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FINAL PERFORMANCE EVALUATION OF THE MARINE RESOURCES PROGRAM

Enhancing Management Capacity

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Front cover photographs: Traditional Fish Market, Kendari; Mangrove Planting, Kendari; Seaweed Harvesting, Wakatobi; Blue Swimming Crab Traps, Kendari (N Willoughby)

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CONTENTS

ACRONYMS

AOR	Agreement Officer Representative
APS	Annual Program Statement
BAPPEDA	Provincial or District Planning Body (*Badan Perencanaan Daerah*)
BPSDM	Human Resources Development Agency *(Badan Pengembangan Sumber Daya Manusia)*
BSC	Blue Swimming Crab (*Rajungan*)
CBD	Convention on Biological Diversity
CCR & CCA	Coastal Community Resilience and Climate Change Adaptation
CFF	Coral Reefs - Fisheries and Food Security
CI	Conservation International
COP	Chief of Party
COR	Contracting Officer Representative
COREMAP	Coral Reef Rehabilitation and Management Project
CRC	Coastal Resources Centre
CRMP	Coastal Resources Management Project
CSO	Community Support Organization
CTC	Coral Triangle Center
CTI	Coral Triangle Initiative
CTSP	Coral Triangle Support Program
DG	Directorate General (*Direktorat Jenderal*)
DJPT	Directorate General of Capture Fisheries (*Direktorat Jenderal Perikanan Tangkap*)
DMC	Data Management Committee
DKP	Provincial/District Fisheries Services Agency (*Dinas Kelautan dan Perikanan*)
DSS	Decision Support Systems
EAFM	Ecosystem Approach to Fisheries Management
E-KKP3K	Technical Guidelines for Evaluating the Management Effectiveness of Aquatic, Coastal, and Small Island Conservation Areas (*Evaluasi Efektifitas Pengelolaan Kawasan Konservasi Pesisir dan Pulau-pulau Kecil*)
FAO	Food and Agriculture Organization (United Nations)
FKPPSI	Coordination Forum for Fisheries Resources Management (*Forum Koordinasi Pengelolaan dan Pemanfaatan Sumberdaya Ikan*)
GOI	Government of Indonesia
GRT	Gross Registered Tonnage
HRD	Human Resources Development
HT	Hypothesis Testing
IAA	Inter-Agency Agreement
IBRC	Indonesia Biodiversity Research Center
I-CATCH	Indonesia Climate Adaptation Tool for Coastal Habitats
ID	Institutional Development
I-FISH	Indonesia Fisheries Information System

IMACS	Indonesia Marine and Climate Support Project
IMBP	Indonesia Marine Biotechnology Partnership
IPB	Agricultural Institute, Bogor (*Institut Pertanian Bogor*)
IUU	Illegal, Unreported, or Unregulated (Fishing)
KII	Key Informant Interview
KKJI	Directorate for Marine and Fish Species Conservation (*Direktorat Konservasi Kawasan dan Jenis Ikan*)
KKPD	District Marine Protected Area (*Kawasan Konservasi Perairan Daerah*)
KP3K	Marine, Coastal and Small Islands (*Kelautan, Pesisir dan Pulau-Pulau Kecil*)
LP2T	Tuna Fisheries Research Station (*Loka Penelitian Perikanan Tuna*)
MDPI	Indonesian Foundation for Society and Fisheries (*Yayasan Masyarakat dan Perikanan Indonesia*)
MMAF	Ministry of Marine Affairs and Fisheries
MOEF	Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan*)
MPA	Marine Protected Area
MPAG	Marine Protected Area Governance Project
MRP	Marine Resources Program
NGO	Nongovernmental Organization
NOAA-IAA	National Oceanic and Atmospheric Administration Inter- Agency Agreement
NPOA	National Plan of Action
NTB	West Nusa Tenggara (*Nusa Tenggara Barat*)
NTT	East Nusa Tenggara (*Nusa Tenggara Timur*)
POKMASWAS	Community Surveillance Group (*Kelompok Masyarakat Pengawas*)
P2HP	Fisheries Processing and Marketing (*Pengolahan dan Pemasaran Hasil Perikanan*)
PKSPL-IPB	Center for the Study of Coastal and Marine Resources, Bogor Agricultural University (*Pusat Kajian Sumberdaya Pesisir dan Lautan, Institut Pertanian Bogor*)
PSDKP	Supervision of Marine Resources and Fisheries (*Pengawasan Sumberdaya Kelautan dan Perikanan*)
PUSKITA	International Cooperation and Institutional Analysis (*Pusat Analisis Kerjasama Antar Lembaga*)
RDMA	Regional Development Mission for Asia
RENSTRA	Strategic Plan (*Rencana Strategis*, MMAF's 5-year Strategic Plan, 2010-2014 & 2015-2019)
RZWP3K	Coastal and Small Islands Zonation Plans (*Rencana Zonasi Wilayah Pesisir dan Pulau-pulau Kecil*)
RPP	Fisheries Management Plan (*Rencana Pengelolaan Perikanan*)
RTRW	National Spatial Planning (*Rencana Tata Ruang Wilayah Nasional*)
SDI	Fisheries Resources (*Sumberdaya Ikan* (Fishery Resources)
SEA	Sustainable Ecosystems Advanced Project
SEAFDEC	Southeast Asian Fisheries Development Center
SFM	Sustainable Fisheries Management

SK3	Competency Standards for Special Work (*Standar Kompetensi Kerja Khusus*)
SOW	Scope of Work
SULTRA	North Sulawesi (*Sulawesi Utara*)
TFA	Tropical Forestry Assessment
TNC	The Nature Conservancy
TNP	National Aquatic Park (*Taman Nasional Perairan*)
TOT	Training of Trainers
TWP	Aquatic Tourism Park (*Taman Wisata Perairan*)
UCLA	University of California, Los Angeles
UCSC	University of California, Santa Cruz
UP	University Partnership
URI	University of Rhode Island
USAID	United States Agency for International Development
WCS	Wildlife Conservation Society
WPP	Fisheries Management Area (*Wilayah Pengelolaan Perikanan*)
WWF-I	World Wildlife Fund – Indonesia
ZEE	Indonesia's Exclusive Economic Zone (*Zona Ekonomi Eksklusif*)

EXECUTIVE SUMMARY

EVALUATION PURPOSE AND EVALUATION QUESTIONS

Purpose: The purpose of this evaluation is to assess progress toward achieving the objectives and goals of the United States Agency for International Development (USAID)/Indonesia 2010-2015 Marine Resources Program (MRP).

The primary aim of the MRP is to ensure the long-term welfare of Indonesia's coastal communities by promoting sustainable marine resource use and preparation for climate change impacts. This aim is operationalized according to the MRP's two Development Objectives:

1. Restore and enhance ecosystem productivity, biodiversity, and resilience for food and economic security; and
2. Increase natural ecosystem and coastal community resilience to adapt to climate change and reduce disaster risk.

This evaluation reports on three of the five mechanisms implemented by the MRP:

- The Indonesia Marine and Climate Support (IMACS) Project is the largest program evaluated. IMACS provided support to the Ministry of Marine Affairs and Fisheries (MMAF) for institutional development, sustainable fisheries management, and climate change adaptation programs. IMACS also managed a small grants program and assisted the MMAF in developing its 2015-2019, 5-year Strategic Plan (*RENSTRA, Rencana Strategis*).
- The Marine Protected Area Governance (MPAG) Project was implemented by a consortium of five international non-governmental organizations (NGOs) dedicated to conservation: the World Wildlife Fund-Indonesia (WWF-I), The Nature Conservancy (TNC), Conservation International (CI), Wildlife Conservation Society (WCS) and the Coral Triangle Center (CTC). The NGO consortium supported Marine Protected Areas (MPAs) and improved MPA governance at the national, regional, and community levels to optimize fisheries and biodiversity conservation.
- Through an Inter-Agency Agreement (IAA), the U.S. National Oceanic and Atmospheric Administration (NOAA) initially supported the MMAF with MPA training. NOAA additionally supported IMACS and MMAF with capacity building on the Ecosystem Approaches to Fisheries Management (EAFM), abating Illegal, Unreported, or Unregulated (IUU) fishing, and Climate Change Adaptation (CAP).

In addition to outlining the MRP's achievements, this evaluation will inform future USAID work in Indonesia by identifying core lessons learned from MRP implementation, identifying future project advocates, and recommending future directions.

Evaluation Questions: The key evaluation questions outlined in the Scope of Work (SOW) are as follows (See Annex 1 for details):

1a. Which standards, policies, approaches, procedures, and tools developed by IMACS, MPAG, and NOAA-IAA during project implementation were formally adopted by the MMAF, and what factors contributed to adoption and updates?

1b. Which standards, policies, approaches, procedures, and tools developed by IMACS, MPAG, and NOAA-IAA during project implementation were formally adopted by district and/or provincial governments, and what factors contributed to adoption and updates?

1. *Did IMACS, MPAG, and NOAA-IAA contribute to biophysical conservation in Indonesia's marine ecosystems beyond the MRP's work related to training, tool development, and policies and procedures?*
2. *How should the USAID adjust its approach toward improving marine biodiversity conservation and sustainable fisheries management in Indonesia, in light of a political climate that is conducive to environment and marine resources conservation and sustainability?*

SOW questions were later expanded into five thematic areas of inquiry that focused on specific learning areas (See Annex II, Table 2A).

Intended Audience: This evaluation and corresponding recommendations are intended to inform the USAID/Indonesia Environment Office and Asia Bureau, as well as MRP implementing partners, including Government of Indonesia (GOI) counterparts, NGOs, and private sector partners.

PROJECT BACKGROUND

Indonesia is an important global center for marine biodiversity and home to some of the world's most successful fisheries. Indonesia is the third largest producer of fisheries products in the world, after China and India. In 2013, Indonesia ranked 9th worldwide for total fisheries product exports, with a total export value of nearly US $4 billion (MMAF, 2013; BPS, 2014). Indonesia is also home to some of the world's most biodiverse marine territories, including approximately 86,700 square kilometers of coral reefs, 24,300 square kilometers of mangrove forests, 18,000 square kilometers of seagrass, and over 2,000 coral fish species (Huffard et al 2012; Nontji, 2012 and Allen & Adrim, 2003).[1] Indonesia's fisheries make a vital contribution to the nation's economic growth, community livelihoods, and food security. In response to growing threats to Indonesia's marine and coastal biodiversity and in partnership with the GOI, USAID/Indonesia has carried out a number of initiatives over the last two decades to improve Indonesia's capacity to conserve and sustainably manage its marine and coastal resources.

EVALUATION METHODOLOGY

This evaluation is based on three key methods: a literature review; four site visits; and key informant interviews (KIIs) with 72 individuals, including MMAF Directorate Generals (DGs), coastal villagers, and small grant recipients at project sites (See Annexes IVB and IVD), combined with follow-up interviews to review contradictory statements.

[1] (1) Huffard CL, Erdmann MV, and Gunawan TRP (eds.). 2012. *Defining geographic priorities for marine biodiversity conservation in Indonesia.* Ministry of Marine Affairs and Fisheries and MPAG; (2) Allen GR, Adrim M. 2003. *Coral reef fishes of Indonesia*. Zoological Studies 42(1): 1-72; (3) *Kelautan dan Perikanan dalam Angka Tahun 2014*. Marine and Fisheries in Figures 2014. Pusat Data Statistik dan Informasi, MMAF; (4) Nontji A. 2010. *Saatnya Peduli Padang Lamun*. Retrieved from http://www.kkp.go.id/index.php/arsip/c/2015/Saatnya-Peduli-Padang-Lamun/?category_id=30.

KEY FINDINGS AND CONCLUSIONS

SOW Question 1. Theme 1. How has the last five years of investment in the MRP "moved the dial" on attitudes toward and abilities for achieving sustainability in fisheries management?

1. MMAF's draft RENSTRA marks a significant shift in the Ministry's commitment for and approach to sustainable capture fisheries, as compared to earlier strategies. MMAF requested technical assistance from IMACS to provide technical advice on RENSTRA recommendations to promote sustainable capture fisheries and aquaculture. To this end, IMACS developed an Illegal, Unreported and Unregulated (IUU) Fishing dashboard to estimate economic loss from illegal fishing practices. The dashboard development marks an effective partnership between IMACS and the MMAF to ensure the sustainability of Indonesia's fisheries. IMACS also supported the MMAF's efforts to develop a long-term strategic view for capture fisheries and aquaculture, beyond the RENSTRA's 5-year timespan.
2. A second example is the implementation of a Fisheries Management Plan (FMP) for Fisheries Management Area (*Wilayah Pengelolaan Perikanan, WPP*) 718 in the Arafura Sea. The FMP illustrates the GOI's commitment to sustainable capture fisheries, achieved through an Ecosystem Approach to Fisheries Management (EAFM). The MRP was a crucial resource during the development of the WPP 718 FMP and provided best-practice models for key MMAF staff.

SOW Question 1. Theme 2. What can we learn about building the national government's capacity to provide technical training by comparing the different approaches implemented according to the MRP?

1. A collaborative and integrative approach for training leads to more effective program implementation, compared with a consultative training approach. Although the MRP included capacity building activities at the national and regional levels and covered a wide range of topics for diverse target audiences, the internalization of training content within the MMAF remains incomplete. Increased knowledge and enhanced skills, supported by an integrated program, will deepen key capacities and should be a priority for future programming.
2. A variety of approaches to capacity building were employed by MRP partners, and the MPAG approach was found to be the most successful. The MPAG prioritized local resources and empowering stakeholders, including experts hired by the key NGO consortium to assist the MMAF DG with regional and national MPAG implementation. IMACS's deployment of distance consultancy support to compensate for a lack of national-level stakeholders was found to be ineffective. Furthermore, at the regional level, staff lacked sufficient authority as decision-makers and, therefore, functioned primarily as officers. The NOAA-IAA's lack of provisions to hire local experts challenged their capacity to facilitate project activities.

SOW Question 2. Theme 3. How have the last five years of investment in the MRP strengthened the enabling institutional conditions needed to implement an effective national system of MPAs?

1. MRP investment in strengthening an effective national system of MPAs has been perceived as a valuable contribution by MMAF. The MPAG supported the establishment of eight MPAs covering nearly five million hectares. 16 out of 20 million hectares throughout Indonesia have s been established as MPAs. Furthermore, MMAF acknowledged Technical Guidelines for Evaluating the Management Effectiveness of Aquatic, Coastal, and Small Island Conservation Areas (*Evaluasi Efektifitas Pengelolaan Kawasan Konservasi Pesisir dan Pulau-pulau Kecil*, *E-KKP3K*) and seven guidebooks and decision support systems (DSS), prepared as part of the MRP. Finally, six MPAs were evaluated using the E-KKP3K tool.
2. The existence of an E-KKP3K tool provides a strong foundation to evaluate and improve MPA management and development in the future. The new decree issued with MRP support on standard competences (SK3) has set a new standard/benchmark for MPA managers in enabling MMAF institution to better manage MPA development. However, the effectiveness of executing this competency standard will depend on the supporting institutional working mechanism within the relevant national and local authorities.
3. Although the MRP has supported the development of eight MPAs, the framework for a sustainable financing mechanism to support the MPA's future development still needs to be institutionalized at the national and local levels with potential support from outside funding.

SOW Question 2. Theme 4. What can we learn about the status and trends of MPA Management Effectiveness in Indonesia from the work of MRP?

1. Out of the eight major MPAs supported by the MPAG program, only Nusa Penida has produced quantitative data to show program implementation achievements and outcomes. Elsewhere, monitoring data is limited.
2. An assessment of the impact of the MPAG initiative on biodiversity in Nusa Penida MPA, of which MPAG was the primary funding source during the period in question, reveals an increase in coral cover and fish abundance in the MPA (see page 38).
3. The use of the E-KKP3K assessment tool to assess MPA management effectiveness has been a valuable process. More than 20 sites were assessed during Year 1, in order to establish a baseline and track improvements through to Year 3. The assessment shows significant improvements in the conservation areas' management status across the main 8 MPAs supported by the MPAG program. The most significant achievement was noted in the Aquatic National Park, Savu Sea, where management status improved from level of Yellow to Green and, finally, Blue between the years 2012 and 2014. In total, MPAs supported by the MPAG initiatives account for nearly five million hectares, or more than one third of the total MPA area.

SOW Question 3. Theme 5. Given the lessons learned through this analysis, key changes in the institutional arrangements for coastal management in Indonesia, and the current political climate, what opportunities and risks should USAID have in mind as we implement our next coastal-marine project?

1. The WPPs established by the MMAF are crucial for the sustainability of capture fisheries. The FMP established for WPP 718 in the Arafura Sea, for which the MRP has provided critical assistance, is a pioneer case study for the future of the EAFM in Indonesia. The development and approach process for the WPP 718 FMP informed the development of the other ten FMPs. These were submitted to the MMAF for enactments in July 2015.

KEY RECOMMENDATIONS

SOW QUESTION 1. THEME 1. How have the last 5 years of investment in the MRP "moved the dial" on attitudes toward and abilities for achieving sustainability in fisheries management?

1. The MMAF has recognized the importance of IMACS's support to facilitate and enrich its new strategic direction. IMACS's support for the development of the RENSTRA marks an important step towards ensuring sustainable fisheries management. However, future marine programs should also utilize the RENSTRA as a point of reference for program development. Therefore, a joint or integrated work plan between the USAID and MMAF should be taken into account.
2. USAID is advised to build upon initial investments to assist the MMAF with the Arafura WPP 718 FMP by providing further support for refinement and implementation, including more effective management of fisheries efforts, illegal fishing abatement, stakeholder socialization, the development of individual stock management plans for constituent fisheries, and the development of additional FMPs. All such activities should be implemented in concurrence with WPP FMP execution.

SOW QUESTION 1. THEME 2. What can we learn about building the national government's capacity to provide technical trainings by comparing the different approaches implemented in the MRP?

1. The development of an integrated strategy with key partners in the early stage of program implementation will improve effectiveness and avoid confusion within an institution where different mechanisms operate simultaneously for capacity building. The strategy should identify the respective roles of each partner and establish a system for collaboration.
2. Out of several approaches to capacity building, the MPAG approach was the most appreciated by both MMAF and DKP staff, and should be taken as a model for future interventions. Though lacking a fully integrated approach, IMACS's work on the development of the Indonesia Climate Adaptation Tool for Coastal Habitats (I-CATCH), Indonesia Fisheries Information System (I-Fish), FMPs, WPPs, and the draft RENSTRA were deemed to be valuable contributions. A future MRP should prioritize program integration beginning in the early planning stages, in order to ensure consistency and avoid confusion between partners.
3. Provisions must be made for flexibility and adjustments to planned activities and program implementation, due to changing political dynamics and bureaucracy. This will help to ensure the achievement of program objectives.

1. **SOW QUESTION 2. THEME 3. How have the last 5 years of investment in MRP strengthened the enabling institutional conditions needed to implement an effective national system of MPAs?** In order to achieve the total target expansion of MPAs to 20 million hectares by 2020, USAID should continue to work together with the MMAF. MPA manager capacity building will constitute one of the strategic investments for USAID.

2. The MPAG's collaborative approach in working with the MMAF and other NGO partners to identify and support the MMAF's fisheries sustainability and conservation agendas may be considered an example of best-practice for institutional partnerships. This approach should be undertaken and further strengthened in future programs, as outlined in the RENSTRA 2015-2019.
3. As of the close of this program in 2015, a total of eight MPAs have received MRP support, while an additional 16 have been identified as priorities for future projects. The provision of USAID assistance to develop a framework for sustainable financing for future MPAs, institutionalized at the national and local levels, will help to ensure future MPA development.

SOW QUESTION 2. THEME 4. What can we learn about the status and trends of MPA management effectiveness in Indonesia from the work of MRP?

1. The next marine project should take into account institutional governance and coordination schemes, as exhibited in the Multi-Stakeholder Forum for MPA Management in Gili Matra (a national MPA) and Nusa Penida (a district MPA), in order to achieve successful program implementation.
2. Future MPA-support projects should include appropriate monitoring and evaluation of biophysical indicators to enable an understanding of project impacts.
3. The USAID's next program strategy should closely integrate fisheries management with coastal biodiversity conservation efforts. This will provide favorable conditions for enabling fisheries management to create multiplier effects for coastal biodiversity and sustainable livelihoods.

SOW QUESTIONS 3. THEME 5. Given the lessons learned through this analysis, key changes in the institutional arrangements for coastal management in Indonesia, and the current political climate, what opportunities and risks should USAID have in mind as we implement our next coastal-marine project?

1. In relation to new local autonomy laws (UU No 23 of 2014, j/o UU 9/2015), the next USAID marine project should consider the integration and knowledge transfer of coastal management initiatives at the regency level to the Provincial Government. USAID should support further support institutional arrangements in the Provincial Government to strengthen their role in coastal management development.
2. The E-KKP3K assessment tool and the Seven Guide books on MPA management and development, produced by MMAF with assistance from MPAG, should be more widely disseminated within MMAF, the Ministry of Forestry and Environment, and the regional level for the protection of coastal biodiversity. This will build up a sense of ownership for the management of MPAs at the local level and help to ensure the sustainability of initiatives.
3. In regard to the small grants program for coastal communities, the next USAID project should consider shifting away from supporting many individual pilots to a more focused approach that is better aligned with program priorities, monitored closely, and better supported and sustained by being effectively embedded within a broader supportive institutional context.

EVALUATION PURPOSE & QUESTIONS

EVALUATION PURPOSE

The purpose of this evaluation is to assess the MRP's successful achievement of the primary objectives elaborated below, as well as to provide insights onto specific aspects of MRP implementation that will ensure the effectiveness of future programs.

The evaluation covered three of the five mechanisms within MRP:

- the Indonesia Marine and Climate Support (IMACS) Project;
- the Marine Protected Area Governance (MPAG) Project; and
- the Inter-agency Agreement (IAA) with the National Oceanic and Atmospheric Administration (NOAA-IAA).

In addition to determining the effectiveness of current approaches for achieving marine biodiversity conservation and sustainable fisheries management, the evaluation is intended to:

- identify core lessons, including the identification of future project advocates and possible future directions;
- examine the level of commitment at the government and community levels for marine conservation, including factors influencing active involvement in conservation efforts, expectations for donor support, and specific factors supporting or inhibiting uptake; and
- identify potential implementation strategies for new programs.

Intended Audience: This evaluation and recommendations are intended to inform the USAID/Indonesia's Environment Office and Asia Bureau, as well as MRP implementing partners, including Government of Indonesia (GOI) counterparts, NGOs, and private sector partners.

EVALUATION QUESTIONS

The key evaluation questions outlined in the Scope of Work (SOW) are as follows (See Annex 1 for details):

1. *What project-developed standards, policies, approaches, procedures, and tools from IMACS, MPAG, and NOAA-IAA were formally adopted by MMAF, and what factors contributed to their adoption and update?*
    a) *What project-developed standards, policies, approaches, procedures, and tools from IMACS, MPAG, and the NOAA-IAA were formally adopted at the district and/or provincial government, and what factors contributed to the adoption and up date? What contributions have IMACS, MPAG, and NOAA-IAA made to actual biophysical conservation in Indonesia's marine ecosystems, beyond MRP's work related to training, tool development, and policies and procedures?*
2. *Given the current positive political climate towards environment and marine resources, how should USAID adjust its approach to improving marine biodiversity conservation and sustainable fisheries management in Indonesia?*

PROJECT BACKGROUND

Indonesia is home to the world's greatest repository of marine biological resources and possesses some of the most important fisheries - a critical pillar of economic growth, community livelihoods, and food security for the Indonesian people. Indonesia is the third largest producers of fisheries products in the world, after China and India. In 2013 itself, Indonesia ranks in the 9th place of fisheries products' exporting countries, with total export value and fisheries products close to US$ 4billion (MMAF, 2013; BPS, 2014). At the same time, Indonesia is also amongst those countries with highest marine biodiversity covers approximately more than 86.700 km2 of coral reefs, 24.300 km2 mangroves areas, 18.000 sea grass and over 2.000 coral fish species (Huffard et al 2012; Nontji, 2012 and Allen & Adrim, 2003).[2] Recognizing the growing threats to Indonesia's marine and coastal biodiversity, the U.S. Agency for International Development (USAID) in partnership with the Government of Indonesia (GOI) has supported a succession of initiatives over two decades which have been aimed at improving Indonesia's capacity to conserve and sustainably manage its marine and coastal resources.

A major pillar of this support is the USAID/Indonesia Marine Resources Program (MRP), carried out between 2009 and 2015. The MRP built on the USAID's successful 1994-2004 Coastal Resources Management Project (CRMP) supporting the creation of the Ministry of Marine Affairs and Fisheries (MMAF) and in response to the GOI's leadership in initiating the regional Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security (CTI-CFF). The CTI is a multinational effort involving six countries to safeguard marine resources and their ecosystems through their conservation and sustainable use. The MRP was designed by USAID/Indonesia on the basis of broad consultations with the GOI and other stakeholders and informed by several background studies, including the published study *Enhancing Government Effectiveness of the Indonesian Ministry of Marine Affairs and Fisheries* (2009, see Annex IVA).

Based on these consultations and analyses, the MRP Development Hypothesis states:

> *"Restoring ecosystem health and strengthening the management capacity of the MMAF will lead to more resilient fisheries and coastal communities, improved livelihoods, enhanced adaptations to climate change, and reduced threats to food security, economic security, and regional stability. Therefore, the best investment that the USAID can make to address marine resource problems in Indonesia is to help strengthen the MMAF to achieve coastal ecosystem protection, sustainable fisheries management, and coastal community preparedness for climate change impacts."*

The corresponding MRP Goal is to sustain the long-term welfare of Indonesia's coastal communities by promoting sustainable marine resource use and preparing for climate change impacts.

[2] (1) Huffard CL, Erdmann MV, and Gunawan TRP (eds.). 2012. *Defining geographic priorities for marine biodiversity conservation in Indonesia.* Ministry of Marine Affairs and Fisheries and MPAG; (2) Allen GR, Adrim M. 2003. *Coral reef fishes of Indonesia*. Zoological Studies 42(1): 1-72; (3) *Kelautan dan Perikanan*

This goal is further operationalized in the MRP's two Development Objectives:

1. Restore and enhance ecosystem productivity, biodiversity, and resilience for food and economic security; and
2. Increase the resilience of natural ecosystems and coastal communities to adapt to climate change and reduce disaster risk.

The Strategy adopted by the MRP for achieving these two objectives, in close partnership with the GOI, and MMAF in particular, calls for:

1. Strengthening the management capacity of MMAF and key stakeholders;
2. Enhancing their ability to engage with local communities and the private sector through open and transparent governance; and
3. Providing technical support for key activities supporting marine resource management and coastal community resilience.

The structure of this program includes three major project components evaluated here:

1. IMACS: The four task areas for this foremost component of the MRP include:
    - Task 1. MMAF institutional development
    - Task 2. Improved sustainable fisheries management
    - Task 3. Climate change adaptation among coastal communities
    - Task 4. Program integration, coordination, and administrative support

2. MPAG: The second largest component of the MRP prioritized the following achievements:
    - Achievement 1. Establishment of a national MPA system
    - Achievement 2. Improvements in MPA management effectiveness

3. NOAA-IAA: The agreement included the following three areas:
    - MPA capacity building partnership
    - EAFM capacity building
    - Port State Measures

EVALUATION METHODS AND LIMITATIONSEVALUATION DESIGN AND METHODOLOGY

The evaluation design utilized an evidence-based research methodology that included the collation of primary and secondary data. The evaluation is based on three key methods:

1. Documentation and literature review (See Annex IVA)
2. Key informant interviews (KIIs) in Jakarta and at project sites throughout Indonesia (Annex IVD) and follow-up interviews to review contradictory statements
3. Site visits to key areas of activity (Annex IVC).

No focus group discussions were conducted because of the limited time available for completing the evaluation.

1. Document and Literature Review

The evaluation team examined a wide range of documents provided by the USAID, as well as additional relevant documents. Particularly informative documents included work plans, annual and quarterly reports, and technical documents produced by MRP partners and published since 2010. MMAF documents produced during the project period were also examined to evaluate the degree of alignment with MRP program activities. The team was cautious not to depend on outdated, secondary resources where more recent studies or evidence-based primary studies were available and relevant. (See Annex IVA for the complete annotated literature review).

2. In-depth Key Informant Interviews (KIIs)

The team conducted semi-structured KIIs with MRP participants, including all key project partners. KIIs were conducted across the five project sites of Kendari, Wakatobi, and Bau-Bau in Southeast Sulawesi; Bali; and Lombok. The evaluation scope did not allow the team to visit all the regional project sites. Southeast Sulawesi and Lombok were prioritized, due to the integrated activities undertaken by IMACS and MPAG in these regions, while Bali was selected as a site for KIIs because a number of NGO partners for the MPAG.

Interview instruments included the core SOW questions outlined above, as well as questions developed by the evaluation team specific to each target group. Question development took into account stakeholder seniority and relevant experience. Follow-up interviews served to cross-check interview accuracy and identify and further explore contradictory points of views on events, procedures or activities. KIIs directly informed the final evaluation on project strengths, weaknesses, and challenges, as well as the degree to which USAID-funded partnerships influenced behavioral or procedural changes.

Collated and summarized responses (See Annex IVD) constitute essential background information for the team's final recommendations.

Remote Discussions

Additional information was provided on NOAA-IAA activities via e-mail correspondence with staff and associates.

Key Informant Selection

Key informants were identified based on names assembled from project documentation, evaluation team investigations, and provided by the USAID. KIIs were conducted either in Jakarta or at project sites. In order to maximize time spent with key informants, the team contacted each potential interviewee via e-mail, text message, telephone, or through regional logistics experts retained for this communications purpose. Targeted KIIs included former and current principal stakeholders who performed key roles in the MRP. Direct beneficiaries were also interviewed at project sites or in Jakarta.

Bilingual Interpretation

Although the team included two native Indonesian speakers, a professional interpreter was procured to ensure that the American team leader was fully apprised on interview responses while interviews proceeded.

Data Collection
Interviewers took structured notes on respondents' answers and recorded any insights and observations pertinent to the evaluation. Notes and information collected during each interview was collated and presented to the USAID/Indonesia (See Annex IVD).

Analysis
KII analysis involved the development of a matrix to identify trends, disparities, or noteworthy feedback among various respondents regarding key evaluation questions and project objectives. The approach enabled the evaluation team to develop key findings and recommendations.

Following initial KIIs and analysis, the team then conducted follow-up interviews with relevant MRP stakeholders who contradicted other respondents or demonstrated discrepancies. Interview methodology, data collection protocols, and analysis were the same as those for the initial KIIs.

3. Key Evaluation Considerations

Emphasis on Confidentiality
All interviewees were informed that their responses would be confidential and that no information would be shared with employers or other MRP stakeholders. Responses were recorded without retribution.

Cultural Sensitivity
Two members of the evaluation team were Indonesian nationals, and the third team member has worked extensively in Indonesia. All were knowledgeable about the cultural and geographic contexts of the project. The design and execution of one-on-one interviews and meetings were carried out accordingly.

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

SOW Question 1. What project-developed standards, policies, approaches, procedures, and tools from IMACS, MPAG, and NOAA-IAA were formally adopted by MMAF, and what factors contributed to their adoption and update?

SOW Question 1a. What project-developed standards, policies, approaches, procedures, and tools from IMACS, MPAG, and the NOAA-IAA were formally adopted at the district and/or provincial government level, and what factors contributed to their adoption and update?

SOW 1 & THEME 1.

FINDINGS

This SOW question was later transposed into a series of questions around five "themes" with help from USAID/Washington (see below), but some elements of the original question needed to be addressed beforehand.

At the MMAF's invitation, IMACS played a significant role in encouraging the MMAF to add sustainable fisheries management as a priority for the 5-year RENSTRA. This role was introduced late within the project's timeframe, but should be seen as a major endorsement for IMACS and its personnel. It illustrates the MMAF's confidence in IMACS to provide technical advice for future policy development. Although the RENSTRA document has not yet been finalized, its existing content illustrates major input from IMACS. For example, the current fisheries management strategy promotes managing access and implementing catch quotas.

IMACS also contributed technical assistance to the MMAF for draft ministerial declarations concerning minimum catch size restrictions for blue swimming crab (BSC), mangrove crab, and lobster fisheries. Approved language for the final ministerial decree is based upon scientific information provided by IMACS.

Several new ministerial regulations illustrate the government's new commitment to implementing fisheries management that prioritizes fisheries resource sustainability. Such regulations include:

- Regulation No. 56 of 2014 on the Temporary Moratorium on Foreign Fishing Vessels (any vessels constructed in territories outside of Indonesia);
- Regulation No. 57 of 2014 on the Limitation of Fishing Operations in WPPs, applied to both domestic vessel and foreign vessels;
- Regulation No. 58 of 2014 on Policy Implementation for Civil Servant Disciplinary Action Concerning Transshipment;
- Regulation No. 1 of 2015 on Lobster, Crab, and BSC Catches; and
- Regulation No. 2 of 2015 on the Prohibition of Trawl Net or Trawl-like Fishing Gear.

The regulation limiting catch size for lobster, crab, and BSC fisheries was informed directly by IMACS's development of the I-Fish tool. IMACS also contributed to the development of a crab trap with openings to allow undersized specimens to escape. The trap was tested by

IMACS in the Tiworo Strait, Southeast Sulawesi. The trap's development reinforced a regulation issued by the district government of Kendari, Southeast Sulawesi in 2006, to restrict crab catch size to specimens with a carapace larger than eight centimeters in diameter. The implementation of I-Fish for BSC fisheries management marks IMACS's most significant regional management application.

In addition to contributing to ministerial decrees, MRP contributing institutions informed all three MRP components for capacity building in the form of training modules that either have been (in IMACS's and MPAG's cases) or are in the process of being (in NOAA-IAA's case) incorporated into the national curriculum as components of future capacity building within MMAF.

Institutional collaboration was an important part of MPAG activities to support conservation and fisheries management. It also points to the need for related governmental institutions, particularly the Directorate of Fisheries Resources (*Direktorat Sumberdaya Ikan, SDI*) under the Directorate General of Capture Fisheries (*Direktorat Jenderal Perikanan Tangkap*, *DJPT*) and the Directorate for Marine and Fish Species Conservation (*Direktorat Konservasi Kawasan dan Jenis Ikan*, KKJI) under the DG for Coastal and Small Island Management (KP3K) within MMAF to prioritize collaboration. The lack of an integrated performance indicator for success challenges program objective alignment. Examples of positive institutional collaboration supported and assisted by MPAG at the regional level include the creation of Management Forums for MPAs in Gili Matra and Nusa Penida, which involve multiple business sector, community, NGO, and law enforcement stakeholders.

Modification of SOW Question 1a and 1b

With the help of senior USAID staff from Washington, SOW questions 1 and 1a were developed into Theme 1, based on responses during the interview phase of the evaluation.

Theme 1. How has the last 5 years of investment in the MRP "moved the dial" on attitudes toward and abilities for achieving sustainability in fisheries management?

1.1 How have attitudes about the goals of fisheries management changed in MMAF as a result of MRP? Why?

There has been a profound change in the attitudes of MMAF and DKP staff towards sustainable capture fisheries and the need for conservation over the past five years. The emphasis now is very much more towards sustainability rather than higher production.

Investment in the MRP over the last five years has likely contributed to this change, though deducing that the MRP alone caused a shift in perspective cannot be measured. Senior IMACS consultants attribute the impetus for a shift in perception away from prioritizing production and toward sustainability in capture fisheries to factors such as the World Earth Summit in 1992, the Food and Agriculture Organization's (FAO) Code of Conduct for Responsible Fisheries released in 1995, and shifting global opinion and academic research studies and curricula throughout the 1990s. Public opinion in Indonesia, however, has been significantly influenced by the government's attitude toward marine affairs—particularly following the last election: Public speeches made by President Joko Widodo on the importance of marine affairs, as well as the appointment of Susi Pudjiastuti as Minister of Marine Affairs and Fisheries (Minister Pudjiastuti recently earned the top sport in a *Jakarta*

Post poll on the most effective cabinet ministers, 7 Apr 2015) were frequently cited by the MMAF and DKP staff as primary catalysts for a shift in both ministerial and public opinion on capture fisheries sustainability. Under previous ministers, awareness on the need for sustainability was slow to develop. The current President and Marine Affairs and Fisheries Minister helped to kick start sustainability prioritization among all ministries and the general public. The MMAF now places central importance on capture fisheries sustainability.

The MRP's more significant impact has been to enhance the MMAF's capability to achieve better capture fisheries management: The IMACS Task 2 team has supported capacity building among government-appointed scientists to research and advise on fisheries sustainability. The MMAF is now committed to creating the conditions for successful fisheries management, and management plans will likely continue to improve.

1.2 How have attitudes about the goals of fisheries management changed in Provincial/District Fishery Officers as a result of MRP? Why?

At the DKP level, IMACS success stories include database management improvements and collaboration among fisheries stakeholders via the establishment of provincial Data Management Centers (DMCs) in Southeast Sulawesi, West Nusa Tenggara (NTB), and Maluku. Other improvements include the establishment of alternative economic opportunities for coastal communities, including a tourist entry fee for diving operations in MPAs in Raja Ampat and Gili Matra. Field visits revealed, however, that supporting ministry personnel for such programs report to the Ministry of Home Affairs, rather than the MMAF—thought they are technically responsible to carry out MMAF-mandated measures. District fisheries staff were also less knowledgeable about important fisheries management issues and program requirements and implications than MMAF personnel. They did, however, exhibit deep engagement with and enthusiastic support for the activities of the incoming Minister of Marine Affairs and Fisheries to ensure marine resources sustainability.

1.3 What can we infer about attitudes toward and abilities for achieving sustainability in fisheries management from the Arafura Sea national fisheries management plan (WPP 718)?

As early as the 1990s, researchers at the Bogor Agricultural University (*Institut Pertanian Bogor, IPB*) were already arguing for the value of establishing WPPs in Indonesia. The MMAF began considering WPP development as early as 1998, but the first draft management plan for a WPP was not created until 2014. That same year, IMACS printed the first WPP maps.

WPP 718 was the first of 11 Indonesian WPPs with MMAF-approved FMPs, as outlined in Ministerial Decision No. 54 of 2014. WPP 718. Fisheries management is a critical issue, because marine resources in the Arafura Sea are rapidly declining. As of 2011, demersal fish and shrimp were already classed as fully utilized, (Ministerial Decision No. 45 of 2011). WPP 718's FMP is designed to address the challenge that 20% of its resources have been fully exploited and 40%—including demersal fish—have been overexploited. Only 35% of the region's fish stock may continue to be utilized at current levels.

The WPP 718 FMP was fully supported by MRP partners. In 2014, IMACS developed and facilitated workshops and training on EAFM, provided for 13 senior officials and scientists from the MMAF and IPB at the University of Rhode Island. The MPAG program provided technical assistance through website development and database maintenance for a Working Group's development of the official EAFM website (www.eafm-indonesia.net). Additionally,

two experts in fisheries and marine conservation from the NGO Conservation International (CI) were embedded within MMAF to facilitate the preparation of the WPP 718 FMP.

Learning Centers were also established in each WPP to support the MRP. A Consultation Workshop on Assessment Indicators for EAFM within WPPs 571, 713, and 714 included participants from the DG for Capture Fisheries (*Direktorat Jenderal Perikanan Tangkap, DJPT*); SDI; Clean Technology Fund; World Wildlife Federation-Indonesia (WWF-I); *Center for the Study of Coastal and Marine Resources, Bogor Agricultural University* (*Pusat Kajian Sumberdaya Pesisir dan Lautan*, *Institut Pertanian Bogor, PKSPL-IPB*); and EAFM Learning Centers from eleven Indonesian universities. The MRP contributed significantly to improvements and EAFM integration for the WPP 718 FMP. The FMP presents a strong model for future WPP planning.

While the MRP has directly influenced the establishment of WPPs, some improvements should be prioritized, according to senior MRP staff and NGO representatives. For example, the MRP should:

1. More thoroughly define and effectively control catch efforts in WPPs;
2. Reduce IUU fishing throughout Indonesia's Exclusive Economic Zone (*Zona Ekonomi Eksklusif, ZEE*);
3. Involve regional coastal communities that have not yet been fully informed on sustainable fisheries management; and
4. Create separate stock management plans for all key species

WPP managers must undertake a number of strategies to control fisheries catch efforts. For example, an imposed limit on vessels size, engine capacity, or days spent at sea must be combined with efforts to combat IUU fishing. Indonesia possesses substantial marine resources, but its vast and porous marine borders and inadequate law enforcement leave it vulnerable to IUU activities. Improvements to enforcement measures may include increased support and capacity building for community surveillance groups (POKMASWAS), as well as financing and arms for naval and coastguards. Further limitations on catches by licensed domestic vessels may also support IUU abatement. The "best practices" outlined in the FAO's Code of Conduct for Responsible Fisheries may also provide guidance, as will a consideration of the criteria for Marine Stewardship Council (MSC) certification. Once catch efforts and IUU fishing are brought under control, then catch quotas for a variety of species may be further considered. Each of these considerations requires collective commitment and high-level decision-making.

There is also the need to develop a work program/fisheries management plan that takes everybody along with it. This is likely to need far more stakeholder meetings than have so far been conducted in WPP 718.

Even without further action plans, WPP 718 is rapidly becoming a functional and sustainable fisheries management unit. The MMAF and TNC have each confirmed that, despite the current level of fishing intensity in WPP 718, stocks for a number of species remain sufficient. The final approved FMP is directly informed by the MRP. What remains to be executed is its full implementation. IMACS has provided several recommendations for implementation. The MMAF is advised to:

- Ensure the implementation of control measures to regulate fishing effort;

- Adopt a collaborative management approach, as mandated by Article 6(2) of Fisheries Law No. 31 of 2004. The collaborative management body should include the fishing industry, NGOs, fisheries associations, enforcement bodies, universities, local communities that uphold customary rules (*adat*), and national and regional governments.
- Resolve issues of governance within the WPP 718 caused by the lack of a management body for the area. Currently, the Coordination Forum for Fisheries Resources Management (*Forum Koordinasi Pengelolaan dan Pemanfaatan Sumberdaya Ikan, FKPPSI*) has assumed the role of WPP fisheries management, following a decree by the DG of Capture Fisheries (No. 35 of 2011). This forum should be upgraded to the status of a management body in order to strengthen its authority.

1.4 Institutional Issues

Part of the evaluation team's responsibility is to consider institutional challenges among the MRP's three contributing bodies. Differences in institutional structure and operating procedures between IMACS, MPAG, and NOAA-IAA caused significant confusion for the MMAF, particularly with regards to their capacity building and training sectors. Misunderstandings were exacerbated by MMAF staff rotation: several staff who were directly involved with protocols and procedures at the commencement of the MRP left their posts before sufficient handover was arranged for their successors.

THEME 1. CONCLUSIONS

The findings from this part of the evaluation (i.e. answering SOW 1 and 1a, plus Theme 1) are as follows:

SOW Question 1. Theme 1. How have the last 5 years of investment in MRP "moved the dial" on attitudes toward and abilities for achieving sustainability in fisheries management?

1. The draft 2015-2019 RENSTRA illustrates that the GOI has significantly stepped up its commitment to sustainable fisheries management. The MMAF's request for IMACS's assistance to draft the new RENSTRA should be considered a major project success.
2. The Arafura Sea fisheries management plan (WPP 718) is a very important step forward in Indonesia's desire for sustainable capture fisheries - and MRP provided critical assistance in this. The plan still needs many inputs before it can be considered to be fully functional, (such as better means of effort management, controls for illegal fishing, more socialization with stakeholders, and individual stock management plans for the constituent fisheries) and the plan itself needs to be implemented.

   Additional findings that contributed peripherally to the GOI's commitment to capture fisheries sustainability are outlined below:

   - IMACS provided assistance to the MMAF to draft ministerial regulations for lobster, mangrove crab, and BSC fisheries. Final approved regulations were published in exactly the same form as they were provided by the IMACS.
   - All three MRP components produced capacity building or training modules that either have been or are in the process of being incorporated into national competencies for future capacity building within the MMAF.
   - Institutional integration has been an important part of MPAG activities. NGO collaboration within the MPAG demonstrated itself to be central to successful collaboration between the SDI and KKJI.

- At the local level, the establishment of the Forum for Management within MPA Gili Matra involved all relevant stakeholders and provided an excellent example of an institutional collaboration facilitated by the MPAG.
- IMACS staff identified the implementation of I-Fish for sustainable BSC fisheries as its most successful local application.
- The MRP supported the MMAF's work toward sustainable capture fisheries, but the degree of its impact was not measureable. The MRP's influence may have been overshadowed by other forces, such as President Joko Widodo's election and MMAF Minister Susi Pudjiastuti's appointment—both candidates with strong stances in support of sustainable fisheries.
- Institutional arrangements between MRP partners and their counterpart DGs within the MMAF required occasional discussion and clarification following new senior staff appointments.

THEME 1. RECOMMENDATIONS

1. The MMAF has recognized the importance of IMACS's support to facilitate and enrich its new strategic direction. IMACS's technical advice for the draft was seen as a particularly valuable contribution. As follow-up, IMACS has been asked to facilitate the development of a long-term strategic direction for fisheries and aquaculture. All future USAID marine program development should utilize the existing RENSTRA as a point of reference. A joint and/or integrated work plan aligning the MMAF and USAID programs is necessary, in order to ensure that the program and related project activities support the RENSTRA objectives.
2. USAID is advised to build upon initial investments to assist the MMAF with the WPP 718 FMP by providing ongoing support for its refinement and implementation and developing additional FMPs for other WPPs. In order to be fully functional, WPP 718 also requires further input on best practices for fisheries management, controlling illegal fishing, building program awareness among stakeholders, and producing individual stock management plans for constituent fisheries. In the future, such input should be solicited at the time of WPP action plan execution.

THEME 2. MMAF and Key Stakeholder Institutional Development

Evaluation question (SOW 1): ***What project-developed standards, policies, approaches, procedures, and tools from IMACS, MPAG, and NOAA-IAA were formally adopted by MMAF, and what factors contributed to the adoption and update?***

1a). What project-developed standards, policies, approaches, procedures, and tools from IMACS, MPAG, and the NOAA-IAA were formally adopted at the district and/or provincial government level, and what factors contributed to their adoption and update?

Theme 2: ***What can we learn about building the national government's capacity to provide technical training by comparing the different approaches implemented in MRP?***

FINDINGS

IMACS's first priority within the MRP was to strengthen the MMAF through institutional development, focused on three areas of intervention:

1. Strengthening the management capacity of MMAF and key stakeholders;

2. Enhancing their ability to engage with local communities and the private sector through open and transparent governance; and
3. Providing technical support for key activities that support marine resources and coastal communities.

The MRP capacity building program contained components from all the approaches in the spectrum of capacity building. These included information dissemination, training, raising awareness through campaigns and networking, policy making (national, local regulations, etc.) and institutional development.

The institutional organization among the three MRP partners caused significant confusion and some misunderstanding within the MMAF. For example, the simultaneous operation of three separate projects under the MRP, managed in collaboration with the MMAF, reveals distinct program approaches. A lack of joint planning between the three program partners obstructed a clear understanding of MRP targets and objectives. A strategic, integrated plan agreed upon by all MRP partners would have been more effective.

IMACS foreign staff remained in Indonesia for the duration of their contracts—a minimum of several months—and were, therefore, available for necessary follow-up discussions. The MPAG was implemented by NGOs with excellent records for the integration of local knowledge and which were also readily available for consultation. NOAA-IAA employed short-term consultants who provided intensive training. The NOAA further provided support to the CTI through a regional initiative funded by the USAID Regional Development Mission for Asia (RDMA), as well as through a state initiative funded by the USAID Indonesia. Finally, the NOAA provided technical expertise and planning and leadership for regional exchanges to address MPAs, IUU fishing, Climate Change Adaptation (CCA), and EAFM. Each approach required distinct institutional arrangements and operating procedures.

Evaluators interviewed key facilitators for MPAs and EAFM, and information was verified through consultations with the MMAF Human Resources Development Agency (*Badan Pengembangan Sumber Daya Manusia, BPSDM)* and SDI. Significant progress has been made on MPAs, as part of the MRP. MPAs require collaborative efforts between the MPAG and NOAA. MPA training commenced with MPA 101, a Training of Trainers program held in the six MMAF training centers. NOAA Indonesia Program Coordinator Jason Philibotte also worked with the KKP and Coral Triangle Support Program (CTSP) to integrate a joint work plan for the NOAA, MPAG, and BPSDM. Teams of trainers who have completed the TOT will be tasked to co-teach an MPA Management basic course to MPA managers and practitioners, with oversight provided by the NOAA and CTSP. This initial course will serve as the final TOT practicum before participants become Qualified MPA Management Trainers.

The three training modules developed using the NOAA's training materials as key resources include the "Basics of MPA Management," "MPA Management Planning," and "Sustainable Fisheries Management in MPAs." The first two modules were combined into one SK3 titled *Competence Standards for MPA Management Planning*. The SK3's full adoption by the BPSDM as a result of the MRP international collaboration was acknowledged by the BPSDM Head at the World Leaders Dialogue hosted by the International Union for Conservation of Nature (IUCN) and World Park Congress (WPC) in Sydney in November 2014.

An important step toward project success has been to strengthen MRP partners' organizational capacity. The MRP covered a wide range of activities within the capacity building spectrum, as indicated by the emphasis on training and policy-making support (See Table on the level of adoption of MRP capacity-building programs in Annex IVE). The MRP contributed significantly to strengthening the MMAF's organizational capacity by emphasizing its needs—particularly for MPA development and advancement. A primary factor influencing the MMAF's acceptance of the MPAG project was that it was based on their articulated needs. This created a strong sense of ownership within the MMAF.

This section therefore attempts to discuss some operational questions

i. What lessons can be drawn from the MRP capacity building program in the past 5 years?
ii. How did the organizational set-up affect the institutional development of MRP?

The MRP capacity-building program provided much more than training. Therefore, a more appropriate question may be: "*What can we learn about building the national government's capacity to provide an entire spectrum of capacity building activities by comparing the different approaches implemented in the MRP?"* The MRP has created a rich and open environment for improving and advancing organizational capacity. Recommendations on the MRP's contribution to organizational capacity building are outlined below:

1. Focus on supporting the MMAF's identified needs for institutional development as a key to successful project implementation

Interviews with national and regional stakeholders suggested that many MRP project elements lacked participatory planning with their main stakeholders. Project staff largely viewed differently from this conclusion, but further evaluation reveals that some planning activities did not sufficiently involve stakeholders from the MMAF. For some activities the planning was participatory and developed together with stakeholders, especially MMAF, but in others this did not occur. Regional government officials similarly reported that some MRP project activities did not integrate local concerns. The development of MPAs, for example, was based on the needs of MMAF, supported by one MRP project (MPAG).

As shown in the analysis in Annex IVE, a number of products developed by the MPAG and IMACS were successfully adopted at various levels within the MMAF. Basic educational training on conservation conducted by NOAA-IAA was also well received and appreciated in several sectors. However, it was regarded largely as pilot training within the BPSDM.

2. Positive reception by local stakeholders for selected training and support for MPA development

MRP partners provided a number of training courses for diverse stakeholders (including DGs, DKPs, and local communities), IMACS alone conducted a total of 69 training courses between 2012-2015 in Jakarta, Bogor, Yogyakarta, Bali, Lombok, Southeast Sulawesi and East Nusa Tenggara. In total 2,037 people were trained over the last four years, including 1,080 MMAF staff and 907 other stakeholders. Respondents requested the provision of additional training in the future.

Regional government officials showed appreciation for training related to community awareness and indicated that insufficient budgets prevented them from conducting such training previously. Respondents also valued the MRP's MPA development and capacity building for MPA managers and practitioners. The training successfully increased conceptual

knowledge and enhanced national and regional MPA management capacities. Respondents also indicated that a series of public consultations to ensure that the MPAs were legally supported was also an important contribution.

Respondents' positive feedback on training programs may not sufficiently prove that the MRP alone was instrumental in moving the dial on attitudes toward and abilities for achieving sustainability in fisheries management. However, the MRP successfully strengthened capacity, addressed skills gaps, and encouraged stakeholders to implement several development tools (e.g., E-KKP3K and I-Fish). However, full adoption of new development tools was challenged by institutional limitations.

3. Institutional development support for MPAs as the MRP's primary success story

Two out of the three MRP projects undertaken focused on MPA management and development. Reports and interviews positively evaluated this support and suggested that it should be continued in other areas in the future. DKP representatives, for example, indicated deep appreciation for support for MPA development and increased knowledge on and enhanced skills for MPA management. These testimonies were supported by MPAG reports: MPAG interventions successfully contributed to MPA management improvement in a majority of project sites. The E-KKP3K management tool showed improved levels of effective MPA management.

Few responses positively evaluated MPA capacity-building programs administrated by the NOAA-IAA. However, reports following the evaluation workshop in September 2013 revealed successful capacity building through activities supporting "local champions," or individuals who inspired their communities through their site work.

Success indicators for the MPAG project's contribution to capacity building include the number of training exercises and number of trained participants. Data did not reflect the level of impact and institutionalization of such interventions, however. Qualitative indicators should, therefore, more consistently be used in tandem with quantitative indicators.

In some cases, training included joint programs between the MPAG and NOAA-IAA. Better integration between the three MRP projects to support capacity building will increase the advantages and impacts of training.

4. Establishment of a standard evaluation tool for measuring MPA effectiveness (E-KKP3K), decision support systems (DSS), and competence standards for conservation (SK3)

The standardized evaluation tool E-KKP3K was approved under the MMAF Directorate General Degree No. 44 of 2012 for KP3K, in reference to the *Technical Guidelines for Evaluating the Management Effectiveness of Aquatic, Coastal and Small Islands Conservation Areas.* The E-KKP3K guidebooks outline the basis for measuring MPA management competency standards. It is also an excellent DSS that may be applied within any Indonesian MPA.

One of the MPAG's primary contributions was to develop a comprehensive DSS website featuring a conservation database managed by the Directorate for Marine and Fish Species Conservation (KKJI). The website was successfully launched in 2014. E-KKP3K software is publicly available for download from the MMAF website (http://kkji.kp3k.kkp.go.id).

As an input for new USAID Sustainable Ecosystem Advanced Project (SEA) projects, the website and E-KKP3K tool continue to be utilized for further development of the database system. The database will store information on the status of management effectiveness for all aquatic, coastal, and small islands conservation areas in Indonesia. An accounting system would subsequently: (i) collect and store data based on data sharing agreements (e.g., the data custodian system), (ii) support conservation area management assessments, and (iii) provide an open platform for necessary actions to improve conservation area management performance.

The DSS, a one-stop online database for fisheries stakeholders—including DKPs, universities, and individual stakeholders—is one of the MRP's most significant contributions. The MPAG also supported the development of the SK3. MPAG developed 14 competency standards for MPA management. Five of these competency standards were supported by additional curriculum development, and two were official recognized through MMAF decrees as standard training tools. MPAG also supported the development of networks of trainers and assessors.

5. Creation of a collaborative model and partnership approach through an NGO consortium

In interviews, regional government officials, CSO members, and community members responded positively to the NGO consortium's strategic and collaborative approach. Respondents noted the MPAG's positive contributions to capacity building through information dissemination, knowledge building, and training to support local regulation development. Respondents indicated that the role of NGOs as government-community liaisons successfully facilitated communication. Collaboration between NGOs introduced a new and valuable working format. The approach served to overcome organizations' "ego-systems" in an effort to move toward a balanced management "eco-system." What remains to be determined is to what degree this new awareness on a collaborative working model leads to institutional change. Further consideration is warranted on how to translate this increased awareness into meaningful future collective action.

6. Inadequate prioritization of sustainability and local capacity

A selection of interviews with key national and regional government officials suggested that the MRP's planning and implementation was too centralized. This resulted in a lack of integration with the MMAF's institutional program. Some local DKP representatives suggested that they were largely excluded from MRP development. Similar views were expressed by regional IMACS project staff; they claimed that, despite their high qualifications, they were underutilized in provincial project planning processes. Instead, they were employed primarily as event organizers for regional programs.

With regards to implementation, the MPAG utilized local intermediaries, including regional experts hired by the NGO consortium to help the MMAF directorate to ensure effective MPAG implementation at the national and regional levels. Although regional organizations (including governments and NGOs) were not deliberately neglected, their capacity was rarely recognized as structurally integral to project planning, implementation, monitoring, and evaluation. Respondents sited such problems as poor organizational structure, unclear project positioning, and project planning rigidity—particularly among regional government and project staff—as primary causes of institutional discontent and challenges to project sustainability. These challenges would have been overcome through additional time for participatory project planning, prior to project execution.

THEME 2. CONCLUSIONS

SOW Question 1. Theme 2. What can we learn about building national government capacity to provide technical trainings by comparing the different approaches implemented in MRP?

1. The key to successful project implementation will be to focus on supporting the identified needs of the MMAF's institutional development.
2. Selected trainings and support on MPA development were acknowledged as valuable by local stakeholders.
3. Some aspects of NOAA-IAA's capacity building programs were positively received, while others were not as well regarded. Some respondents from the MMAF felt that the NOAA-IAA did not sufficiently take into account their input on needed training content and mechanisms.
4. The MPAG's support for MPA institutional development is the MRP's most significant success story.
5. The MRP's development of the E-KKP3K, DSS, and SK3 were all valuable initiatives.
6. The NGO consortium presented a positive collaborative model. Participants worked well together and the anticipated outputs were delivered to time and quality.
7. More attention must be paid to project sustainability. This criticism was leveled at the entire project design. The budget was exhausted prior to the execution of actions necessary to ensure initiatives could be maintained, resulting in the non-delivery of expected outputs and wasted funds.
8. Local capacity should be acknowledged and valued. This criticism was primarily leveled at IMACS. Regional staff suggested that they could have positively impacted project performance in their respective areas if their expertise had been sufficiently utilized.

THEME 2. RECOMMENDATIONS

1. In such a case that various mechanisms operate simultaneously to build capacity within a single ministry, an integrated strategy involving key partners at the early planning stage is essential for program effectiveness and in order to avoid confusion. The strategy should identify the respective roles of each partner and establish a collaboration mechanism.
2. MMAF and DKP staff positively acknowledged the MPAG approach to capacity building. This approach provides an excellent model for future interventions. Despite some issues with tool integration, IMACS's work to develop I-CATCH, I-Fish, FMPs, and coastal zonation, as well as its advisement on the new RENSTRA, was also positively assessed. Future MRPs should prioritize components integration beginning at the planning stage, in order to ensure consistency and avoid confusion among project partners.
3. Under Indonesia's new administration, changing political dynamics and bureaucracy provide a degree of flexibility for adjustments to planned activities and their implementation.
4. Stakeholder communication and coordination mechanisms must be more carefully defined in order to improve relations and support collective team learning modes.

THEME 3.

How have the last 5 years of investment in MRP strengthened the enabling institutional conditions needed to implement an effective national system of MPAs?

3.1 How and to what extent has MPAG influenced the development of Indonesia's system of MPAs?

FINDINGS

The MRP's work for MPA development and management, via the MPAG, commenced in 2012 with the establishment of a consortium including the MMAF and major conservation NGOs. The MPAG has since supported Indonesia's development of its MPA system by strengthening institutional organization within the MMAF, providing capacity building activities for key relevant stakeholders, activating sustainable financing for MPA management, and supporting decision making via the DSS and corresponding database.

Notable projects include the MPAG's support for the MMAF's regional institutional organization in Bali. The MPAG created an MRP blueprint, funded by the former CTSP. Other support includes four working papers submitted to the MMAF, outlining the MPAG's four areas of support. The issuance of new legislation on standard competencies for conservation planning and management (Law No.9 of 2013) marked an important milestone in capacity development support. Of the 14 competency standards outlined, MPAG supported the development of four. The MPAG also established a trust fund for sustainable financing for MPA management, ratified via Presidential Decree No. 80 of 2011. Although these developments constitute important steps toward strengthened institutional arrangements for MPA management, they do not guarantee MPAG activity implementation. Political support for long-term capacity improvements among regional stakeholders must remain a priority.

Interviews conducted with representatives of the KKJI acknowledged MPAG's assistance to develop a management database, including enabling website capabilities and improvements. The MPAG also enhanced staff skills and increased regional awareness on the importance of the MPA. MPAG programs ran smoothly due to the integration of program objectives into the KKJI's 2011-2014 work plan.

In addition to the MPAG-led initiative, the GOI proposed to develop ten million hectares of aquatic conservation area (KKP) by 2010. By 2012, marine protected areas had already reached 15.7 million hectares, two thirds of which were initiated by the national government, and one third by regional governments. From a total aquatic area of 3.1 million square kilometers, 4.9% were classified as conservation areas. A total of 80% of the 2020 target of 20 million hectares of MPA, established according to the Convention on Biological Diversity (CBD) target, was reached by 2014.

3.2 To what extent has MPAG's work on an MPA Effectiveness-rating tool for Indonesia (E-KKP3K) influenced MMAF understanding, capabilities, policies, and procedures?

Based on an interview with the former Chief of Party for the MPAG, the MPAG provided data and baseline information on the present status of the MPA system. This influenced the MMAF's comprehension, policies, and procedures with regards to MPA development. This was supported by a report by the MPAG on the E-KKP3K. Seven supplementary books on the E-KKP3K provided guidelines for MPA development procedures, including information

on the potential identification, planning, management, and institutional and financial development of MPAs. E-KKP3Ks were issued by the DG of the KP3K. The guidelines establish a color-coding system to identify progress or developmental levels. Red applies to status prior to MPA initiation, and yellow, green, blue, and gold identify improving levels of management and sustainability. Eight of the existing MPAs were supported by MPAG and six were additionally evaluated using the E-KKP3K tool (see Table 4.1 for further details on the MPAs).

Interviews to verify the guidelines' value were conducted during site visits. These took place in the WWF office in Wakatobi, Southeast Sulawesi; head office of the Coral Triangle Center (CTC) in Denpasar, Bali; central office of TNC in Denpasar; and field office of the Wildlife Conservation Society (WCS) in Mataram, Lombok. Respondents concurred on the MPAG's successful support for E-KKP3K implementation, including its provision of data and information baselines. These interviews verified that the MPAG has influenced perceptions and policies for MPA development.

Interviews did not conclusively prove, however, that E-KKP3K guidelines alone resulted in increased capacity for effective MPA management. The E-KKP3K is designed to serve as a foundation for self-assessment on performance within MPA management, rather than as a capacity building tool.

3.3 To what extent did MPAG activities implemented at the local level strengthen management capacity at these sites?

According to interviewees, stakeholders expect the E-KKP3K to be adopted by decision-makers as a standard tool for evaluating aquatic, coastal and small islands conservation management in Indonesia. Site-level managers may also utilize the tool to prioritize activities for effective management.

Interviews conducted with regional government officials acknowledge the utility of the E-KKP3K for improving MPA management. The establishment of the Multi-stakeholder Forum for MPA Management in Gili Matra illustrates its impact. As reported by the WCS, progress on the development of a zonation plan was supported by the MPAG in MPA West Nusa Tenggara, as well as the issuance of a ministerial decree on zonation for MPA Gili Matra and a draft zonation degree on potential MPAs in Small Island Park (TPK), Gili Balu, and Kramat Bedil and Temudong in West Sumbawa.

THEME 3.CONCLUSIONS

1. The GOI's total target MPA of 20 million hectares by 2020 may be reached with further MRP assistance provided by the MPAG. The MPAG has also supported the national system for MPA management and the MMAF's sustainable fisheries and coral reef management, as acknowledged by the MMAF's approval and implementation of the E-KKP3K and DSS's for the six MPAs that have been evaluated using the E-KKP3K.
2. The E-KKP3K guidebooks and procedural tool have influenced perception within the MMAF with regards to MPA development, as well as policy and MPA development procedures. The guidebooks identify risks and threats to effective management in 24 MPAs, including eight major and eight minor MPAs supported by the MPAG. These findings indicate that further action is needed to improve MPA management. The results of the MPA evaluation may be used as a foundation for MPA managers to increase their capacity for MPA management.
3. MRP support has been essential for the development of eight MPAs, but the sustainability of future MPA development will depend upon the availability of financing

resources. A framework for a sustainable financing mechanism for future MPA development must be institutionalized at both the national and regional levels, and potential sources of outside funding support must be considered.

THEME 3. RECOMMENDATIONS

1. In order to support the GOI's effort to achieve its 2020 MPA target, the USAID is advised to continue to work together with the MMAF to achieve established organizational targets. Ongoing programming to prioritize capacity building for improved MPA management is considered to be a strategic investment for the USAID.
2. The MPAG's collaborative approach to working with the MMAF and NGOs—beginning with the identification of MMAF's existing priorities for fisheries management and conservation—is considered to be a major success and example of best practice for institutional partnerships. This approach should be maintained and further strengthened in future programs, as outlined in the 2015-2019 RENSTRA.
3. As of the program's conclusion in mid-2015, eight MPAs have received support from the MRP and 16 have been identified for further support. The USAID is advised to provide assistance to develop a framework for a sustainable financing mechanism for future MPA development that can be institutionalized at the national and regional levels.
4. The next marine project should focus not only on establishing additional MPAs, but also on further capacity building for effective MPA management and robust assessments to identify needs and success indicators within community empowerment programs supported by small grants.

THEME 4.

What can we learn about the status and trends of MPA Management Effectiveness in Indonesia from the work of MRP?

4.1 To what extent do the E-KKP3K assessments that have been reported so far demonstrate progress in MPA Effectiveness? How do MRP sites compare to other MPAs in Indonesia?

FINDINGS

E-KKP3K assessments undertaken between 2012 and 2014—MPA management was assessed using the EKKP3K prior to MRP implementation—have revealed considerable improvements in MPA management (See Table 4.1). Data provided on 24 MPAs by the KKJI in 2014 showed significant progress in 12 MPAs. Three MPAs could not be evaluated at that time because they were newly established. MPAG support since 2012 has strengthened the effectiveness of MPA management. However, given the diverse conditions within each MPA, the degree of effectiveness is difficult to determine. Examples of positive progress, however, include the establishment of eight main MPAs and eight MPAG-supported sites for locally managed MPAs in West Nusa Tenggara and Southeast Sulawesi.

Table 4.1 below illustrates the significant improvements to conservation management within MPAs supported by the MPAG. The most significant achievement is illustrated by management improvements in the National Aquatic Park (*Taman Nasional Perairan, TNP*) in the Savu Sea, where management status was improved from the level of yellow to blue, for a 39% improvement between 2012 and 2014. In total, MPA areas supported by MPAG initiatives accounted for nearly 5 million hectares.

Table 4.1 Status of Sustainable Aquatic Conservation Areas & KKP Management

No	Name of KKP	Existing Total Area (Ha)	Regulating Decree		Status	
			Proposal	Enactment	2012 (MPAG)	2014 (After MPAG)
1	KKPD Berau, East Kalimantan	285,266	Peraturan Bupati No.516/2013		Red 100% Yellow 50%	Red 100% Yellow 91% Green 29%
2	TNP Savu Sea, East Nusa Tenggara	3,355,353	KEP.38/MEN/ 2009	No.5/KEPMEN-KP/2014	Red 100% Yellow 75%	Red 100% Yellow 100% Green 86% Blue 39%
3	Aquatic Tourism Park (*Taman Wisata Perairan, TWP*) Gili Matra, West Nusa Tenggara	2,954	SK Menhut No.99/KPTS-II/2001	KEP.67/MEN/ 2009	Red 100% Yellow 75%	Red 100% Yellow 100% Green 38%
4	TWP Anambas, Riau Islands	1,262,686	KEP.35/MEN/2011	No. 37/KEPMEN-KP/2014	N/A	Red 100% Yellow 100% Green 62% Blue 5%
5	KKPD Nusa Penida, Bali	20,057	SK Bupati Klungkung No. 12/2010	No.24/KEPMEN-KP/2014	Red 100% Yellow 75%	Red 100% Yellow 100%Green 100% Blue 49 %
6	KKPD Kei Kecil Barat, Maluku	150,000	SK Bupati Maluku Tenggara No. 162/2012	N/A	Red 100% Yellow 25%	N/A

Sources: LAKIP 2013, Ditjen KKJI, MMAF, and interviews with KKP officers

In order to verify if prepared guidelines were utilized, a series of tests were (and continue to be) undertaken in the field, especially in areas where the MPAG's NGO consortium partners operated. These locations included (i) the Sawu Sea TNP in East Nusa Tenggara,(managed by TNC) (ii) Anambas Islands TWP in the Riau Islands Province, (CI); (iii) Gili Matra, Lombok TWP in West Nusa Tenggara (WCS), (iv) Nusa Penida KKPD Nusa (CTC); (v) Kei Kecil Barat KKPD in Maluku (WWF), (vi) MPA Berau, (vii) MPA Bali Network, and (viii) MPA Raja Ampat in West Papua. Another eight MPAs were assisted at the district level.

Suraji et al. (2013) reported that assessments conducted with the E-KKP3K and supported by the MPAG collected a sample of 20 respondents divided into two groups. However, this

work was only carried out for the Sawu Sea National Park, which began at a Red Level in management status. By 2014, management of the Sawu Sea TNP had improved significantly, as illustrated by its progression to the Blue Level.

Given the results obtained in MPAG sites, subsequent tasks should include the mainstreaming of guidelines and management assessment tools in other national marine and aquatic conservation areas, in order to ensure consistent approaches and results. Interviews with MMAF representatives suggest that these results may inform the USAID's next marine project (i.e. the SEA project).

A collaborative MPA management approach, promoted by past USAID support efforts, resulted in the development of an institutional agreement known formerly as the CTSP. Collaborative work between NGOs within the MPAG was key for the MMAF's integration of fisheries management (within the DG, SDI) and conservation (DG, KKJI) because it provided a working platform and collaborative environment for relevant stakeholders.

MPAG Activities in Support of Local Government MPAs

1. The management of MPA Teluk Bumbang and surrounding areas—including resource monitoring—was facilitated by the WCS. MPA management also took into consideration indigenous traditions and customary rules (*awik-awik*), as well as input from partnership organizations such as the University Gunung Rinjani, stipulated as *Taman Wisata Perairan,* Central Lombok.
2. WCS facilitated the initiation of an MPA for TWP Gitanada, covering an area of 21,000 hectares, and based on a 2014 district decree.
3. The establishment of an MPA for Teluk Bumbang was supported by a district decree on *Pencadangan* in 2011. This development was further supported by a document on National Spatial Planning (*Rencana Tata Ruang Wilayah Nasional, RTRW*) on the direction of MPA and Coastal and Small Islands Zonation Plans (*Rencana Zonasi Wilayah Pesisir dan Pulau-pulau Kecil*, *RZWP3K*) after Regulation No. 7 of 2011 on Regency RTRWs.
4. MPAG supported the development of the E-KKP3K during the establishment of the Sawu Sea and Anambas Islands MPAs. The guidebooks were drafted based on these MPAs, and the regions provided sites to test the E-KKP3K as a self-assessment tool.
5. A comparative study on gaps between the MOEF and MMAF regarding MPA management was conducted. The study revealed a difference in levels of seniority between leading MPA staff: the MOEF employed Echelon I staff (DGs), while the MMAF employed Echelon 2 staff (Directors). The MPA enforcement system within the MOEF also differed from that of the MMAF.
6. There is a national target for 20 million hectares of MPA by 2020. However, there are worries that achievement of this may lead to some 'paper parks' being created, e.g. at the Savu Sea MPA, where there are few staff on the ground. The MMAF must decide whether to prioritize developing new sites or strengthening management within the existing MPAs.
7. While the E-KKP3K is an effective tool, it requires further dissemination and application within additional MPAs. A selection of MPAG NGOs supported knowledge building on E-KKP3K within the MMAF, but further monitoring has revealed that project follow-through is insufficient. MPA competency standards have

been successfully integrated into the Professional Certification Institution (*Lembaga Serifikasi Profesi*)[3] developed by the MMAF, with support from the MPAG.

8. DKP in both NTB and West Lombok were familiar with E-KKP3K guidelines. A new MPA commencing at a management level of Yellow (rather than the standard Red) was proposed, provided that background surveys were conducted to achieve infrastructural improvements.

No MPAG training was provided for DKP in Southeast Sulawesi. However, the MPAG was involved in the process to develop a Master Plan for KKPD (regional government MPAs), together with facilitators from the University of Hassanudin, Makassar, South Sulawesi. DKP representatives reported that this process was not effective, due to the distance between Makassar and Kendari and variant priorities on the utilization of local resources (e.g., according to Haluoleo University in Kendari). The MPAG arrived after MPA development was underway and worked with the University of Hassanuddin in Makassar for KKPD initiation in the districts of South Konawe, Konawe, and Kendari. A budget of Rp. 132 million was provided for regional governmental MPA management.

4.2 Where MPA project site data is available, how have coral cover and marine species biomass/size/abundance changed? To what extent can this change be attributed to MRP activities?

Lessons Learned from MPA Nusa Penida regarding Biodiversity Impacts:
In 2012, the Head of the Klungkung District in Bali issued a decree (No. 30) to formally establish a Management Unit for Nusa Penida MPA. This unit is responsible for overall MPA management. To date, it has received support from a number of agencies, including (i) a joint patrol team, (ii) biophysical monitoring experts, and (iii) a socio-economic monitoring team.

Observations from a Nusa Penida Lesson-Learned Report by CTC in 2014 (and also verified during meetings), indicated that the biodiversity impact could be seen from CTC Monitoring Results in Nusa Penida MPA between 2008 and 2014. These showed that there has been an increase in fish biomass, fish biodiversity and coral reef cover over the period. A point transect sampling method revealed increased fish biomass across 12 monitoring stations. Results of reef health monitoring at depths of three and ten meters also revealed improvements at both transect depths. Coral cover increased from 50% in 2008 to 70% in 2013. The MPAG supported the CTC's work in MPA Nusa Penida by providing nearly 60% of its funding between 2012 and 2014. The MRP, therefore, was integral to habitat improvements in this region.

In order to make sustainable management decisions, however, it is critical to understand what is happening in marine habitats at various sites. Biophysical surveys began several years ago, prior to zoning design in 2008 and associated regulations in 2011 Trends in live hard coral coverage in prior years varied by location, illustrating that different regions are experiencing different levels of impact and recovery (see Figure I).

[3]This organization is to be further developed as independent institution on certification of competence for marine conservation

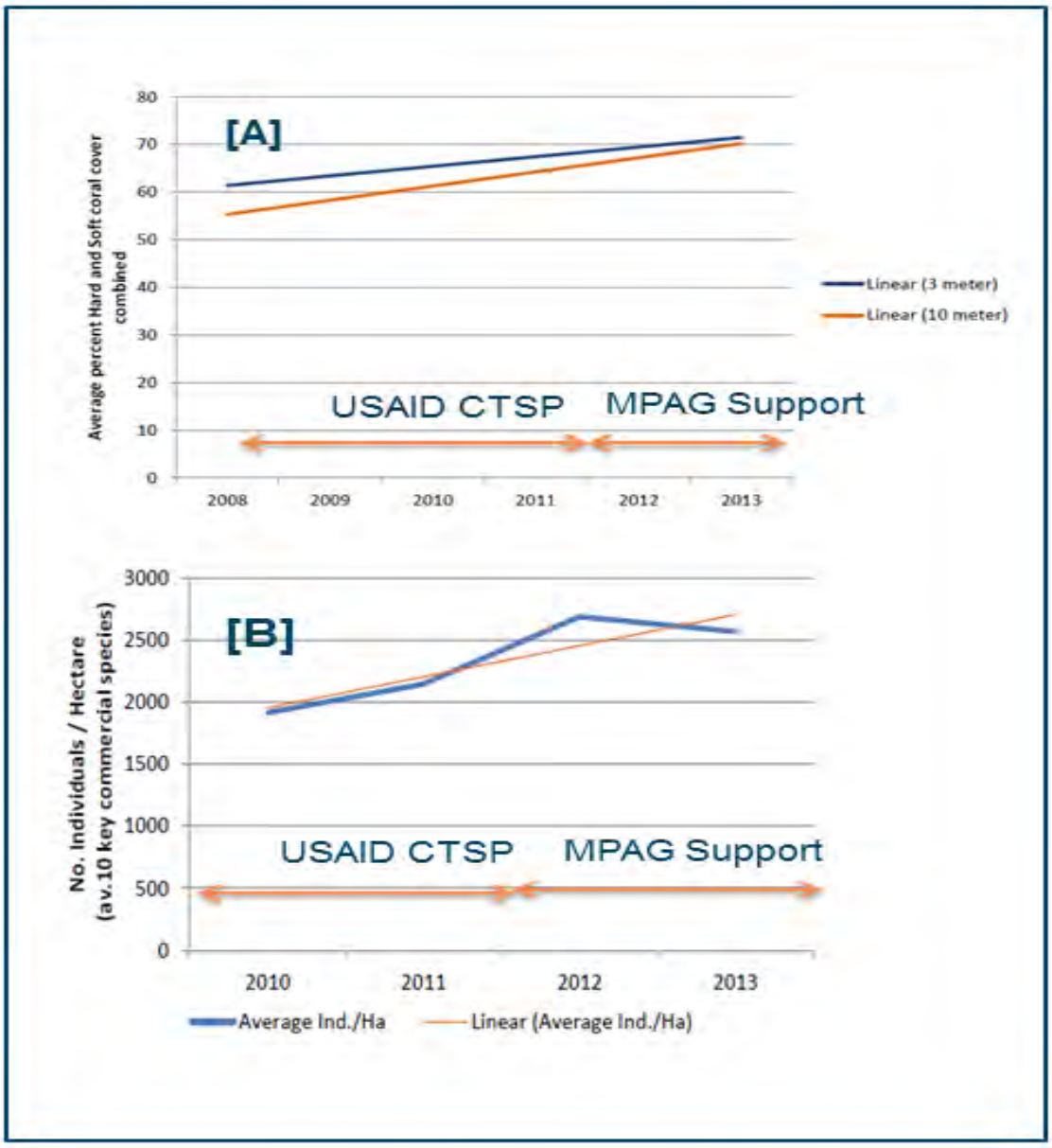


Figure 1. [A] Linear trend showing the average percentage of coral cover (combined hard coral and soft coral) in Nusa Penida at depths of three and ten meters (2008 – 2013); [B] Average fish abundance observed in Nusa Penida (2010 – 2013) — Modified from Carter, et al. (2014).

Further efforts to accelerate progress on MPA management for the next project should include:

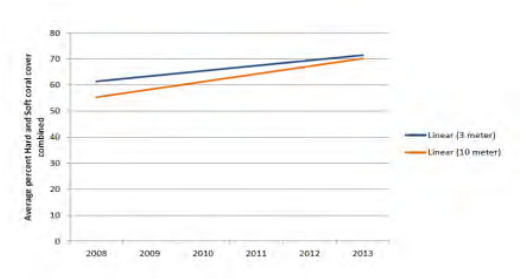
(1) Adaptive management: The program should develop mechanisms for improving the efficiency and effectiveness of developed MPAs, based on previous experiences and monitoring results. At the district level, MPAs in West Nusa Tenggara and North Sulawesi (*Sulawesi Utara, SULTRA*) were integrated into Coastal Zonation Plans supported by IMACS and MPAG. These should be considered valuable additions to the MRP Program.

(2) Participatory process: Measuring the MRP's impact on biodiversity improvements and socio-economic issues was difficult. A future project should focus on measurable results that are agreed upon by partners, based on a transparent and participatory

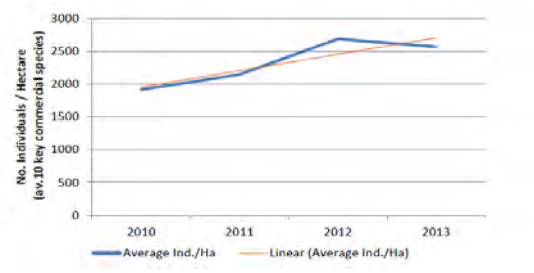
process for achieving project goals. The measures of success should be outlined through key performance indicators designed by the MRP project.

THEME 4. CONCLUSIONS

1. MPAG's most visible contributions to individual field sites included the establishment of a Multi-stakeholder Forum for Management of MPAs in Gili Matra (at the district level) and Nusa Penida (at the national level), as well as the acceleration of the Zonation Plan for MPAs in Nusa Tenggara. These developments represent important steps toward improving effective institutional governance for the success and sustainability of MPA management (see Annex 4E).
2. Out of the eight major MPAs supported by the MPAG program, only quantitative data in MPA Nusa Penida showing achievements in program implementation and outcomes could be identified. Monitoring data in the other MPAs was limited.
3. An assessment on the MPAG initiative's impact on biodiversity in MPA Nusa Penida, of which MPAG was the primary funding source during the project period, reveals increased coral cover and fish abundance (See figure below).



Nusa Penida Coral Cover 2008-2013



Nusa Penida Fish Abundance 2010-2013

4. In total, the MPA areas supported by MPAG initiatives totalled nearly 5 million hectares, or more than one third of the total MPA area. These findings reveal significant improvements in conservation efforts in the eight MPAs supported by the MPAG. Each site was measured in Year 1, in order to establish a baseline, and was tracked through to Year 3. Baselines were established for more than 20 MPAs. The greatest improvement was reported by the TNP in Savu Sea, where management status improved from a level of Yellow to Green and, finally, Blue Level between 2012 and 2014.

THEME 4. RECOMMENDATIONS

1. It is recommended that the next marine project takes into account institutional governance and coordination schemes such as the Multi-stakeholder Forum for MPA Management in Nusa Penida to help guide the program's successful implementation.
2. Future MPA support projects should take into account baseline surveys on coral cover and fish stock, in order to ensure that hard data on project impacts will be available for comparative purposes later.
3. The integration of fisheries management and conservation frameworks as part of the next program's strategy will require enabling conditions for sustainable fisheries resource management. This will help to improve coastal biodiversity and support sustainable livelihoods.

THEME 5.

SOW Question 3. Given the current positive political climate towards environment and marine resources, how should USAID adjust its approach to improving marine biodiversity conservation and sustainable fisheries

management in Indonesia?

Theme 5. Given the lessons learned through this analysis, key changes in the institutional arrangements for coastal management in Indonesia, and the current political climate, what opportunities and risks should USAID have in mind as we implement our next coastal-marine project?

5.1 Given the change in the over-arching institutional framework that shifts authority for coastal management from districts to the provincial level (Law 23/2014), what actions should be taken to promote the sustainable development of coastal areas and resources?

FINDINGS

The evaluation reveals several perspectives concerning the above law and its likely effects, particularly on the licensing of fishing boats: in the future, this task will be the responsibility of provincial, rather than district governments.

IMACS's support for zonation plans was predominantly directed toward regency governments in the West Nusa Tenggara and Southeast Sulawesi provinces for improving coastal management policy. Initially, coastal zonation plans were not part of the IMACS program to address fisheries management and climate change. However, its support was requested by these two provincial governments, in an effort to integrate IMACS programs in 2013.

Interviews suggested that most zonation plans supported by past IMACS projects were technical documents that had not yet been legislated. The draft zonation plan IMACS proposed would have been pushed for policymaking via consultations with the Parliament, in order to develop a district policy on the Local Regulation of Coastal Zoning. Unfortunately, IMACS's support concluded before legislation could be pursued, and changes within the planning authority left the draft unprocessed prior to the passing of Law No 23 of 2014 and Law No. 9 of 2015 on Local Autonomy. The reduced role assigned to district governments as a result of these new laws may become a threat to the sustainability of the coastal management program.

Interview results suggest that the MMAF's believes that district offices lack the institutional capacity to fulfill their licensing role. This belief was also the primary reason for the new law that hands this role over to provincial officers. Provincial DKP managers in Kendari and Mataram expressed no concerns about the change. However, some district DKPs were concerned that their power would be limited. There was also confusion among respondents about who should be responsible for categorizing vessel licenses based on vessel size. This can likely be clarified, once the law is fully implemented. Outstanding challenges to vessels licensing include the ongoing operation of vessels bearing Indonesian flags in national waters that are foreign-owned, managed by foreign crews, or which land catches outside of Indonesia.

While initially there was some confusion over management responsibility in coastal areas, the evaluation team was assured that the law now clarified this issue: MMAF controls all MPAs, even in such cases that the MOEF provides law enforcement. Respondents suggested that this may be a pragmatic solution until the MMAF recruits enough skilled staff to fully control MPA management.

The government has said that it will create 20 million hectares of MPA by 2020, but there were concerns that this target may not be reached in time unless 'paper parks' were created.

In some MPAs that have been established for several years, quantitative data demonstrates limited improvements to coral cover, fish biomass, or biodiversity. Despite findings based on hard data, both NGO and MPA representatives, as well as dive masters consulted asserted that MPAs accelerated improvements to coral cover and adjacent fisheries. Thus, respondents suggested that the MRP provided valuable support for environmental conservation.

Additional MPAs to protect the natural marine beauty and biodiversity (including fish spawning grounds) is considered to be the best means to protect Indonesia's marine biosphere. MPAs can also become self-sufficient: In Nusa Penida, for example, an implemented "user pays" model charges an entry tariff to tourists who wish to snorkel or dive in the MPA, and international tourists pay a higher rate than domestic tourists. This model allows for sustainable funding for MPAs, following the conclusion of project funding. An evaluation on how to develop and apply a "user pays" model was undertaken by the CTC and could provide insights on sustainable funding options for other MPAs.

5.2 How have attitudes about fisheries management goals changed among provincial or district fisheries officers, as a result of the MRP, and especially in relation to I-Fish?

I-FISH is an electronic data collection system being developed and trialed by IMACS in several provinces. It was also the subject of a Small Grants award to Yayasan MDPI in Bali.

Support training was provided for enumerators on the I-Fish protocol for tuna hand-line fisheries. This included all necessary data analysis elements. In the future, it is hoped that the MDPI will develop additional I-Fish protocols as needed to cover a wider variety of fishing gear. Training partners in Bali included P4KSI and the Tuna Fisheries Research Station (*Loka Penelitian Perikanan Tuna, LP2T*), a sub-unit for tuna research. In Lombok, the MDPI provided six of its own enumerators, plus one enumerator from LP2T and one enumerator in Kupang. According to their feedback during interviews, enumerators found their tasks to be boring, and financial incentives to be less than expected. This was due to the government's underestimation of the budget required to compensate enumerators.

The MDPI developed an electronic protocol for information flow to ensure that information gathered from local communities was made publicly available. IMACS also developed an e-logbook, together with the Indonesia Oceanology Association (ISOI). This pilot project should be scaled up for broader implementation in the future.

Three DMCs were created to implement the I-Fish protocol. These included DMCs for BSC data in Southeast Sulawesi, small-scale tuna fisheries in Nusa Tenggara, and small-scale tuna fisheries in Maluku. DMCs helped to engage all stakeholders, including local fisheries authorities, universities, scientists, traders, processors, fishermen, and NGOs for the collaborative management of sustainable fisheries. DMCs also function to promote standard protocols for port sampling and to avoid a misreporting of the data. DMC members met twice per year for monitoring and evaluation of the work plan. An additional DMC was also recently created in Ambon to monitor small tuna fisheries.

Overall, the I-FISH system has had significant impacts, but was still being trialed in public-private partnerships for Blue Swimming Crabs and small tuna fisheries. During this trial period, the database server was maintained by IMACS. Currently, IMACS is in the process of handing over the server to the MMAF. Some issues regarding server ownership, management, and operational costs will require immediate solutions.

5.3 What are the most important and promising strategies for advancing sustainable fisheries management and promoting marine conservation at this time in Indonesia?

This question elicited a variety of responses during interviews. Feedback from respondents representing the three contributing MRP organization are summarized below:

IMACS. Views on IMACS covered a very wide range.

- Some respondents considered IMACS to be "inspirational."
- Others in MMAF considered it to have too much of a scatter-gun approach – trying to do too many things and not achieving very much.
- I-CATCH seems to have had a useful consciousness-raising effect in several places.
- IMACS staff themselves felt that the legal achievements with the RENSTRA and other laws on crab and lobster management had been significant achievements.
- IMACS also suggested that the I-FISH and E-logbook work had been/would prove to be very valuable in the final stages of the project.
- Fisheries managers supported the further development of the WPPs. Although the WPP 718 currently requires urgent improvements for implementation, it represents a major step toward sustainable marine resources management in Indonesia.

MPAG. The MPAG's work focused on the DGs of BPDSM. Over the course of the project, five staff were embedded within their affiliate DGs.

- The consensus among respondents was that the MPAG contributed positively to the MRP.
- The consortium of NGOs, which managed and implemented the MPA program under MPAG (WWF-I, TNC, CI, WCS and CTC) eventually came to a working arrangement that gave each significant roles in different parts of the project area. In addition, recipients considered the capacity building/training to be useful.
- The Nusa Penida MPA, which received 60% of its funding from MPAG, was able to show hard data indicating that coral cover, fish biomass and species biodiversity had all increased over a 5 year period – thus justifying the development of MPAs.
- Nusa Penida is examining ways of making itself financially sustainable when the USAID funds cease. The option of 'user pays' is of considerable interest, and trials have commenced to determine appropriate fee levels.
- MPAG's embedding of staff within the DGs was deemed to be highly successful: It allowed many of the MPAG training modules and materials to be swiftly integrated into national competency standards.
- The E-KKP3K, which includes the MMAF primary document on MPA assessment, was strongly supported by the MPAG and was deemed to be a good working document for ongoing MPA evaluation and reference for further development. Unfortunately knowledge about this document was limited outside MMAF. Few DKP respondents were aware of its existence.

NOAA-IAA. Staff involved in this component:

- Study tours and mediation between Indonesian and American universities was well received by project participants.

- Capacity building courses on MPAs, EAFM, port state measures, and IUU fishing were considered to positively contribute to ongoing fisheries management.
- NOAA-IAA course materials were positively received and had already been disseminated by the FAO and SEAFDEC at the regional level; they have not yet been integrated into MMAF.
- Respondents revealed that internal conflicts within the MMAF erupted over whether capacity-building or training materials should be prioritized.
- Some MMAF staff expressed concerns that the NOAA courses contained obscure language that may not have been fully understood by trainees. The NOAA had previously insisted that efforts were made to ensure comprehension through the provision of mentors and peer assistance.

Strategies for the Future of Marine Biodiversity Conservation and Sustainable Fisheries Management in Indonesia.

Options suggested to the evaluation team and endorsed as possible future strategies included:

Support for Sustainable Capture Fisheries Management

Political support for sustainable capture fisheries management is now greater than ever, thanks in part to expressed statements by the current President and the appointment of a new Minister of Marine Affairs and Fisheries. The MMAF should capitalize on this support by encouraging further outputs and assistance for projects such as the MRP.

1. MRP support for an EAFM in WPP 718 is one of the most important initiatives to date for sustainable capture fisheries management. This plan has already incorporated diverse fisheries interests for a collective way forward. While specialists continue to make recommendations on the variety of tasks that need to be undertaken to further develop WPP management, the next immediate step should be to fully implement the WPP management plan. New components can be added, based upon agreement among planning bodies. It is hoped that other WPPs—10 WPPs are currently under Ministerial Review—will soon develop their own plans.
2. Other important MPAG initiatives related to sustainable capture fisheries include the establishment of learning centers at WPP 713 (Mulawarman University, Mataram University, Hassanudin University, and Politeknik Pertanian Negeri Kupang) and WPP 714 (Haluoleo University, Christian University of Artha Wacana, Palu College of Fisheries and Marine Resources, and Pattimura University). The MPAG has also supported ongoing efforts to engage other local universities to develop a wide network of learning centers, as part of the Indonesian Network for Fisheries Resources Management. Finally, MPAG's support for EAFM website development is considered a significant contribution to capacity building and knowledge transfer to the MMAF staff.
3. Any actions undertaken for future USAID/Indonesia SEA programs should be aligned with the 2015-2019 RENSTRA. As the control of IUU fishing is near the top of the actions identified in the 2015-2019 draft RENSTRA, it is to be hoped that this will receive early attention, to the benefit of fisheries management and fish stock sustainability.
4. The electronic I-FISH linkage is working well. It should become a valuable data management system within the MMAF, once ownership issues are resolved.

Institutional Issues and Capacity Building

A project's institutional context can greatly impact its level of success in achieving its objectives. In general, the MRP successfully contributed to capacity building within the MMAF. However, some misunderstandings over crucial project activities—planned according to mutually agreed MOUs—occurred as a result of staff turnover. Furthermore, some training courses may have been too advanced and difficult to understand for trainees. Finally, misunderstandings over the ownership of capacity-building materials—disagreements arose as to whether they belonged to the training unit or one of the technical units—compounded a singular focus on project goals. Ideally, such issues can be discussed and resolved prior to project commencement.

Future recommended capacity building initiatives are outlined below:

1. Embed staff in selected DGs. Considerable care should be taken to select appropriate staff, in close coordination with recipient DGs.
2. Ensure that training materials are fast-tracked for incorporation into national competency standards and tailored to recipients' skill sets and technical knowledge. Respondents evaluated the NOAA-IAA's approach to training in MRP as less effective than training provided by IMACS or MPAG because their course modules were difficult to understand and had not yet been incorporated into national curricula.
3. All MRP groups and their successors, should play active roles in future capacity building with the MMAF.
4. Facilitate partnerships between US and provincial Indonesian universities to enhance local skills and help to retain local graduates in their home areas.

Biodiversity Conservation

Hard data confirming anticipated improvements to coral cover, fish diversity, and fish biomass were not readily available, with the exception of one MPA. Testimonials from dive masters and tour operators, however, suggested the presence of these key indicators for ecosystem restoration. Their claims were not supported by quantitative data.

Future recommended initiatives to support biodiversity conservation are outlined below:

1. All regional parties reported deep appreciation for the work of the NGO consortium operating within the MPAG. The USAID is recommended to capitalize upon the MPAG's work as a valuable collaborative unit for subsequent project design and implementation.
2. The Nusa Penida MPA (currently funded primarily by USAID/MPAG) is examining ways of making itself financially sustainable when the USAID funds cease. The option of 'user pays' is of considerable interest. Trials to determine optimal fee levels are already underway.
3. All respondents indicated an appreciation for E-KKP3K as a convenient and useful tool to develop both MPA manager skills and improve site management status. It is recommended to encourage the E-KKP3K's future adoption in other MPAs.

THEME 5. CONCLUSIONS

1. The Fisheries Management Plans (FMP) initiated by MMAF to help maintain sustainability of their capture fisheries are very important for the future. The Arafura Sea fisheries management plan (WPP 718) for which MRP has provided critical assistance, is the first of these, and is important for the future of EAFM in the country's fisheries management. The Arafura Sea. FMP development for WPP 718 will

serve as a model for the development of ten more FMPs, which were submitted to the Minister for enactment in July 2015.

2. The consortium of NGOs which implemented MPAG was much appreciated by all partners and the recipients of their help.
3. The E-KKP3K Guidebook on MPA management and development, produced with assistance from MPAG, is a valuable tool for the development of Indonesia's MPAs and the training of MPA managers.

Additional findings of note include the following:

- The I-Fish system rendered a significant, positive impact. However, since it is still being trialed through public-private partnerships for BSC and small tuna fisheries, its viability for broader application remains untested. Contention within the MMAF over server ownership, management, and operational costs also require resolution within MMAF.
- I-CATCH seems to have had a useful consciousness-raising effect in many places.
- The Arafura Sea FMP still requires input from numerous stakeholders on effective catch effort management, IUU fishing abatement, and individual stock management plans for constituent fisheries before it can be considered to be fully functional and serve as a model for other MPA FMPs.
- The principle of 'user pays' for visitors to the MPAs works well in many parts of the world. In Indonesia, it is anticipated that scaling fee rates to foreign and domestic tourists will help MPAs to achieve financial self-sustainability. Trials on optimal fee amounts are currently underway, and broader implementation of this model is encouraged in other MPAs.

THEME 5. RECOMMENDATIONS

1. The consortium which implemented MPAG was much appreciated by all partners and recipients of their help, and should be maintained as a valuable collaborative unit in subsequent similar projects.
2. In light of new laws regarding regional autonomy (Law No. 23 of 2014 and Law No. 9 of 2015), the next USAID marine project should consider the integration and knowledge transfer of coastal management initiatives previously maintained by regent administrations to provincial governments. The USAID could support further institutional arrangements within provincial governments to play crucial roles in coastal management development.
3. The E-KKP3K assessment tool and seven accompanying guidebooks on MPA management and development are recommended for wider dissemination within the MMAF, MOEF, and DKPs in order to support coastal biodiversity conservation. Direct access to assessment tools will instill a sense of ownership over MPA management and help to ensure initiative continuation.
4. In the future, capacity building efforts should include course modules that are incorporated into national training curricula, in close cooperation with existing national coordinating working groups, in order to ensure buy-in from project onset. If staff embedding is executed in future projects, then recipient government divisions (e.g., senior MMAF personnel) should be consulted to ensure that appropriate staff are recruited and their roles and responsibilities are clearly designated. All MRP groups and their successors should support capacity building within the MMAF.
5. Future projects will benefit from connecting US universities with provincial Indonesian universities. Such partnerships enhance local skills and help to retain local graduates in their home areas to assist with provincial development. The network of EAFM

learning centers will be essential to the development and management of all WPPs in Indonesia to which the USAID contributes through future marine projects.

6. Any actions undertaken by the proposed USAID/Indonesia: SEA program should align with the new 2015-2019 RENSTRA. IUU fishing abatement is a top priority issue within the draft RENSTRA and should receive early attention, in order to ensure fisheries management and fish stock sustainability.

ADDITIONAL ISSUES

One additional issue with regards to the small grants program facilitated by IMACS is outlined below:

SMALL GRANTS

The evaluation team visited ten USAID/Indonesia small grant recipient groups. Eight of these represented issues such as mangrove replanting, seaweed farming, blue swimming crab processing and fish shredding. These were all worthy projects, many of them providing focused support for women's groups, coastal protection or alternative income generation. , but they were hardly relevant for biodiversity conservation or improving sustainable capture fisheries. In addition, while they could be viewed as a means of discovering the interests of small coastal communities, several of the groups receiving them had already been operating for years prior to the award of their USAID grants, and only two of the eight (crab processing and one fish shredding venture) showed significant signs of maintaining themselves. Though livelihood options may be improved and increase resilience to climate change impacts from this support, it is relatively hard to measure whether it brings significant and sustainable achievement in the long term.

Given the tremendous time and effort required to initiate these projects, as well as the challenges of monitoring and evaluation (although the allocation of additional IMACS regional officers could assist with this process), it is suggested that small grants should not be included within future projects similar in scope to IMACS. If small grants projects continue, then it is recommended that a monitoring and evaluation system based on clear KPIs is established prior to project commencement, in order to ensure that all projects support the achievement of Climate Change Adaptation objectives.

One notable success story from the small grants program was the development of the I-Fish data management system. This platform was developed through a public-private partnership, a model that may be more relevant to future marine projects.