ်ပါသည်။
- ဒေသကန်ရိုးတမ်းညစ်ညမ်းမှုနှင့် ရေထုအခြေအနေတိုင်းတာရေးစံများ သတ်မှတ်နိုင်ရန်ရည်ရွယ်လျက် စီးပွားရေးအထောက်အကူပြုစနစ်အားကောင်းမှုကို ဆောင့်ကြပ်ကြည့်ရှုနိုင်မည့်မူဘောင်များ ချမှတ်နိုင်ရန် နည်းပညာပိုင်းဆိုင်ရာ အထောက်အပံ့စနစ်များ ပါဝင်မည်ဖြစ်ပါသည်။

၂။ အခြားအသက်မွေးဝမ်းကျောင်းများ

ကန်ရိုးတမ်းဗေဒ

- မိတ်ကျွန်းစုတွင် သန္ဓာကျောက်တန်းများသည် ကန်ရိုးတမ်းငါးဖမ်းလုပ်ငန်း၏ အရေးပါသော အရင်းအမြစ်တစ်ခုအနေနှင့် ပါဝင်ပါသည်။ ကျောက်ငါးလုပ်ငန်းဖွံ့ဖြိုးတိုးတက်ရေးသည် သန္ဓာကျောက်တန်းများအတွင်း ငါးသားဥတွေ့ရှိမှုအပေါ် အတိုင်းအတာတစ်ခုထိမူတည်နေပါသည်။ ဤလုပ်ငန်းရည်ရွယ်တည်တံ့ခိုင်မြဲရေးအတွက် ငါးသားပေါက်မွေးမြူရေးစခန်းများတည်ထောင်ရေးသို့လည်း ရှေ့ရှုဆောင်ရွက်ရမည် ဖြစ်ပါသည်။

- ပင်လယ်သတ္တဝါများမွေးမြူခြင်းနှင့် ပင်လယ်ရေမှော်စိုက်ပျိုးခြင်း စီမံကိန်းများသည် ဆလုံလူမျိုးများနှင့် လန်ဝီကျွန်း၏စီးပွားရေးအတွက် အကျိုးသက်ရောက်မှုများစွာ ရှိနိုင်ပါသည်။
- ဂဏန်းမွေးမြူရေးသည်လည်း အသေးစားငါးလုပ်ငန်းရှင်များအတွက် အကျိုးသက်ရောက်မှု ရှိနိုင်ပါသည်။
- ပုဇွန်မွေးမြူရေးလုပ်ငန်းများ ပေါင်းစပ်ပုဇွန်မွေးမြူရေးကို အကောင်အထည်ဖော်နိုင်ရန် အကောင်းဆုံးလုပ်ထုံးလုပ်နည်း များ လိုအပ်ပါသည်။ သားဖောက်ရန် အဆင်သင့်ဖြစ်နေပီဖြစ်သော ပုဇွန်အုပ်များသည် မြန်မာနိုင်ငံတွင် များပြားစွားတွေ့ရှိနိုင်ပီး မုတ်တမပင်လယ်ပြင်သည် နယ်စပ်နိုင်ငံများ၏ ပုဇွန်သားဖောက်ရေး လုပ်ငန်းများအတွက်ပါ အရေးကြီးသော အရင်းအမြစ်အဖြစ် တည်ရှိပါသည်။

လိပ်ကာကွယ်ထိန်းသိမ်းခြင်း

ပင်လယ်လိပ်များသည် မိတ်ကျွန်းစုသဲသောင်ပြင်များတွင် အသိုက်ဆောက်လေ့ရှိပါသည်။ လိပ်အသိုက်ဆောက်သော ကာလအတွက် ဤအသိုက်များကို ထိန်းသိမ်းစောင့်ရှောက်ခြင်းဖြင့် ကမ်းခြေတွင်နေထိုင်သူများအတွက် ဝင်ငွေရနိုင်စရာနည်းလမ်းတစ်ခု ဖြစ်လာနိုင်ပါသည်။ ထို့အပြင် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအတွက်လည်း အကျိုးပြုနိုင်ပါသည်။

စီးပွားရေးအထောက်အကူပြု–ခရီးသွားလုပ်ငန်း

- ဤလုပ်ငန်းတွင် ဒေသခံများပိုမိုပါဝင်မှု ရှိလာနိုင်ပါသည်။ ထို့အပြင် ခရီးသွားလုပ်ငန်းအတွက် သိသာထင်ရှားသော ရင်းနှီးမြှုပ်နှံမှုများလိုအပ်ပါသည်။ ဤ စီးပွားရေးအထောက်အကူပြု ခရီးသွားလုပ်ငန်းများသည် ဤဒေသအတွက် အဓိကအထောက်အကူပြုသော လုပ်ငန်းတစ်ခု ဖြစ်လာနိုင်ပါသည်။ သို့ရာတွင် အခြားလုပ်ငန်းရှင်များနှင့် ခရီးသွားလုပ်ငန်းများက လက်ရှိလုပ်ကိုင်လျက်ရှိသော စီမံကိန်းများ၊ နည်းဗျူဟာများကို လေ့လာလျက် စနစ်တကျစီမံကိန်းများရေးဆွဲခြင်း နည်းဗျူဟာများချမှတ်ခြင်းတို့ကို ပြုလုပ်ရမည်ဖြစ်ပါသည်။ ဆလုံလူမျိုးများနှင့် ကျွန်းစုဖွံ့ဖြိုးရေးအတွက် ကြီးမားသော အလားအလာများရှိလာနိုင်သည့်အပြင် ဒေသခံသဘာဝနှင့် ယဉ်ကျေးမှုအရင်းအမြစ်များ၏ အရေးပါမှုကို ခရီးသွားများအား အသိပေးနိုင်မည် ဖြစ်ပါသည်။

ဒေသတွင်းအစပြုသောရံပုံငွေ

- ဒေသခံများ ရံပုံငွေအရင်းအမြစ်ကို သိရှိနိုင်ရေးအတွက် ဒေသတွင်းရံပုံငွေများ အစပြုတည်ထောင်ပေးပါ။

၃။ စီမံကိန်းရေးဆွဲခြင်း၊ ခန့်ခွဲခြင်းနှင့် အဖွဲ့အစည်းဆိုင်ရာ အစီအစဉ်များ

- မိတ်ကျွန်းစု စီးပွားရေးလုပ်ငန်းရှင် စီမံခန့်ခွဲရေးကော်မတီတစ်ခု တည်ထောက်ရန်
- ထို့အပြင် ခရီးသွားလုပ်ငန်းအတွက် အလားအလာကောင်းများရှိလာနိုင်ပါသည်။ ဤလုပ်ငန်းစုများသည် အရေးပါသော သယံဇာတများထိန်းသိမ်းကာကွယ်ရေးနှင့် မိတ်ကျွန်းစုလုပ်ငန်းများအတွက် ငွေကြေးထောက်ပံ့ရေးအတွက်လည်း အဓိကကျသော အင်အားတစ်ရပ်ဖြစ်လာနိုင်ပါသည်။ ရှေ့ဆောင်လုပ်ငန်းများအတွက် သဘောတူညီချက်များရရှိရန် အခြေခံသတင်းအချက်အလက်များ၊ နည်းဗျူဟာများ လိုအပ်ပါသည်။ ငါးလုပ်ငန်း စီမံခန့်ခွဲရေးအတွက် ခွင့်ပြုချက်လိုင်စင်များအတွက် သတင်းအချက်အလက်များ စုဆောင်းလျက် လေ့လာသုံးသပ်မှုများပြုလုပ်ရန်လိုအပ်နိုင်ပါသည်။ ဤသို့ စုဆောင်းရာတွင် သတင်းအချက်အလက်များကို လိုလားစွာဖော်ထုတ်ပြောဆိုပေးရန်လည်း လိုအပ်ပါသည်။
- ဤဒေသအတွက် လက်တွေ့ကျသောလုပ်ငန်းစီမံခွန့်ခွဲမှုများ လက်ရှိတွင်မရှိသေးပါ။
- ဧဝသဘာဝနှင့် လူနေမှုအခြေအနေကို ပိုမိုနားလည်နိုင်ရန် လက်ရှိသတင်းအချက်အလက်များကို ပြန်လည်လေ့လာခြင်း၊ သုံးသပ်ခြင်းများပြုလုပ်ပါ။ လုပ်ငန်းရှင်များနှင့် အထူးသဖြင့် ခရီးသွားလုပ်ငန်းများနှင့် သဘောတူ၊ ကတိပြုချက်များရယူပါ။

- မိတ်ကျန်းစုဒေသတွင် ဖွံ့ဖြိုးတိုးတက်မှုများရှိလာပြီဖြစ်ပြီး ဇီဝဗေဒကွဲပြားမှုနှင့် ပင်လယ်သယံဇာတနှင့် စီးပွားရေးအထောက်အကူပြု ခရီးသွားလုပ်ငန်းများပေါ်မူတည်သော အသက်မွေးဝမ်းကျောင်းလုပ်ငန်းများသည် အရေးပါသောအချက်များဖြစ်ပါသည်။ ပူးပေါင်းစီမံခန့်ခွဲမှုတွင် ရေရှည်တည်တံ့ခိုင်မြဲရေးအတွက် အရေးပါသော အဆင့်များပါဝင်ပါသည်။ ပူးပေါင်းစီမံခန့်ခွဲမှု၏ တိုးတက်မှု၊ ခရီးသွားများနှင့် ဒေသခံလူထုများ၏ သယံဇာတများ (သန္တာကျောက်တန်းများ၊ ပင်လယ်ရေမှော်များ၊ ပင်လယ် ကမ်းခြေများ၊ ဒီရေတောများ) အပေါ်အသုံးပြုမှုအပေါ်စောင့်ကြည့်ခြင်းများကို ပြုလုပ်ရမည် ဖြစ်ပါသည်။
- ဤဒေသစီမံခန့်ခွဲရေးအတွက် ဤသို့ပူးပေါင်းဆောင်ရွက်ခြင်းသည် အစဦးအခြေအနေတွင်ပင် ရှိပါသည်။ ဒေသတွင်းဝန်ထမ်းအဆင့်၊ အခြားအဆင့်အမျိုးမျိုးမှ ပူးပေါင်းအင်အားဖြည့်ရန်လိုအပ်ပါသည်။
- ကန်းရိုးတမ်းဒေသ ဖွံ့ဖြိုးတိုးတက်ရေးနှင့် ရည်ရွယ်တည်တံ့ရေးအတွက် အဓိကအရေးအကြီးဆုံးမှာ နယ်မြေ အသုံးပြုမှုစနစ်ဖြစ်ပါသည်။ ပင်လယ်လုပ်ငန်းများအတွက် နယ်မြေအသုံးပြုမှု၊ သန္တာကျောက်တန်းအသုံးပြုမှုနှင့် သဘာဝ သယံဇာတများထိန်းသိမ်းမှုတို့အတွက် ညီညွတ်မျှတသော နယ်မြေအသုံးပြုမှုစီမံကိန်းရှိရန် လိုအပ်ပါသည်။
- မြန်မာနိုင်ငံအစိုးရအနေဖြင့် ပင်လယ်လုပ်ငန်းများအတွက် နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှုများကို ကြိုဆိုလျက်ရှိပါသည်။ လက်ရှိအခြေအနေတွင်လည်း ကြီးများသောရင်းနှီးမြှုပ်နှံမှုများအနေဖြင့် ပုဇွန်မွေးမြူရေးလုပ်ငန်းများရှိပြီး မိတ်ကျန်းစုဒေသတွင် ပင်လယ်လုပ်ငန်းများတိုးချဲ့ဆောင်ရွက်သွားရန် အစီအစဉ်ရှိပါသည်။

EXECUTIVE SUMMARY

The Workshop was organized by the Asian Coastal Resources Institute Foundation (CORIN-Asia), in collaboration with the 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 workshop was aimed at contributing to the development of 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 joint management of Myeik (formerly called Mergui) archipelago.

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 public awareness particularly among decision makers, tourists, and the public at large, of the existence and significance of the archipelago.

Workshop participants represented various sectors. (A) The users, who receive the benefits and cause impacts comprised of the (i) local communities, (ii) the private and public development sector and (iii) the conservation interest groups; (B) The authorities, who act as "minders of the common interest of the population in the region" on behalf of the government; (C) The supporters comprised of the (i) research and development institutions, (ii) extension and information services, (iii) academic institutions, and (iv) empowerment and mobilization organizations.

The group discussions resulted to a national workplan.

1. **Establishment of environmental baselines and monitoring**
    - **Interdisciplinary resource assessment studies**
      This activity is designed to create a model for participatory resource assessment involving indigenous communities and taking into consideration their knowledge. It will consist of interdisciplinary research conducted on the Myeik Archipelago with the objective of determining sustainable resource use. This activity will be vital in the incorporation of indigenous management practices into modern conservation efforts.

- Technical support systems for developing a regional ecosystem health monitoring framework that addresses regional coastal pollution issues and water quality criteria.

2. Alternative livelihoods

Coastal Aquaculture:

- In Myeik Archipelago, corals are an important coastal resource for sustaining coastal fisheries. The development of grouper aquaculture is dependent to some extent on collection of seed from coral reef areas. To sustain grouper aquaculture in the country, it will also be necessary to move towards hatchery establishment.

- Giant clam mariculture, the mariculture project has numerous potential benefits for both the Moken and the ecology of the Lampi Islands.

- Crab farming and fisheries show considerable potential for smallholder involvement.

- Shrimp farms require best practice for integrated shrimp farm development. Shrimp broodstock appear relatively abundant in Myanmar, and indeed the Andaman Sea as a whole, is an important source of broodstock for neighbouring countries.

Turtle conservation:

- Sea turtles nest on the beaches of the Myeik Archipelago. It is important that a management mechanism, e.g. provide concession and quota, to regulate collection of turtle eggs be set in place. The coastal community can be given the concession so that collection is regulated while generating income during the turtle-nesting season. They are expected to maintain the turtle nests. This would contribute to the environmental management of the islands.

Eco-tourism:

- There are substantial possibilities for improving local participation in eco-tourism and in addition, a significant need for planning tourism investments. Eco-tourism holds the potential to become a major supporting factor of the park, but careful planning and strategising is needed taking into consideration what plans and strategies exist already in other agencies and among the tourist sector. However, they have great potential for furthering the development of the Moken and the islands, while at the same time raising awareness and appreciation amongst tourists of the importance of the region's natural and cultural resources.

Locally-Initiated Fund:

- Establish locally initiated fund for the community to be able to access to the source of funding by developing community financial systems or linking them to a regional microfinacnce institution.

3. Planning, management and institutional arrangements

- Establishment of a permanent Myeik Archipelago Management Multi-stakeholder Committee.
- Moreover, there is great potential for *tourism*. This sector can be developed as a driving force for the conservation of important resources and financing of activities for Myeik Archipelago. Basic information and strategies are needed as a basis for developing agreements on the way forward. It may also be necessary to undertake a comprehensive valuation and willingness to pay surveys for licencing system for fisheries management.
- There is no functional and realistic management plan for the park. There is a need to develop one.
- Review existing information and conduct assessments as necessary to generate a good baseline understanding of biological and community issues in the park. Get agreement and commitments from all key stakeholders especially the tourism sector.
- Developments are taking place in Myeik Archipelago and key biodiversity issues are at stake as well as important livelihood options especially with regards to use of marine resource and eco-tourism. The process of joint management involves a number of steps that has to be proven to be sustainable. It is deemed important to monitor the progress of the joint management agreements and the impact of visitor and local use on important park habitats including coral reefs, seagrass, beaches and mangroves.
- Joint Management is an approach to park management that is still new. Significant efforts are needed to improve capacity at both park staff level and other levels.
- One of the critical issues for sustainable coastal aquaculture development is land use policy, and to have planning processes in place that allow balanced use of land for aquaculture and other uses in coastal areas, and the maintenance of natural ecosystem. The coastal aquaculture may be combined with other kinds of land use, such as rice production and mangrove plantations. This demands increasing knowledge of coastal processes and strengthening integration between institutions and stakeholders.

1. 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 Km^2 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 Thailand side of the archipelago, is Laem Son, Phayam, Phra Thong, Similan Island and Surin Island National Parks.

Major tribal groups include the Mokan which live on boats during the dry season and move to land only during the raining season whose 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 and poorly managed tourists operation. As a result of these threats, many of the reefs in the archipelago are coming under increasing stress. Specific threats include dynamite fishing and other forms of non-sustainable fishing practices, sedimentation, and anchor damage, trampling, and over-fishing, among others. Many of these issues are trans-boundary in nature. Habitat degradation in turn, has affected fish populations, 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.

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, 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 aimed at contributing to the development of 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 joint 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 public awareness particularly among decision makers, tourists, and the public at large, of the existence and significance of the archipelago.

The list of the participants and the list of local representatives who participated is attached in Appendix 1. A total of 50 participants from various stakeholder groups attended the workshop. Participants came from different organizations such as the Department of Fisheries, Department of Forestry, National Commission for Environment Affairs, Ministry of Education, Ministry of Hotel and Tourism, Ministry of Transport, Myanmar Fisheries Federation, State Advisor, Fishing Boat Owner, CORIN-Asia, Poseidon Aquatic Resources Management, BOBLME Regional Coordinator as well as senior officials from the Department of Fisheries in Thailand.

2. Program and Workshop Objectives

2.1 The Workshop was intended to develop recommendations and a workplan for activities in the following areas: (i) establishment of environmental baselines and monitoring; (ii) alternative livelihoods; (iii) planning and management; and (iv) institutional arrangements.

2.2 Existing baseline information related to critical habitats, endangered species, MPA, ecosystems services and Ecosystems Approach to Fisheries, and the result of SEAFDEC Survey in Myanmar, to stimulate discussion about the issues affecting trans-boundary coastal and marine ecosystems.

3. Workshop Proceedings

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.

Day 1

3.1 Opening of the Workshop

3.1.1 The Bay of Bengal Large Marine Ecosystem Mergui Archipelago Stakeholder Workshop – Myanmar was held in Yangon, Myanmar on 11-12 October 2010. Representatives from the government, academe, research institutions, non-government organizations, the private sector and the local fishermen attended the Workshop. List of participants is attached as Appendix 1, the agenda is provided in Appendix 2, and a photo of participants appears as Appendix 5.

3.1.2 U Khin Ko Lay, the Director General of Department of Fisheries, Myanmar made the opening speech (Appendix 3.1). In his statement, the DG thanked the BOBLME Project, particularly the Regional Coordinating Unit and CORIN-Asia, for jointly organizing the National Stakeholder Workshop in Yangon, Myanmar as well as the financial assistance provided to conduct the same. 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. He informed the participants that the Government of Myanmar had been involved in the preparation phase which started 2002, and endorsed the BOBLME Project since 2007. The Government of Myanmar hopes that the Project and the Workshop come up with a workplan to support activities leading to the development of a bi-national collaborative institutional approach and system wide master plan to facilitate the joint management of the archipelago.

3.1.3 Dr. Somsak Boromthanarat, Director of CORIN-Asia, gave the Opening Remarks. He provided a brief overview of the results of the first Stakeholder Workshop conducted in Ranong, Thailand. 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.

3.1.4 Dr. Chris O'Brien, the Regional Coordinator of the BOBLME Project 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 discussed five modules of indicators 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.

3.2 The Workshop Proper

3.2.1 Agenda and Chairperson

The Workshop adopted the Agenda and elected Mr. Khin Ko Lay (Director General of the Department of Fisheries) as Chairperson, Mr. Hla Win, (Former Deputy Director General of the Department of Fisheries, and Executive Member of the Myanmar Fisheries Federation) as the Co-Chairperson, for the first day.

A list of presentations appears in Appendix 7. Presentations for the First day of Workshop were as follows:

1. U Tint Tun (EC Member, BANCA) presented the paper on the Introduction to Critical Habitats and Protected Area: Mangrove and Coral Reefs.

2. U Mya Than Tun (National Coordinator, BOBLME Project) presented the paper on seagrass beds.

3. U Myint Pe (National Technical Advisor) presented the paper on Ecosystem Approach to Fishery Management: basic oceanography, fish larvae patterns, rare and prevailing current regime.

4. U Mya Than Tun (National Coordinator) presented the paper on Endangered Species.

5. U Khin Maung Soe (Deputy Director, Department of Fisheries) discussed Alternative Livelihood Development Opportunities that can be considered in Myeik Archipelago.

6. Daw Nan Mya Han (Professor, Myeik University) discussed public awareness needs and strategies among various stake holders regarding the value of important habitats in Myeik Archipelago.
7. U Ye Myint (Deputy Managing Director, Hotels & Tourism) presented existing planning and management capacity for fisheries and tourism sector in the area.

8. U Thi Ha (Deputy Director, DoF)) and U Tin Htut (Deputy Divisional Officer, Tanintharyi Division, DOF) presented the paper about the licensing system in Myanmar that include vessel registrations, fishing licenses, port monitoring and MCS networks from the perspective of fisheries and habitat management.

At the end of all the presentations, the Chairperson opened the floor for questions to clarify issues that are otherwise unclear during the presentations.

The first day of Workshop ended at 17:00 pm. and it was followed by a welcome dinner.

3.2.2 Summary of presentations

The following section presents the highlights of the topics presented.

3.2.2.1 Critical Habitats and Protected Area

The Archipelago is famous for its fishery and pearl farming. It is considered as one of the very few 'virgin' places in the world in terms of coastal and marine resources. Coral reefs, mangrove and seagrass beds are observed in the Myeik Archipelago waters but scientific studies on them are very few.

Mangroves
The *mangrove*s in Myeik Arcipelago resemble those in the Andaman, Nicobar Islands and Thailand. Although some forest and fishery products have been extracted, mangroves of the Myeik Archipelago are almost pristine. Based on available data, about 67 mangrove species are recorded from Lampi and neighbouring islands.

Coral Reefs
There are **114** hard *coral species* recorded from the Thayawthadangyi-Kyun while in Myeik Archipelago, there are **518 s**pecies of hard corals identified from the 24 islands within the area.

Large areas of *coral reefs* were observed along the eastern sites of nine offshore islands of the Myeik Archipelago (Kyant Gyo Island, Zar Dat Nge Island, Nyaung Wee Island, Kyunn Tann Shey Island, Warr Island, Ka Mar Island, Pa Lei Island, Pyin Sa Bu Island and

Thayawthedangyi Island). Coral communities and the surrounding waters of the Thayawthadangyi-Kyun are still natural. However, some fishing and coral harvesting activities of fishers were observed.

Seagrass beds

A total of 11 *seagrass species* have been recorded from the Myeik Archipelago. The largest seagrass beds are found on the eastern sides of Nyaung Wee, Bo Cho and Lampi Islands. The size of the most significant meadow at Lampi Island was estimated to be 28 hectares. Dugong feeding trails were found in dense patches of *H. ovalis* at Lampi in March 2008, and at Nyaung Wee and Lampi Islands in November 2008. Those trails were the first concrete evidence of the occurrence of a resident dugong population in the Myeik Archipelago. Recently, dugong stranding on Wa Kyuun, situated in and near the Lampi Island, was reported on 27th March 2010.

Myanmar is one of the first signatory States to the Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats throughout their Range (UNEP/CMS Dugong MoU) on 31 October 2007.

3.2.2.2 Ecosystem Approach to Fishery Management

A study conducted by SEAFDEC identified 249 taxa, composed of 2 species of blue-green alga, 119 species of diatoms, 90 species of dinoflagellates and 2 genera of silicoflagellates in the Gulf of Martaban, Myanmar. The highest cell count of phytoplankton was 105,082 cells/L at the surface of coastal station near the Gulf of Martaban. *Oscillatoria (Trichodesmium) erythrae* was found to be the phytoplankton with highest bloom. The toxic phytoplankton, *Alexandrium tamiyavanichi* and *Gymnodinium catenatum,* were found with cell count of 1,124 and 566 cells/L respectively. The study revealed that the waters of Myanmar are very productive but the Gulf of Martaban should be monitored and managed to ensure sustainable productivity. For zooplanktons, protozoans and copepods dominate the population. There is a wide distribution of mollusks, arrow worms, larvaceans (appendicularians), siphonophores and chondrophores and decapods. The pattern of distribution of the major components of zooplankton indicates that near-shore is more productive than the off-shore areas. Regarding fish caught, 113 species in 62 families (excluding sharks' family) were caught. For invertebrates, eight groups namely jelly fishes (white and red), horseshoe crab, shrimps, crabs, mantis shrimps, mollusks, squids and echinoderms were caught. Of the fish caught, ***Saurida undosquamis*** was found to be the dominant species consisting 20% of the total catch during the study.

Due to the diversity of fisheries in terms of resources, local conditions and the capacity of the local authorities and stakeholders, it is difficult to successfully promote a single approach to fisheries management. The priority for Myanmar fisheries management reform is thus to strengthen and develop legally enforceable decentralized management coupled with appropriate right-based incentives to the fishing community. This should be

accompanied by the strengthening of collection of data on gear and boats so as to have a clear understanding of the fisheries sector and its capacity. Myanmar should promote the participation of local communities and the public in the development of the fisheries. Recommended potential approaches for sustainable fisheries management are as follows:

(a) Centralized to Decentralized Management
(b) Right-based Fisheries Management
(c) Ecosystem-based Fisheries Management
(d) Community-based Fisheries Management
(e) Co-management Strategy

In Myanmar, environmental degradation is still minimal. However, like other developing countries, the major source of environmental issues in Myanmar lies in the problem of underdevelopment. So, in the national endeavor to protect and conserve the environment, Myanmar's approach to the environmental protection is through alleviating poverty and uplifting the living standard of the people.

Myanmar has a number of sectorial laws that are related to protecting and conservation of natural resources and control of pollution. Laws and regulations that apply for the management and conservation of environment resources should be revised. Zoning and limit entry system should be implemented for marine capture fishery. Fish habitat improvement programme should be encouraged. Comprehensive research for environment and resources conservation and management should be done continuously. The concept of Marine Protected Areas (MPA) will be used as the effective management tools to protect the fragile aquatic-environment (coral reefs, sea grass or mangrove swamps areas). There is a need to closely coordinate and consult with various government authorities to make appropriate plan for the MPA. Collaboration among the relevant stakeholders (i.e. fisher, tourism organization, etc.) is essential. Mechanisms for the fair and equitable resolution of the potential conflicts have to be considered. However, it should be fully considered that the enclosure arrangement such as MPA or temporally management arrangement should be based on the policy on the sustainable fisheries and assurance of longer- term livelihood of the local community.

3.2.2.3 Endangered species

One of the rare whale species, the Longman’s beaked whale (*Indopacetus pacificus)* was stranded at the Bawa Thit agriculture farm near Yangon river mouth, Yangon District, Kyauk Tan township. Many of the cetaceans like dugongs are killed because they are entangled by fishing gears, especially the gill net, which are set near seagrass beds around Rakhine and Tanintharyi coastal areas. Dolphins and whales are often caught in gill nets and bottom trawls.

A law was enacted to protect and conserve wildlife. The Union of Myanmar, State Law and Order Restoration Council enacted The State Law and Order Restoration Council Law No. 6/94, titled "the Protection of Wildlife and Protected Area Law" on 8th June 1994 (i) to protect wildlife of the state; (ii) to conserve the protected areas of the state; (iii) to carry out in accordance with International Conservations agreed by the State in respect to the protection of wild species of both flora and fauna and representative ecosystems occurring in the country; and (iv) to protect endangered species of wild flora and fauna and their corresponding habitats.

3.2.2.4 Alternative Livelihood Development

Myeik Archipelago area is suitable for marine aquaculture because there is no water pollution due to the absence of factory near the coast. Various species of fish can be cultured. Fish hatchery can be a good project.

According to 2009 statistics, there are around 166,5000 people living in Tanintharyi Division and around 20% are from Myeik Archipelago. Majority of the coastal residents are engaged in fishing activities.

Even if resources are abundant, there is a need to have a systematic approach to prevent over fishing by specifying non-fishing areas, non-fishing months, and reducing the fishing efforts to regulate exploitation of fishery resources.

There is also a need to introduce new technologies, infuse new capital and expand market of products.

3.2.2.5 Public Awareness among Various Stakeholders Regarding Value of Important Habitats to Tourism and Offshore Fishing

The presentation underscored the existing environmental and resources condition in Myanmar coastal and marine areas as well as the possible measures that should be taken to address the issues related to habitat loss and degradation of coastal and marine resources. Particularly, it was highlighted that the promotion of Myeik Archipelago Management relies heavily on the rapid and broad dissemination of correct information and knowledge. Without such information, decision-making for sustainable development at all levels will be seriously impaired. Public awareness is one of the fundamental prerequisites for the achievement of Myeik Archipelago Management and sustainable development and it should involve multi-stakeholders - individuals, groups and organizations, private and public, especially in decision-making, which potentially affect them.

Programme areas may include public education, public awareness and public participation in management and sustainable development of Myeik Archipelago such as: (i) enhanced environment education and awareness programmes; (ii) developed a national database and strengthen information systems; (iii) strengthened the

participation of major groups in management and sustainable development activities; and (iv) strengthened planning and management of the existing protected areas and creating new areas to be protected.

3.2.2.6 Existing Planning and Management Capacity for Fisheries and Tourism in the Area

The presentation focused only on the tourism sector in the country. Guidelines for the development of coastal areas are laid down through regulations. Myanmar has rich marine biodiversity and probably among the richest in the region. It occupies a significant part of the Bay of Bengal Marine Ecosystem. Marine biodiversity is valuable because of the goods and services it provides. Its marine biodiversity can boost ecotourism and provide good economic returns. However, effective management is needed to prevent degradation of the region's marine biodiversity.

Coastal Ecotourism is being promoted as a tool to achieve sustainability in various dimensions such as sustainable tourism, sustainable livelihood, sustainable eco-environment, sustainable socio-culture (society), and sustainable development.

For a better planning and management, a balance of the 3 sustainability elements should be considered: (i) education in all forms and at all levels; (ii) community participation and all stakeholders' involvement; and (iii) visitor /tourist management.

3.2.2.7 Licensing System in Myanmar

Rules and procedures for vessel registrations, issuance of fishing licenses, port monitoring and MCS system is formally established in Myanmar. Marine fisheries is categorized into two broad areas such as (i) **In-shore fishery**: 5 nautical mile from shore (*Rakhine coastal)*; 10 nautical mile from shore (*Ayeyarwady & Taninthayi)*; use of not more 12 Hp engine & 30 Feet length of the boat; and (ii) **Off-shore fishery**: outer area of inshore to end of EEZ, use of more than 12 Hp engine boat; use of bottom trawl, purse seine, surrounding net, drift net and long line. Marine fisheries area in Myanmar is demarcated into 4 areas such that local vessels have the privilege to operate fishing at one or two adjacent fishing grounds only while foreign vessels have privilege to operate one selected fishing ground of three (1,2,4) from outside the territorial sea up to EEZ. During the effectivity of the license, license can be renewed to extend fishing period.

The government agencies concerned with fishing vessel registrations are the following: (i) the Department of Marine Administration (DMA) inspects and processes all vessels according to the procedure and rule of the IMO for registration to ensure safety from danger while the (ii) the Department of Fisheries (DOF) issue fishing and fish carrier license to vessel already issued with vessel registration by DMA.

Fisheries management measures include regulations of fishing gears, seasons and areas, and the designation of enforcement agencies with particular activities are listed such as: (i) inspection at sea can be done by Myanmar Navy and Myanmar Coast Guard while (ii) inspection authority at shore are the Department of Fisheries, Myanmar Port Authority, Myanmar Custom, Immigration Department, Department of Marine Administration and Myanmar Police Force. It also includes inspection at port.

Illegal, unreported and unregulated (IUU) fishing is also a concern that Myanmar fishery management is addressing. IUU issues include *national and foreign vessels* (contravention of the reporting procedure, fishing in unauthorized areas, over limited fishing days, trans-shipment at the sea and encroachment of the foreign vessels) and *inshore fishing vessels* (unregistered & unlicensed vessel, use of prohibited fishing method and fishing during closed season and in closed areas).

The MCS network initiatives include The Gulf of Thailand sub-region (Cambodia, Malaysia, Thailand and Vietnam) which initiated the development of MCS network, starting with information sharing and suggested that "Institutional Matrix" be developed and the Andaman Sea sub-region (Indonesia, Malaysia, Thailand, Myanmar and India) which initiated the development of MCS network, information sharing and introduced the "Institutional Matrix", MCS network to be further developed and the Institutional Matrix showing key institutions to be included in the further development of MCS network.

Motivation of MCS system is important for effective implication of fisheries management measures. Establishment of efficient MCS system is essential for effective controlling of fishing capacity and IUU fishing. Collaboration and cooperation of adjacent coastal nations would be most effective in combating IUU fishing.

<u>Day 2, Tuesday, 12 October 2010</u>

4. Group Discussions

Participants were divided into 3 groups. Group discussions were based on presentation of previous day (Day 1) and comparative relevance to workshop objective and BOBLME purpose. Each group discussed the three main topics. These topic areas reflected the five "areas" identified through the BOBLME project leading up to the workshop. The four main topics and five areas were as follows:

1. Establishment of environmental baselines and monitoring,

(i) contributing to the updating of the existing environmental baseline;

(ii) addressing major data gaps in the baseline associated with basic oceanography, fish larval patterns, rare and endangered species, and the prevailing current regime;

(iii) developing a systematic monitoring programmed based on current "best practices" in the region;

2. Alternative livelihoods

(i) developing and piloting alternative livelihood activities designed to mitigate existing non-sustainable fishing practices primarily on the Myanmar side of the project area;

3. Planning and management, and Institutional arrangements

(i) increasing public awareness particularly among decision makers, tourists, and the public at large of the existence and significance of the archipelago; and

(ii) Increasing planning capacity and the development of two bi-national sector plans for the fisheries and tourism sectors, respectively.

Each workgroup was composed of 14 participants (Appendix 8) and facilitated by two individuals. The facilitators conducted introductions, reviewed the workgroup objectives, and conducted a prioritization exercise to determine the highest priority issues within their cluster area. Groups identified options to take forward at the local, national and regional levels, and came up with recommended measures and activities to address identified issues.

The Workshop elected Mr. Kyaw Myo Win (Deputy Director General of the Department of Fisheries) as Chairperson, Mr. Hla Win,(Former Deputy Director General of the Department of Fisheries, and Executive Member of the Myanmar Fisheries Federation) and Dr. Swe Thwin (Former Professor of Marine Science University and State Advisor) as the Co-Chairperson, for the second day.

Dr. Boromthanarat explained in brief concerning the outcome of Thai Myeik Archipelago National Stakeholder Workshop, which was held 13-14, July 2010 at Ranong as an example. Mr. Hla Win (Chairperson) called to all participants for an open discussion before the break up group discussions.

4.1 Presentation of group outputs

The group outputs were presented resulting to the national workplan for Mergui Archipelago. The following sections summarize the results of the group discussions.

4.1.1 Establishment of environmental baselines and monitoring

Indicative activities to address this area are as follows:

- Set up facilities including equipment needed and provide technical support for user friendly Myeik Archipelago data-base system.
- Collection of data and information for an assessment of fish stock e.g. hilsa, Indian mackerel and sharks.
- Develop an inventory of critical habitats such as coral reefs, mangroves and estuaries, and sea grass beds, which serve as fish spawning and nursery areas.
- Technical support systems for developing a regional ecosystem health monitoring framework that addresses regional coastal pollution issues and water quality criteria.
- Review and discuss with experts the criteria & indicators, and methods for monitoring used in Thailand and in Myanmar (including in the Pilot Parks Project, Lameson and Lampi) in relation to ecosystem analysis and joint management activities. Based on this and an overview and assessment of baseline data at the target PAs, propose the general outline of a system for monitoring.
- Together with target parks, agree on the site-specific types of indicators for monitoring. Propose activities to fill any important gaps in baseline data at the target parks and support the sites in doing so. Ensure segregation by gender and as far as possible social groups. Ensure monitoring of impact of training and capacity building.
- Draft and discuss with stakeholders a full proposal for an overall monitoring system relevant to park management (including, for example the method, frequency and key actors), building upon the local baseline data and indicators.
- Establish the overall monitoring system, and design and conduct targeted training of the people involved in the actual monitoring.
- Gather lessons learned with monitoring (not the data produced in the monitoring), and develop national guidelines for monitoring of bio-diversity and socio-economic impact, and joint-management processes associated with parks, for comments by all stakeholders, and adjust and finalise the guidelines accordingly.

4.1.3 Alternative livelihoods

For local communities, the natural resources of the park are important for their livelihood. There are specific needs to support community economic activities including the establishment of a fish processing group, diving group, and cage fisheries group. Such activities would improve the link between sustainable use and conservation. The outline of activities are as follows:

- Support the development of specific innovative opportunities/projects related to community fisheries, eco-tourism, and sustainable livelihoods,
- Establish locally-initiated fund for the community to be able to access source of funding for livelihood development
- Allowing small-scale regulated harvesting for both fisheries and mangrove in the park

4.1.4 Planning, management and institutional arrangements

Outline of issues to be addressed and related activities are as follows:

A large number of stakeholders are impacting the Myeik Archipelago and there is *no available existing forum for exchange of information, joint planning and decision-making*. Developments are uncoordinated and communication among stakeholders is insufficient. Indicative activities will include:

- Establishment of a permanent Myeik Archipelago Management Committee

  Strong focus on involving those that are the real decision-makers with regards to development and local communities. In addition, the private sector needs to be strongly involved. It is also necessary to build capacity, offer training and study tours for relevant stakeholders. Furthermore, there is a need to undertake a range of stakeholder consultations and joint workshops to discuss the joint management concept with local stakeholders.

  Moreover, there is great potential for *tourism*. This sector can be developed as a driving force for the conservation of important resources and financing of activities for Myeik Archipelago. Basic information and strategies are needed as a basis for developing agreements on the way forward. It may also be necessary to undertake a comprehensive valuation and willingness to pay surveys for licencing system for fisheries management.

- Undertake a review of the system of Myeik Archipelago entry fees, concession arrangements and tenure situation.

- Prepare an innovative financing strategy for the Myeik Archipelago including the establishment of a pilot park conservation fund to be jointly managed.

  There is no functional and realistic *management plan for the park.* Potential activities that can be implemented in the area include the following:

- Support a zonation and planning process that involves all stakeholders and leads to the preparation of a simple and realistic operational management plan including joint management agreements.

  Review existing information and conduct assessments as necessary to generate a good baseline understanding of biological and community issues in the park. Get agreement and commitments from all key stakeholders especially the tourism sector. Establish zones with GIS support from central level – zoning for visitor activities and local resource use will be essential, establish rules and regulations,

plan for community resource use and participatory protection activities. Include possible support to actions in buffer zone.

Developments are taking place in Myeik Archipelago and key biodiversity issues are at stake as well as important livelihood options especially with regards to use of marine resource and eco-tourism. The process of joint management involves a number of steps that has to be proven to be sustainable. It is deemed important to monitor the progress of the joint management agreements and the impact of visitor and local use on important park habitats including coral reefs, seagrass, beaches and mangroves. The activity outline is:

- Establish a simple and participatory monitoring system covering implementation of the joint management agreements and the Park Operational Management Plan and the key impacts from visitors and local use on the habitats of the park. Ensure that relevant and interested stakeholders take part or recognise the monitoring system. Train people to implement it.
- Promote the protection of coastal habitats, in particular the use of fish refuge to conserve and rebuild stock e.g mangrove forest and crocodile at Village Mine Thwey for use of crocodile meat and skin.
- Establish Joint Management mechanism between Thailand and Myanmar for critical habitat management in selected pilot areas e.g Lameson National Park in Thailand and Lampi Marine National Park in Myanmar.

There are substantial possibilities for improving local participation in eco-tourism and in addition, a significant need for planning tourism investments. Eco-tourism holds the potential to become a major supporting factor of the park, but careful planning and strategising is needed taking into consideration what plans and strategies exist already in other agencies and among the tourist sector. Activities can include the following:

- Support the planning and development of specific opportunities related to eco-tourism with both local and non local involvement.

Based on this and with the strong support from national level, define models for eco-tourism development related to marine parks. It should work closely with provincial and sub-district authorities, local community groups and with Tourism Authority (central and regional divisions), and take a point of departure in its Study to Determine the Pattern of Marine Eco-tourism Management. The work includes assistance to the Park in controlling and developing private sector involvement in tourism development.

Myeik Archipelago is part of a wider ecosystem and linked to other parks. It is important to ensure that the adjoining parks and the general public are exposed to

joint management approaches and that cross-cutting ecosystem issues are discussed with neighbouring parks, particularly for the fisheries tourism sectors. The outline of activities can be:

- Meetings and participation in fieldwork related to park planning and management including joint management approaches with neighbouring parks. Networking within other authorities, organisations and projects in the area. Undertake awareness and advocacy activities.

Joint Management is an approach to park management that is still new. Significant efforts are needed to improve capacity at both park staff level and other levels.

- Support capacity building of park staff and the local stakeholders to manage and conserve the park's natural resources.

4.2 National Workplan

The group outputs were presented and an agreed national workplan (Appendix 6) was prepared summing up the main outputs of the workshop as well as commitments from the various participants representing different sectors.

5. Conclusions and Recommendations

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 result of the group discussions are summarized in the following sections while details of activities are shown in Appendix 6.

1. Establishment of environmental baselines and monitoring

- **Interdisciplinary resource assessment studies:** This activity is designed to create a model for participatory resource assessment involving indigenous communities and taking into consideration their knowledge. It will consist of interdisciplinary research conducted on the Myeik Archipelago with the objective of determining sustainable resource use. This activity will be vital in the incorporation of indigenous management practices into modern conservation efforts.
- Technical support systems for developing a regional ecosystem health monitoring framework that addresses regional coastal pollution issues and water quality criteria.

2. Alternative livelihoods

Coastal Aquaculture:

- In Myeik Archipelago, corals are an important coastal resource for sustaining coastal fisheries. The development of grouper aquaculture is dependent to some extent on collection of seed from coral reef areas. To sustain grouper aquaculture in the country, it will also be necessary to move towards hatchery establishment.

- Giant clam mariculture, the mariculture project has numerous potential benefits for both the Moken and the ecology of the Lampi Islands.
- Crab farming and fisheries show considerable potential for smallholder involvement.

- Shrimp farms require best practice for integrated shrimp farm development. Shrimp broodstock appear relatively abundant in Myanmar, and indeed the Andaman Sea as a whole, is an important source of broodstock for neighbouring countries.

Turtle conservation:

Sea turtles nest on the beaches of the Myeik Archipelago. The coastal community could also generate income during the turtle-nesting season by maintaining turtle nests. This would provide an income for the coastal community, as well as assist with the environmental management of the islands.

Eco-tourism:

- There are substantial possibilities for improving local participation in eco-tourism and in addition, a significant need for planning tourism investments. Eco-tourism holds the potential to become a major supporting factor of the park, but careful planning and strategising is needed taking into consideration what plans and strategies exist already in other agencies and among the tourist sector. However, they have great potential for furthering the development of the Moken and the islands, while at the same time raising awareness and appreciation amongst tourists of the importance of the region's natural and cultural resources.

Locally-Initiated Fund:

- Establish locally initiated fund for the community to be able to access to the source of funding by developing community financial systems or linking them to a regional microfinance institution.

3. Planning, management and institutional arrangements

- Establishment of a permanent Myeik Archipelago Management Multi-stakeholder Committee.
- Moreover, there is great potential for *tourism*. This sector can be developed as a driving force for the conservation of important resources and financing of activities for Myeik Archipelago. Basic information and strategies are needed as a basis for developing agreements on the way forward. It may also be necessary to

undertake a comprehensive valuation and willingness to pay surveys for licencing system for fisheries management.

- There is no functional and realistic management plan for the park.
- Review existing information and conduct assessments as necessary to generate a good baseline understanding of biological and community issues in the park. Get agreement and commitments from all key stakeholders especially the tourism sector.
- Developments are taking place in Myeik Archipelago and key biodiversity issues are at stake as well as important livelihood options especially with regards to use of marine resource and eco-tourism. The process of joint management involves a number of steps that has to be proven to be sustainable. It is deemed important to monitor the progress of the joint management agreements and the impact of visitor and local use on important park habitats including coral reefs, seagrass, beaches and mangroves.
- Joint Management is an approach to park management that is still new. Significant efforts are needed to improve capacity at both park staff level and other levels.
- One of the critical issues for sustainable coastal aquaculture development is land use policy, and to have planning processes in place that allow balanced use of land for aquaculture and other uses in coastal areas, and the maintenance of natural ecosystem.
- The Myanmar government welcomes foreign investment in the aquaculture sector and several large investments particularly shrimp farming are ongoing or planned for aquaculture in the coastal divisions in Myeik Archipelago.

6.0 Workshop Closing

Mr. Khin Ko Lay the Director General of the Department of Fisheries closed the meeting by reiterating the Myeik Archipelago management and sustainable use to benefit the people of Myanmar. He expressed thanks to BOBLME Project for the financing of the workshop, the expertise and time of CORIN-Asia, and all participants for their time and experience-sharing as well as a special appreciation to the National Coordinating Unit and Secretariats for their effort and successful arrangement of the workshop.

Mr. Director General noted that the different breakout workgroups had generated some excellent and creative ideas for concrete activities, ranging from knowledge of the state of the resources to the Myanmar people and culture. He underscored that everything we do will affect the lives of people. He added that he would not forget the livelihood and institutional arrangement in the context of the current system and of the issues affecting the people.

The two-day workshop was officially ended at around 16:30 with closing remarks from the Director General of the Department of Fisheries, Myanmar. The closing remarks appear as Appendix 3.2.

Appendix 1

List of Participants

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Appendix 2

The Bay of Bengal Large Marine Ecosystem (BOBLME) of Myeik Archipelago Stakeholder Workshop – Myanmar

11-12 October 2010

Day 1, Monday, 11 October 2010

08.30-09:00	Registration
09.00-09.15	Opening Speech by U Khin Ko Lay, Director General, Department of Fisheries, Myanmar
09.15-09.30	Opening Remarks by Dr Somsak Boromthanarat, Director, CORIN-Asia
09.30-9:45	Brief introductions to the BOBLME Project by Dr. Chris O'Brien, Regional Coordinator, BOBLME Project
09.45-10.15	Coffee Break and Group photo
10.15-11.00	Introductions of Critical habitats and Protected Area • Mangroves • Coral Reefs by U Tint Tun (EC Member, BANCA) • Seagrass beds by U Mya Than Tun (National Coordinator, BOBLME Project) Species
11.00-12.00	Ecosystem Approach to Fishery Management • Basic Oceanography • Fish Larvae patterns, rare and prevailing current regime by U Myint Pe (National Technical Advisor) • Endangered species by U Mya Than Tun (National Coordinator, BOBLME Project)
12:00-13:00	Lunch
13:00-13:45	Alternative Livelihood Development Opportunities for Alternative Livelihood Activities by U Han Tun (Executive Vice Chairman, Myanmar Fisheries Federation), U Khin Maung Soe (Deputy Director)

13:45-14:30	Public Awareness Among Various Stakeholders Regarding Value of Important Habitats to Tourism and Offshore Fishing by Daw Nan Mya Han (Professor, Myeik University)
14:30-15:15	Existing Planning and Management Capacity for Fisheries and Tourism in the Area by U Ye Myint (Deputy Managing Director, Ministry of Hotel and Tourism)
15:15-15:45	Coffee Break
15:45-16:45	Licensing System in Myanmar Vessel registrations, fishing licenses, port monitoring and MCS Network from the perspective of fisheries and habitat management by U Thi Ha (Deputy Director) and U Tin Htut (Deputy Divisional Officer, Tanintharyi Division, DoF)
16:45– 17:30	Question and Answer
17:30	Closing of Workshop Day 1
18.00	Welcome Dinner

Day 2, Tuesday, 12 October 2010

08.30-10.00	Group Discussion (Split into 3 groups) Group discussion will be based on presentation of previous day (Day 1) and compare relevance to BOBLME purpose. Group will identify options to take forward at the local, national and regional levels, and present commitments to develop a workplan. Group 1: Address Critical Habitats and Protected Area (Mangrove, Coral Reefs and Seagrass Beds) and Ecosystem Approach to Fishery Management (Basic oceanography, fish larvae patterns, rare, prevailing current regime and endangered species). Group 2: Address Alternative Livelihood Development Opportunities and Public Awareness among Various Stakeholders Regarding the Value of Important Habitats Group 3: Address Existing Planning and Management Capacity for Fisheries and Tourism Sector to include Licensing System in Myanmar (Vessel registrations, fishing licenses, port monitoring and

	MCS Networks from the Perspective of Fisheries and Habitat Management)
10.00 -10.30	Coffee Break
10.30 –12.30	Presentation of group outputs
12.30 – 13.30	Lunch
13.00 -14:30	Workshop to prepare workplan (Split into 3 Groups)
14:30 –15:30	Plenary Discussion/workplan presentation
15.30 – 15:45	Coffee Break
15.45– 16.30	Summing up the main outputs of the workshop and commitments
16.30	Closing of the Workshop

Appendix 3.1
Opening Speech

U Khin Ko Lay
Director General of the Department of Fisheries, Myanmar

BOBLME, Regional Coordinators,
Representatives from CORIN-Asia,
Representatives from government institutions and non government organizations,
All Relevant Stakeholders, Distinguish guests
Ladies and gentlemen,

On behalf of the Minister of The Ministry of Livestock and Fisheries of Union of Myanmar, and on my own behalf, I welcome all of you for this "***Myeik Archipelago Management and Sustainable Use National Workshop"*** of the BOBLME Project, at Yangon, Myanmar.

I understand that this workshop comes after a series of concurrent workshops concerning the BOBLME Project ***Component 2: Coastal and Marine Natural Resources Management and Sustainable Use*** and which under ***subcomponent 2.4: Collaborative Critical Habitat Management***, it's directly affected by two border nations Myanmar and Thailand.

Myanmar is the largest country in main land Southeast Asia; the coastal and marine environment is an integral part of our country's cultural heritage. Myanmar have a relatively long coastline stretching and touching two bodies of water, Bay of Bengal and Andaman Sea, so the continental shelf covers relatively wider portion in the central and southern parts. Coastal and marine resources are among our country's great natural assessing, as they contribute to the country's economy and support the livelihoods of the population's at coastal areas, and also share the surplus to neighbouring countries. The fishery sector directly employs nearly two million fishermen, and Myanmar is an important country of marine and freshwater fish producer country in the region.

Ladies and Gentlemen

I would like to explain about the project area, Taninthayi Coastal area is the longest coastal zone and is bounded by Andaman Sea in the west. This coastal zone covers south of the Gulf of Mottama up to the mouth of Pakchan River. It's also included Myeik Archipelago and Andaman Sea. Myeik Archipelago is the only one Archipelago in the BOBLME Region, it's extends from Mali Island to Similan Island and contains more than 804 islands covering an area of about 34,340 square kilometre and is lying up to 30 km off shore, which represent the exposed peaks of several submerged ridges. Many of the beautiful and colourful coral reefs surround the outer islands and the mangroves forest covers much of

the inner islands, some islands also exist at the northern part of this coastal area. The length of the mainland coast is about 1,200 km. and the total land area is about 43,344 square kilometer. The coastal plain is narrow and gradually rises towards the east to become the Taninthayi mountain range with 2,073 meter high Myint Moe Let Khat Mountain as the highest peak.

The area is characterized by a large number of rare and endangered species including five species of marine turtle, a number of marine mammals (the Ayeyarwady dolphin, bottle nose dolphin, whale and the dugong) 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 Protected area for Lampi and Ross islands.

A few islands in the archipelago are populated with small fishing communities (e.g., King, Sir E. Owen, and Elephant Stone). Major tribal groups include the Mokan (Sea Gypsy) which live on boats during the dry season and move to land only in the dry season and derive a livelihood based primarily on reef gleaning. However, the vast majority of islands are unpopulated.

Major fisheries in this area is purse seining the Indian mackerel, bottom trawling for demersal fish and shrimp, squid fishing, include sea cucumber, mollusks, groper and seaweed farming, 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.

For the sustainable management we need to promote activities such as; logging, fishing and managed for eco-tourism operation. As a result of these threads, many of the reefs in the archipelago are coming under increasing stress. Specific threads include: dynamite fishing and other forms of non-sustainable fishing practices, sedimentation, and anchor damage, trampling, and over-fishing. Many of these issues are trans-boundary in nature. Habitat degradation in turn, has affected fish populations, already under pressure due to over-fishing. In addressing these issues, the respectively governments responsible for the archipelago are constrained by a lack of resources, data, and the absence of an institutional framework which would allow for a coordinated approach leading to their resolution.

Ladies and Gentlemen

The Government of the Union of Myanmar had been involved the BOBLME Project since 2003 and endorsed this project in 2007, and understood that this project will meet these following outputs;
(i) a current status and overview of the Mergui Archipelago environment and resources, lesson
learnt from the various fishers and stakeholders communalities for the integrated coastal management, specific policy recommendations,
(ii) improved policy for environment and capacity building for communities based ICM,
(iii) improved and understanding of the fisheries legislation,
(iv) improved sustainable fisheries management of selected transboundary fish stocks,
(v) development of national and sub-regional institutions arrangements, appropriate plans for fish stock,
(vi) national and regionally harmonized fishery data base programme.

The overall objective of the proposed Myeik Archipelago Protected Area System are; Sustainable Management of Living Resources sub-component would be to support activities leading to the development of a bi-national collaborative institutional approach and system wide master plan to facilitate the joint management of the archipelago. The proposed project area is bounded by the northern and southern most islands of archipelago (Dawei and Similan islands, respectively) and the coastal mountain ridge in the east and the 200 m isobath in the west.

The BOBLME Project has decided to join forces with the CORIN-Asia; it is a professionally competent institution for the management of coastal resources of Thailand and the Mekong region, with on-going activities in neighbouring such as Cambodia, Vietnam, Indonesia, and as a member of a strong professional network, the Wetlands Alliance. CORIN-Asia has actively participated in several programmes in Thailand and in the southeast Asian region involving the objectives of maintaining natural resources of coastal (and river basin) areas for long lasting use. The CORIN-Asia is the logical partner for the BOBLME Project in carrying out this activity. The BOBLME intends to engage the expertise, networks and momentum of CORIN-Asia to achieve its goals.

Ladies and Gentlemen

Lastly, we must promote better understanding between the government, environment NGOs, stakeholders, fishing industry, and the general public about the important of management and sustainable use Myeik Archipelago for the benefit of the present and future generations. I hope that this national stakeholder's workshop will be a milestone of Myanmar, and also in our region. I thank you in advance for the work you are about to

undertake in the next two days, and I am confident that you wisdom, knowledge, skills and expertise will ensure that the project will get off the best possible start to recover the health of the Bay of Bengal, rejuvenate its living resources, and improve the livelihoods of the coastal populations. We are taking a new and important step in outlining the future direction and implementation take in management of living marine resources and it environment.

Thank you for your attention.

Appendix 3.2

Closing Remarks

U Khin Ko Lay
Director General of the Department of Fisheries, Myanmar

Good Afternoon.

The National Workshop will be successfully completed very soon. I appreciate very much all participants for your hard work during the workshop yesterday and today.

On behalf of the Ministry of Livestock and Fisheries and on my own behalf, I would like to thank the Chairman and the facilitators, for their good chairmanship during the two days workshop.

I would also like to thank the experts and resource persons as well as the stakeholder for their valuable presentations, contributions, and discussion to come out to with workshop recommendation outcomes.

These outcomes will be brought to joint Myeik Archipelago workshop to be organized in the near future.

I hope these two days outcome will be useful for the Myeik Archipelago management and sustainable utilization of resources, which is important for the two countries, Myanmar and Thailand.

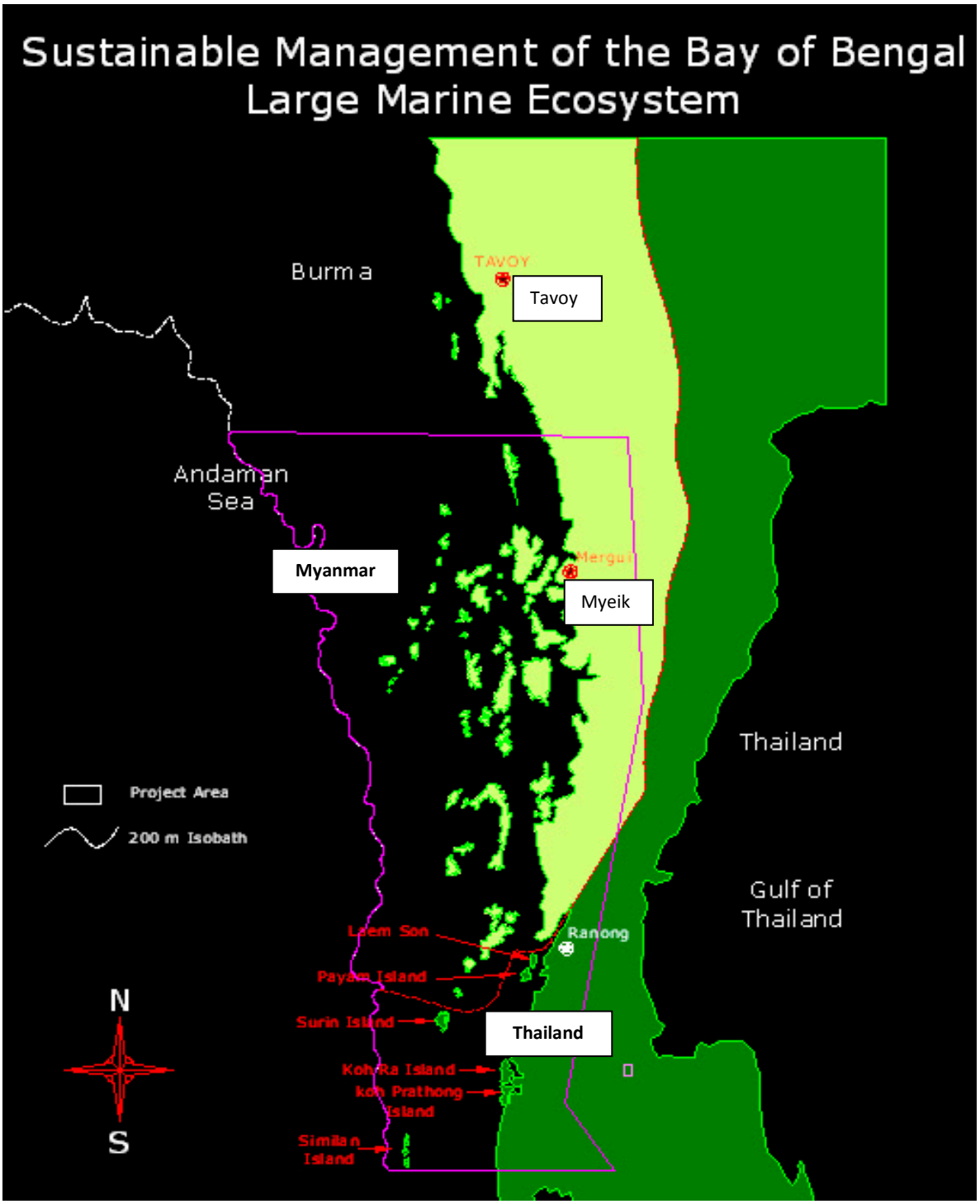
I would like to apologize to all participants if there is any short coming in this Workshop.
Last but not the least, I must thank Dr. Chris O' Brien, Dr. Somsak Boromthanarat and Ms. Rebeca Andong, National Coordinator and meeting secretariat for their valuable contribution to this Workshop to get successful achievement.

I hope we see you again during the joint workshop in Myanmar or Thailand.

I wish all of you safe journey back home and good luck.

Thank you.

Appendix 4
Map of Project Area



Appendix 5

Participants' Picture

Appendix 6

National Workplan

National Workplan for BOBLME Implementation in Myanmar

BOBLME Objective	Areas of Need/Issues	Indicative Activities/Potential Projects
Establishment of environmental baselines and monitoring	• **Interdisciplinary resource assessment studies:** This activity is designed to create a model for participatory resource assessment involving indigenous communities and taking into consideration their knowledge. It will consist of interdisciplinary research conducted on the Myeik Archipelago with the objective of determining sustainable resource use. This activity will be vital in the incorporation of indigenous management practices into modern conservation efforts.	– *Support the data collection on Coastal Management in Myeik Archipelago: A historical perspectives of resources and issues* – *Develop an inventory of critical habitats such as coral reefs, mangroves and estuaries, and seagrass beds, which serve as fish spawning and nursery areas.* – *Collect the data and information for an assessment of fish stock e.g. hilsa, Indian mackerel and sharks.*
	• Technical support systems for developing a regional ecosystem health monitoring framework that addresses regional coastal pollution issues and water quality criteria.	– *Review and discuss with experts the criteria & indicators, and methods for monitoring used in the Thailand and in Myanmar (including in the Pilot Parks Project, Lameson and Lampi) in relation to ecosystem analysis and joint management activities. Based on this and on the overview and assessment of baseline data at the target parks, propose the general outline of a system for monitoring.* – *Together with target parks, agree on the site-specific types of indicators for monitoring. Propose activities to fill any important gaps in*

		baseline data at the target protected areas and support the sites in doing so. Ensure segregation by gender and as far as possible social groups. Ensure monitoring of impact of training and capacity building. – *Draft and discuss with stakeholders a full proposal for an overall monitoring system relevant to park management (including, for example the method, frequency and key actors), building upon the local baseline data and indicators.* – *Establish the overall monitoring system, and design and conduct targeted training of the people involved in the actual monitoring.* – *Gather lessons learned with monitoring (not the data produced in the monitoring), and develop national guidelines for monitoring of bio-diversity and socio-economic impact, and joint management processes associated with parks, for comments by all stakeholders, and adjust and finalise the guidelines accordingly.*
Alternative livelihoods	**Coastal Aquaculture:** • In Myeik Archipelago, corals are an important coastal resource for sustaining coastal fisheries. The development of grouper aquaculture is dependent to some extent on collection of seed from coral reef areas. To sustain grouper aquaculture in the	– *Support the development of the mariculture station and program in Myeik Archipelago, an area of significant coral reefs and fishery importance.*

	country, it will also be necessary to move towards hatchery establishment. • Giant clam mariculture, the mariculture project has numerous potential benefits for both the Moken and the ecology of the Lampi Islands. • Crab farming and fisheries show considerable potential for smallholder involvement. • Shrimp farms require best practice for integrated shrimp farm development. Shrimp broodstock appear relatively abundant in Myanmar, and indeed the Andaman Sea as a whole, is an important source of broodstock for neighbouring countries.	– *Support re-stocking the natural habitat of giant clams by the Moken for natural breeding. In exchange, the local community such as Moken would receive some form of remuneration.* – *Develop crab bank for re-stocking swimming crabs and promote mud crab farming and fattening practices.* – *Capacity building to monitoring shrimp brood stock collection during close season period (August-September) when marine fishing, including shrimp broodstock collection, is not allowed* – *Support the education and awareness building of basic pond and health management practices, and habitat conservation among the shrimp farmers.*
	Turtle conservation: • Sea turtles nest on the beaches of the Myeik Archipelago. The coastal community could also generate income during the turtle-nesting season by	– *Train the coastal people in turtle conservation methods, government hire them to build hatcheries, maintain records, assist in rearing young turtles and, if necessary, relocate nests in*

	maintaining turtle nests. This would provide an income for the coastal community, as well as assist with the environmental management of the islands.	*order to help conserve the dwindling sea turtle population. An eight-month training course would be offered by Phuket Marine Biological Center, Thailand.*
	Eco-tourism: • There are substantial possibilities for improving local participation in eco-tourism and in addition, a significant need for planning tourism investments. Eco-tourism holds the potential to become a major supporting factor of the park, but careful planning and strategising is needed taking into consideration what plans and strategies exist already in other agencies and among the tourist sector. However, they have great potential for furthering the development of the Moken and the islands, while at the same time raising awareness and appreciation amongst tourists of the importance of the region's natural and cultural resources.	– *Train interested Moken as tour guides who will help with trail preparation.* – *Promote the 'eco-tourism' for trail and snorkeling activities led by the Moken because of their inexperience in displaying their culture and traditional knowledge to strangers;* – *Promote Handicraft Learning Project is designed to increase the Moken's ability to generate income for themselves; to strengthen cultural pride; to preserve traditional and culture.*
	Locally-Initiated Fund: • Establish locally initiated fund for the community to be able to access to the source of funding	– *Support the cross-site visit to Thailand to learning about OTOP/SME/community bank*
Planning, management and institutional arrangements	• Establishment of a permanent Myeik Archipelago Management Multi-stakeholder Committee.	– *Strong focus on involving those that are the real decision-makers with regards to development and local communities. Private sector needs to be strongly involved. Build capacity of institutions/groups and offer training and study tours to stakeholders. Undertake a range of*

		stakeholder consultations and joint workshops and initiate to discuss the joint management concept with local stakeholders.
	• Moreover, there is great potential for *tourism*. This sector can be developed as a driving force for the conservation of important resources and financing of activities for Myeik Archipelago. Basic information and strategies are needed as a basis for developing agreements on the way forward. It may also be bnecessary to undertake a comprehensive valuation and willingness to pay surveys for licencing system for fisheries management.	– *Undertake comprehensive valuation and willingness to pay surveys for licencing system* – *Undertake a review of the system of Myeik Archipelago entry fees, concession arrangements and tenure situation.* – *Prepare an innovative financing strategy for the Myeik Archipelago including the establishment of a pilot park conservation fund to be jointly managed*
	• There is no functional and realistic management plan for the park .	– *Support a zonation and planning process that involves all stakeholders and leads to the preparation of a simple and realistic operational management plan including joint management agreements.*
	• Review existing information and conduct assessments as necessary to generate a good baseline understanding of biological and community issues in the park. Get agreement and commitments from all key stakeholders especially the tourism sector.	– *Establish zones with GIS support from central level – zoning for visitor activities and local resource use will be essential, establish rules and regulations, plan for community resource use and participatory protection activities. Include possible support to actions in buffer zone.*
	• Developments are taking place in Myeik Archipelago and key biodiversity issues are at stake as well as important livelihood options especially with regards to use of marine resource and eco-	– *Establish a simple and participatory monitoring system covering implementation of the joint management agreements and the Park Operational Management Plan and the key*

	tourism. The process of joint management involved a number of steps that has to be proven to be sustainable. It is deemed important to monitor the progress of the joint management agreements and the impact of visitor and local use on important park habitats including coral reefs, seagrass, beaches and mangroves.	*impacts from visitors and local use on the habitats of the park. Ensure that relevant and interested stakeholders take part or recognise the monitoring system. Train people to implement it.* – *Promote the protection of coastal habitats, in particular the use of fish refuge to conserve and rebuild stock e.g mangrove forest and crocodile at Village Mine Thwey for use of crocodile meat and skin, beach and turtle nest, coral reef and grouper seed supply etc.* – *Establish bi- national committee between Thailand and Myanmar for Joint Management mechanism for critical habitat management in selected pilot areas, e.g Lameson National Park in Thailand and Lampi Marine National Park in Myanmar.*
	• Joint Management is an approach to park management that is still new. Significant efforts are needed to improve capacity at both park staff level and other levels.	– *Support capacity building of park staff and the local stakeholders to manage and conserve the park's natural resources.*
	• One of the critical issues for sustainable coastal aquaculture development is land use policy, and to have planning processes in place that allow balanced use of land for aquaculture and other uses in coastal areas, and the maintenance of natural ecosystem.	– *Develop an integrated coastal management planning approach for coastal aquaculture development in coastal areas that clearly identifies suitable areas and zones in the pilot areas.* – *Develop the guiding principles for coastal management.*

	• The Myanmar government welcomes foreign investment in the aquaculture sector, and several large investments particularly shrimp farming are ongoing or planned for aquaculture in the coastal divisions in Myeik Archipelago.	– Support the work on the management arrangement in the approval of foreign investments in the aquaculture and fishery sector.

Appendix 7

List of Presentations

1. U Tint Tun (EC Member, BANCA) presented the paper on **the Introduction to Critical Habitats and Protected Area: Mangrove and Coral Reefs**

2. U Mya Than Tun (National Coordinator, BOBLME Project) presented the paper on **Seagrass beds distribution**

3. U Myint Pe (National Technical Advisor) presented the paper on **Ecosystem Approach to Fishery Management: basic oceanography, fish larvae patterns, rare and prevailing current regime**

4. U Mya Than Tun (National Coordinator) presented the paper **on Endangered Species**

5. U Khin Maung Soe (Deputy Director, Department of Fisheries) discussed **Alternative Livelihood Development Opportunities** that can be considered in Myeik Archipelago

6. Daw Nan Mya Han (Professor, Myeik University) discussed **Public Awareness** needs and strategies among various stake holders regarding the value of important habitatsin Myeik Archipelago

7. U Ye Myint (Deputy Managing Director, Hotels & Tourism) presented **Existing Planning and Management Capacity for Fisheries and Tourism Sectors** in the area

8. U Thi Ha (Deputy Director, DoF)) and U Tin Htut (Deputy Divisional Officer, Tanintharyi Division, DOF) presented the paper about the **Licensing System** in Myanmar that include **Vessel registrations, fishing licenses, port monitoring and MCS networks from the perspective of fisheries and habitat management**

9. Dr. Chris O'Brien presented an **Overview of the BOBLME Project**

10. Dr. Somsak Boromthanarat discussed **Workshop and Group Discussion Guidelines**

Appendix 8

Workshop Groupings

Table 1 Group 1 Members

Name	Position
U Mya Than Tun (Facilitator)	Assistant Director, DOF Myanmar
U Myint Pe (Facilitator)	Assistant Director, DOF Myanmar
U Ohn	Chairman, FREEDA, Myanmar
U Kyar Maung	KKPCL, Myanmar
U Win Myint Maung	Director, DOF Myanmar
U Khin Maung Cho	Prof. Head of Department, Pathein University, Myanmar
U Tint Tun	EC Member, BANCA, Myanmar
U Tint Wai	EC Member, Myanmar Marine Science Association
Daw Khin Thida Tin	Head of Branch, NCEA, Myanmar
Daw New Ni Aye	Fisheries Officer, DOF Myanmar
Daw Thida Moe	Deputy Fisheries Officer, DOF Myanmar
Somkiat Khokiattiwong	Fisheries Specialist, DMCR. Myanmar
Ms. Rebeca Andong	Documentor, CORIN-Asia, Thailand
Ms. Hnin Oo May	Interpreter, RYUJI International Co. Ltd., Thailand

Table 2 Group 2 Members

Name	Position
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Daw Nan Mya Han (Facilitator)	Prof. Head of Dept, Myeik, Myanmar
U Tun Win	Director, DOF Myanmar
U Hla Tun	Division Officer, DoF Tanintharyi, Myanmar
U Tin Htut	DOF, Myanmar
U Han Tun	Executive Vice Chairman, MFF, Myanmar
U Sit Bo	Gen. Secretary, FREDA, Myanmar
U Nyunt Win	Asst. Director, DOF Myanmar
Dr. Aung Naing Oo	SEAFDEC, DOF Bangkok
Daw Myat Khine Mar	Deputy Fisheries Officer, DOF Myanmar
Daw Nilar Htwe	Asst. Fisheries Officer, DOF Myanmar
U Myo Naing	K.N.M Co. Ltd., Myanmar
Dr. Somsak Boromthanarat	Director, CORIN-Asia, Thailand
Pongpat Boonshuwong	Marine Fisheries Economic Expertise, DOF Thailand

Table 3 Group 3 Members

Name	Position
U Khin Maung Win (Facilitator)	Director. DOF, Myanmar
U Ye Myint (Facilitator)	Deputy Gen. Manager, MHT, Myanmar
U Thiha	Deputy Director, DOF Myanmar
U Myint Thu	Fisheries Officer, DOF Myanmar
U Win Kyaing	District Officer, Kawthaung, DOF Myanmar
U Win Naing	Managing Director, Shwe Nan Wun Co. Ltd., Myanmar
U Zaw Win Ko	Managing Director, Asia Whale Co., Ltd, Myanmar
U Htay Lwin Oo	Division Officer, Marine Admin. Dept., Myanmar
U Min Lwin	K.N.M Co. Ltd., Myanmar
U Myint Thein	Deputy Fisheries Officer, DOF Myanmar
Dr. Than Than Lwin	Fisheries Officer, DOF Myanmar
Ms. Praulai Nootmorn	Director, Andaman Sea Fisheries Research and Dev't. Thailand
Mr. Nithiwat Therananthakul	Managing Director, RYUJI International Co. Ltd., Thailand
Yin Mon Thu	Translator, Shwe Nan Wun Co. Ltd., Myanmar