Annex K: Lessons Learned and Recommendations

1. **Key Findings/Lessons Learned**

The project, “Conserving Marine Biodiversity Through Enhanced Marine Park Management and Inclusive Sustainable Island Development” yielded numerous valuable lessons. These lessons were based on observations and discussion undertaken by the Terminal Evaluation consultants, in close coordination with staff of DMPM. Table K-1 below details the key findings and lessons learned, and links these to the specific cases or examples upon which they are based.

Table K-1. Findings and Lessons Learned

| **No.** | **Finding/Lesson Learned** | **Specific Case or Example Leading to Lesson** |
| --- | --- | --- |
| 1 | A sound technical understanding of biodiversity and ecosystems is the foundation that underpins effective protected area management. | In the project, the absence of a qualified marine biologist on the consultant team caused lack of credibility in a number of key outputs (e.g., MPA management plans, and monitoring of biodiversity status). |
| 2 | "Silo effect"--separating responsibility for terrestrial and marine management on small islands—makes finding workable solutions to shared problems more difficult. | One of the biggest environmental threats to marine biodiversity is the (inadequacy of) the sewerage system; on Tioman, difficult terrain prevents setup of centralized system for sewage treatment; water supply is also a problem—some visitors have contracted diseases due to contamination |
|  |  | There is Federal-State split in jurisdiction |
|  |  | Sector-based, fragmented planning occurs on marine park islands |
|  |  | Tourism operators need to follow EIA regulations; local authorities are not practicing adequate enforcement—many facilities operate informally |
| 3 | A strong sense of community ownership, and recognition by communities that natural resources are their heritage (and realization that their livelihoods are closely tied to sustainable resource use) can contribute to a strong conservation ethic; even in systems that historically have applied a ‘top-down’ management approach (such as Malaysia’s), community-level support and cooperation are needed to curb adverse environmental impacts that could weaken conservation initiatives. | On Tioman they now consider the resources as their “heritage” and recognize that they are dependent upon them for livelihood |
| 4 | Creation of viable alternative livelihood opportunities can benefit marine biodiversity conservation efforts by (1) directly moving people away from destructive extractive fisheries practices, into services industries, and (2) fostering greater community cooperation, understanding and participation in conservation efforts. | New livelihood opportunities on Redang have led to more young people staying on island |
| 5 | Complicated project design, without clear indicators, makes implementation and monitoring and evaluation more difficult. | Project framework had too many outputs/outcomes—at inception, methodology was changed—simplified to produce current log-frame. Nonetheless project indicators remained complicated and required substantial resources to measure for some indicators. There was a lack of clarity how monitoring of some indicators demonstrate progress towards reducing threats to the MPA sites. |
|  |  | Complexity of the design caused long delays at beginning, momentum picked up; cross-cutting nature of the project made it hard to hire the right consultants |
| 6 | Effective marine conservation within protected areas requires detailed studies of the resources in the area, and tailoring of zonation plans to fit the specific needs for the location, backed up by appropriate legislation and regulations. | Use zones proposed in Marine Park Management Plans are not enforceable; the 2nm fisheries restriction still applies uniformly |
|  | Effective marine conservation within protected areas requires detailed studies of the resources in the area, and tailoring of zonation plans to fit the specific needs for the location, backed up by appropriate legislation and regulations. | ‘People are fishing off the jetties all the time’ |
| 7 | Frequent changes in key personnel (whether in project staff, executing agency, or steering committees) makes project operations inefficient and can cause lack of continuity and considerable delays. | personnel attending SC meetings are frequently changed |
|  |  | Frequent staff rotation results in loss of local knowledge and experience, and difficulty in transferring skills |
| 8 | In the absence of hard scientific data, local ecosystem knowledge (LEK) is an adaptive approach that can provide valuable information upon which preliminary planning can be based. However, the LEK information needs to be further ground-truthed and verified for more critical management decision-making. | Management plans were prepared for 3 sites using LEK—also zoning plans and resiliency studies |
| 9 | Strong interagency cooperation can greatly enhance project efficiency and result in cost savings. | Maritime Enforcement Agency confiscates and disposes of vessels on court orders—through cooperation with DMPM, these were deployed for use as artificial reefs |
|  |  | MPMIS developed by DMPM under the project can be used by other agencies |
| 10 | Strong leadership and sense of commitment among project staff can catalyze positive changes that extend beyond the scope of the project itself. | DMPM is leading the way for livelhood even beyond those ministries mandated for social improvement; Rebecca Greenspan (#2 in UNDP) brought to site and saw CCC meeting they said first time they had done anything like thatgoes beyond project |
|  |  | DMPM has taken up the responsibility for water quality sampling well beyond its mandated duties |
| 11 | Strong linkages between government, academia, NGOs, and communities can lead to more effective identification of key problems, and their subsequent solutions. | Case study: Sungai Salang—river was polluted due to sewage—through the project liaison to higher levels was achieved, that led to linkage with university researchers—recommended inoculation of plankton into river which reduced the problem |
|  |  | Case Study: Kampung Payar—their ‘house reef’ was littered with debris, through the project they were taught the importance of maintaining reef, avoiding anchor damage etc.; reef was cleaned up and now much improved—this resulted in change of mindset- community wants to extend program to other areas, introduce coral transplanting, etc. |
| 12 | Successful project actions can serve as models to be replicated or expanded by other stakeholders, at other sites, for other beneficial purposes. | LEK was replicated by DMPM at 24 other sites (28 in system)—can be used for zoning etc. |
|  |  | MPMIS is being used for e-permits, etc. has become all-purpose for various administrative functions as well as marine park management |
|  |  | Ecoteer has set up a “CCC” on Perhentian—working at village at level; in 2009-2010 ReefCheck also followed project model and began work at Perhentian –this was funded by UNDP SGP- for teaching dive and snorkel skills and awareness |
|  |  | Coral resilience studied at non-project sites |
| 13 | Improvements to physical infrastructure alone cannot solve environmental problems. In order to achieve the desired outcome, such improvements need to be supported with adequate community preparation, technical knowledge and financing for operation and maintenance. | Funding was secured for construction of a new wastewater treatment plan on Redang Island to service several resourts. Until now, the plant has not been connected to the resorts, due to a lack of qualified personnel to operate the facility. |
| 14 | Given the important role of the EPU in budget approval, it is critical that DMPM undertake purposeful coordination with the EPU; proposals need to be well thought-out and presented |  |
| 15 | The uniform application of a 2 nautical mile restricted no fishing zone is a 'one size fits all' approach that may not be workable in all situations. A more flexible and tailored zonation system within the marine parks may generate stronger community support, and ultimately lead to improved conservation results. | Despite improved awareness among community members, small-scale violations of the 2nm fishing restriction were reported to be frequent. |
| 16 | While GEF is typically intimately engaged in evaluation and giving feedback during the project preparation and formulation stage (e.g., STAP review, CEO endorsement process, etc.), it seems to gravitate more towards a “laissez-faire” management style during implementation. Greater involvement by GEF at critical points during implementation could have helped to avoid or minimize some of the design problems that affected the project. | Complex project outcomes, poorly framed indicators, and other weaknesses in the project framework were not corrected and were allowed to carry through to later stages of the project implementation. |
| 17 | Establishing a clear legal basis for tourism concerns to operate is of vital importance, and is intimately linked to the preservation of the environmental integrity of small island ecosystems, including preservation of marine biodiversity. Two of the important legal elements are: (i) implementing tenurial arrangments (either ownership or long term leases) that would enable and encourage operators to make the long-term investments in infrastructure improvements (e.g., solid waste disposal and sewage treatment) needed to ensure that environmental quality is preserved; and (ii) making sure that all resort operators are in compliance with prevailing EIA requirements, and have thus been given legal clearance (in the form of a Certificate of Fitness) to operate. | Five resorts on Redang Island failed to connect to a newly-constructed wastewater treatment plant. No qualified technician has been hired to run the plant. This may be due in part to operators’ reluctance to make a long-term commitment and investment to operating the infrastructure. Ambiguous land tenure arrangements also complicate the envorcment of EIA requirements. |

**2. Recommendations**

Based largely on the lessons enumerated in the preceding section, recommendations for further action have been identified. In Table K-2, below, the recommendations are identified according to their relevance to the specific project outcomes that are defined in the project framework. These are:

1. Planning (including information/database and institutional arrangements);
2. Policy;
3. Communities (including livelihood, stakeholder participation, etc.);
4. Tourism;
5. Enforcement (fisheries and environmental);
6. Awareness (of biodiversity importance); and
7. Advocacy (including legal).

Because the recommendations are quite numerous (totaling 29), an effort has been made to identify the ones that are highest priority, and most appropriate for implementation through the DMPM. Therefore the top seven (7) recommendations are indicated accordingly in the Table. However, it should be noted that this prioritization is quite subjective—in fact the evaluation consultants believe that all the recommendations, whether taken individually or collectively, can contribute to enhancing the sustainabiity and replicability of the project outcomes, and can help to improve the implementation of similar initiatives in the future.

Table K-2. Recommendations

| **No.** | **Recommendation** | **Relevance of Recommendation to Project Outcome** | | | | | | | **Highest Priority (✓)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Planning (including information/ database and institutional arrangements) | 2. Policy | 3. Communities (including livelihood, stakeholder participation, etc.) | 4. Tourism | 5. Enforcement (fisheries and environmental) | 6. Awareness (of biodiversity importance) | 7. Advocacy (including legal) |
| 1 | Conduct advocacy for passage of a Marine Parks Act. |  | **◆** |  |  |  |  | **◆** | **✓** |
| 2 | Strengthen awareness-raising on the importance of MPAs and DMPM efforts at State and District Action Council monthly meetings, especially relating to awareness of importance of MPA management for the economic sustainability of small marine park islands. |  |  |  |  |  | **◆** |  | **✓** |
| 3 | Marine Parks is still a new department, therefore staff are still in need of further training and experience; enhance technical knowledge of staff at all levels, through training, academic coursework and mentorship. This should include capacity-building in basic marine biology and ecology, protected area management, environmental impact assessment, enforcement, and related disciplines. | **◆** |  |  |  |  | **◆** |  | **✓** |
| 4 | Review MPA Management Plans to ensure adequate technical acceptability. Through further community consultation, finalize Plans and pursue their adoption to give a legal basis for enforcing the conditions of the Plans. Replicate plans for other MPs. | **◆** |  |  |  |  | **◆** |  | **✓** |
| 5 | To overcome divisions associated with sector-based management, identify and strengthen mechanisms to facilitate more effective coordination between agencies responsible for oversight of land-based and marine-based activities (e.g., through the Cabinet Committee for National Physical Planning). Alternatively, explore the establishment of integrated State parks that include management of both terrestrial and marine components. | **◆** | **◆** |  |  |  |  | **◆** | **✓** |
| 6 | Strengthen sustainable financing for marine park operations by (i) developing an action plan based on the DMPM business plan that is time bound with a prioritized road map, (ii) exploring linkages with relevant GoM-UNDP initiatives such as project for Payment for Ecosystem Services (PES), Biodiversity Finance Assessment and international initiatives such as The Economics of Ecosystems and Biodiversity (TEEB) studies, (iii) exploring the feasibility of additional mechanisms including global trends and practices such as voluntary tourist contribution systems, tourism tax on rooms, carefully designed and monitored volunteer tourism, etc., (iv) discussing the potential for benefit sharing with local communities/local authorities (e.g. funds from voluntary contributions to be channeled to community development and capacity building) and (v) considering development of a full cost assessment of financing needs that are linked to conservation objectives and strategies to fulfill the costs. | **◆** |  | **◆** | **◆** |  |  |  | **✓** |
| 7 | The SSCs should be maintained. The prevailing proposal is that the project SSCs will be converted to State Steering Committees for Marine Park Management | **◆** |  |  |  |  |  |  | **✓** |
| 8 | Proposal for Ministry of Tourism to incorporate environmental sustainability perspectives in their mission, policy and objectives in view of the increasing tourist demand to natural areas and to maintain Malaysia’s competitiveness as a tourism attraction. The proposal includes the adoption of KPIs to ensure achievement of environmental targets (e.g., a defined number of resorts annually are accredited through an eco–rating system etc.) |  |  |  | **◆** |  |  | **◆** |  |
| 9 | Through a consortium of agencies (Ministry of Health, Tourism, NRE/DMPM, State government agencies), develop action plan/strategy to utilize water quality monitoring information to guarantee that acceptable water quality standards are applied/enforced, ensuring public health and safety, and maintenance of environmental/ ecological quality in MPs. | **◆** | **◆** |  |  | **◆** |  |  |  |
| 10 | Implement measures to address inefficiencies associated with frequent rotation of staff of relevant agencies, committee members of NSC, SSC, etc | **◆** | **◆** |  |  |  |  |  |  |
| 11 | DMPM share data on MPMIS with relevant stakeholders including research institutions, NGOs through signing MoUs in order for them to support DMPM programs and advocacy. | **◆** |  |  |  |  |  |  |  |
| 12 | DMPM share project experiences with potential partners including private stakeholders, NGOs, academic institutions, etc. to identify ways to work together more closely in the future particularly in terms of capacity building, tourism and research initiatives. | **◆** |  | **◆** |  |  |  |  |  |
| 13 | For future projects, GoM and UNDP should cooperate on streamlining consultant procurement procedures, and develop SOP to address non-performance of consultants. | **◆** |  |  |  |  |  |  |  |
| 14 | DMPM convene workshop (with NGOs and academic partners) to identify research priorities—due to finite research budget, it is important that funds are applied to address the most pressing research needs and to determine how research results will be used to support improved MP management. | **◆** |  |  |  |  |  |  |  |
| 15 | Support the creation of a National Biodiversity Centre | **◆** |  |  |  |  | **◆** | **◆** |  |
| 16 | Develop an action plan and initiate steps to ensure compliance by existing locally owned resorts (in terms of obtaining valid business operating licenses, Certificates of Fitness, conversion of agriculture titled lands to building/industrial lands) to enhance the responsibility and ownership of resort operators towards improving waste management and adopting green practices. |  |  |  |  |  |  | **◆** |  |
| 17 | Document the benefits of establishing CCCs and where appropriate, replicate their establishment. |  |  | **◆** |  |  |  |  |  |
| 18 | Enhance collaboration with relevant research institutions, associations and NGOs particularly to lead advocacy and advance conservation agenda within the tourism sector. |  |  | **◆** | **◆** |  |  |  |  |
| 19 | Ensure that sections of the 2nd National Physical Plan are carried forward into local plans, with sufficient monitoring and enforcement with respect to development on the ground. | **◆** |  |  |  |  |  |  |  |
| 20 | Actively provide inputs to key processes such as the on-going/up-coming National Ecotourism Plan and National Biodiversity Policy reviews making use of information generated through the Project. |  | **◆** |  | **◆** |  | **◆** |  |  |
| 21 | As a tool to promote greater awareness of the importance of marine biodiversity, conduct a comprehensive economic valuation study to assess the value of coral reefs and other coastal ecosystems, to the Malaysian economy in terms of fisheries production, tourism potential, shoreline protection and other values |  |  |  |  |  | **◆** |  |  |
| 22 | To facilitate vertical coordination, implement mechanisms for periodic exchange between National, State, and local level committees (e.g., call special or annual meetings of NSC where State and Community representatives invited to present issues). | **◆** |  | **◆** |  |  |  |  |  |
| 23 | In coordination with academia, DMPM, and MoSTI, to study and solve problems of marine park island management in an integrated, holistic way, advocate development of university curriculum /program for small island ecosystems; the marine parks would make ideal study sites for such a program |  |  | **◆** |  |  | **◆** |  |  |
| 24 | In response to desires voiced by local communities, consider changes to the 2 nautical mile no-fishing zone, to allow controlled fishing within designated areas. Initiate dialogue with affected communities and identify research priorities to explore the feasibility of this option and then to develop appropriate guidelines. |  | **◆** | **◆** |  | **◆** |  |  |  |
| 25 | DMPM should be maintained within NRE. Reabsorption of the Department into Fisheries Department would represent a conflict between KPIs for conservation (supported by NRE) versus those for production (supported by Ag/Fisheries) |  | **◆** |  |  |  |  | **◆** |  |
| 26 | Undertake a review of outdated regulations and legislation, with the objective of updating and harmonizing outdated or conflicting aspects. This should highlight environmental sustainability, user fees, fines and sanctions, etc. |  | **◆** |  |  |  |  | **◆** |  |
| 27 | The NSC should be maintained, and meet at least once/yr. The platform for continuation of the NSC could be through the steering committee for next Malaysia plan, or National Advisory Council for Marine Parks (meet 2x / yr) | **◆** |  |  |  |  |  |  |  |
| 28 | Promotion should be strengthened for CSR activities in support of environmental initiatives and marine conservation (e.g.-National Electric Board installed solar panels in P. Tinggi (hybrid diesel/PV for villages) |  |  | **◆** |  |  |  |  |  |
| 29 | In cooperation with DMPM and academia, MoTOUR should undertake tourist pre-arrival and post-departure surveys to ascertain whether visitors’ awareness of marine conservation issues increased as a result of visiting marine parks | **◆** |  |  | **◆** |  |  |  |  |
| 30 | Underlying threats and root causes of problems should be identified early on in the project, so that adaptive measures could be undertaken improve proejct effectiveness (e.g., addressing land tenure issues to facilitate greater engagement among tourism operators) |  |  | **◆** | **◆** |  |  |  |  |