Community-Based Marine Sanctuaries in the Philippines: A Report on Focus Group Discussions

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Acknowledgments

The authors of this paper would like to thank the numerous individuals who assisted with this effort. Over fifty participants from a diverse mix of institutions participated in a series of four focus group discussions whose inputs, comments and explanations about their respective experience contributed substantially to the contents of this report. A list of participating individuals and institutions is provided in Annex 5. We particularly appreciated the participation of individuals who traveled long distances from locations outside the city venues to attend, especially the representatives of local people's organizations. We are grateful to the many participants who provided lists of community-based marine sanctuary sites for possible inclusion in the field investigation, as well as related secondary data and references.

We greatly appreciated the assistance of the Marine Science Institute (MSI) of the University of the Philippines and the Silliman University Marine Laboratory (SUML) and Center of Excellence in Coastal Resources Management, for serving as venue hosts in Manila and Dumaguete respectively, and particularly the assistance of Porfirio Aliño, Charina Conte and Maricar Samson of MSI, and Hilconida Calumpung, Roy Olsen de Leon, Pacita Raterta, and Julieta Luchavez of SUML. The Coastal Resources Management Project-Philippines (CRMP-Philippines) team, including Catherine Courtney, Alan White, Rebecca Pestano-Smith, Mike Ross, Evelyn Deguit, Melvin, Cookie, Glen, and others, provided work space and logistical support for the Cebu focus group discussion preparations, access to the Coastal Municipal Database, organized a field trip to Olango Island for the Indonesian participants, and supplied them with mountains of documents and information. We would also like to thank the SUML staff, Roy Olsen de Leon, Pablina Cadiz, as well as Mario Pascobello from Apo Island, for arranging a field visit to Apo Island for the Indonesian participants following the Dumaguete focus group discussion.

Additional thanks are extended to Chris Rotinsulu and Asep Sukmara from the *Proyek Pesisir* (Coastal Resources Management Project –Indonesia) North Sulawesi Field Program who contributed their perspectives in the Cebu and Dumaguete focus group discussions, and to several University of Rhode Island faculty, graduate students and Coastal Resources Center staff who also contributed their comments on the draft background paper, focus group agenda, the preliminary conceptual framework and the initial list of factors contributing to the success of community-based marine sanctuaries.

Our appreciation is also extended to several staff from Philippine Council for Aquatic and Marine Research and Development (PCAMRD) who assisted with arrangements for the focus group discussions, including Ester Zaragoza, Adela Corpuz, Precious Samonte and Eileen Redera, as well as Jun Olandez who represented PCAMRD in Cebu and Dumaguete who along with Adela assisted in note taking. We would especially like to thank Dr. Rafael Guererro III, Executive Director of PCAMRD, for expressing his support and enthusiasm for this project and his inspirational remarks at the opening of the first focus group discussion in Manila. Lastly, we would like to thank the David and Lucile Packard Foundation who provided the funding which made the discussions and this report possible.

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Executive Summary

A group of fifty-four field practitioners and experts with extensive experience in community-based coastal resources and marine protected area management in the Philippines, representing a diverse group of institutions and backgrounds, participated in a series of four one-day focus group discussions during January 2000. The purpose of these meetings were to discuss and summarize experience and lessons learned with respect to the establishment, implementation, promotion and widespread replication of community-based marine sanctuaries in the Philippines.

This report summarizes the results of these discussions. It explains what is a community-based marine sanctuary, and what are their potential benefits. It describes the conceptual framework or general model which is applied in the Philippines and variations within this model which can be found among numerous examples now existing in hundreds of coastal municipalities. It details a range of measures of success, and potential context and project intervention factors that are considered to influence success. The annexes to this report include: the focus group agenda and discussion questions; a list of the focus group participants; a list of marine sanctuary sites; references and selected bibliography; a summary of participant evaluations and examples of municipal ordinances establishing a marine sanctuary and marine reserve.

The Philippines now has over two decades of experience with community-based marine sanctuaries and a growing body of literature concerning the lessons learned from this experience. Hundreds of marine sanctuaries have now been established, but it is uncertain how many can be considered successful. Many people believe that a large number of these community-based marine sanctuaries are not yet operating successfully and the possible reasons for this were discussed by the focus groups.

Marine sanctuaries can generally be defined as permanently closed areas where all human extractive activities are prohibited, particularly fishing. These are also referred to as "no-take" zones. In the Philippines, this definition applies to many areas called fish sanctuaries, marine sanctuaries and in some instances marine reserves. However, marine reserves are generally defined as areas where some activities are regulated but are not exclusive no-take zones. Marine sanctuaries can be established individually, but are often nested as core zones within a larger marine reserve, where the reserve or buffer zone restricts some but not all activities around the core sanctuary area. There is much confusion in the Philippines regarding this terminology, particularly at the local government level. Therefore, in some instances, areas called marine reserves may be strict no-take zones, and some areas called fish or marine sanctuaries may be regulated areas but not necessarily permanent closures or no-take zones.

The intention of the focus groups was not to come to a consensus concerning what models should be applied in the Philippines for establishing community-based marine sanctuaries, but rather, to better understand the range of approaches that are being applied. While a general framework did emerge, there is much adaptation and variation within this basic framework. Adaptations depend on the local context and the type of

institutions involved. There are also many differing philosophies concerning specific approaches and the timing and sequence of various interventions.

The general steps in the process of establishing and implementing a community-based marine sanctuary are:

(1) Community entry, preparation, appraisal and core group formation
(2) Planning which includes core group formation, sanctuary site selection, ordinance formulation, determination of management mechanisms and financing arrangements
(3) Formalization through approval of a municipal ordinance, plan and budget
(4) Implementation and adjustment

Several themes run throughout the process and particularly in the pre-implementation phases. These include community capacity building, public participation and education, monitoring and evaluation. Key elements of the intervention strategy include the assignment of a full time field worker to the community from the very beginning of the initiative through a period of implementation by the community. Additionally, it is important that over time, there is a change in the roles among the community, the field worker and the intervening institution. Gradually, the community takes on increasing responsibility as their capacity increases and the field worker's efforts in the community then start to wind down. However, continuing linkages to external institutions within a region and their support systems is desirable to ensure sustainability of these initiatives.

Most participants felt that external institutions need to commit to at least a two to three-year time period of engagement with any community to achieve success and sustainability. However, it is impossible to predict the time needed in any given place. However, the intervening institution needs to stay engaged well into the implementation phase before the level of effort in the community by the intervening institution starts to wind down. Once sanctuaries are established, some benefits (community empowered, tourism revenues received, increased fish abundance inside the sanctuary) may be seen rather quickly. However, it may take between three to five years after the sanctuary is established before longer-term benefits such as sustained increases in fish yield in fishing grounds outside the no-take reserves are evident. During the implementation phase, intervening institution roles are primarily in the area of monitoring and evaluation, and ad-hoc technical support as needed.

Success can be measured in a number of ways but participants did not consider the number of sanctuaries established and ordinances enacted as a good measure of success. While marine conservation is an important rationale for establishing marine sanctuaries, some form of community benefit is essential. The primary community benefits are linked to improved fisheries production and greater community empowerment. Tourism, benefits are possible, however, the groups pointed to many examples where socioeconomic equity between the community and external business operators has become an issue. Hence tourism, while potentially beneficial, can also be viewed as a threat to the community social fabric and the marine environment. Therefore, it needs to be considered and planned carefully.

Many context factors within the community and the larger geographic system may influence the success of initiatives. While the discussion found it difficult to prioritize which factors are most important and when they come into play, supportive and strong local leadership was an important element frequently mentioned.

In answer to the question of why some attempts at establishing community-based marine sanctuaries fail, the lack of adequate participation in the planning process was constantly mentioned. While participation is an essential project intervention strategy, the purpose is to build a sense of community ownership and a local constituency to support the marine sanctuary. Without community commitment, compliance with the operating rules along with the needed investments of local community resident's time and resources, may not be forthcoming. A strong community-based constituency in support of the marine sanctuary is also likely to be a mitigating factor in places with changing political leadership that may not be supportive of the marine sanctuary concept. Another challenge expressed by participants is the need for local government units to commit financial resources for implementation activities such as installation of marker buoys and enforcement patrols. While local government budgets have increased since the implementation of the Local Government Code of 1991, there is still a sense of scarcity of funds for many competing development priorities. Without local government support, funding needed for implementation is not assured.

Critical success factors include:

- Implementation of an accurate and valid model
- Well executed activities
- Adequate community participation and a supportive constituency
- Sufficient community capability building
- Adequate site selection
- A clear legal mandate
- Funding for implementation
- Supportive local leadership
- Continuing linkages between the community and local or regional support systems and institutions

Many participants felt that some form of alternative or supplemental livelihood development is an important component of marine sanctuary programs due to the high levels of poverty found in many coastal communities which rely heavily on fisheries for their livelihood. Others felt that from a conceptual viewpoint this is important, but practically speaking, there are few examples where such strategies have been successful.

Ideally, community-based marine sanctuaries are best considered as part of a broader community initiative in coastal resources management. It is also considered an effective entry point strategy to address broader coastal management issues within a community or in a larger geographic context. Many individuals now consider that community-based initiatives in the Philippines must be co-management regimes, particularly given the

context of the decentralized Local Government Code of 1991 (RA 7160) and the new Philippine Fisheries Code of 1998 (RA 8550). While significant investments and responsibilities are made at the community level, they must be well integrated into the municipal governance systems. Hence, community-based management in the Philippines can be defined as community groups working collaboratively with local government units.

Success is not only dependent on what is done at the site level but can also be viewed as the necessary characteristics of intervening institutions which are promoting replication of community-based marine sanctuaries within the country or a region. These key ingredients include:

- The skill level of the field worker assigned to the community and the level of effort and technical expertise applied at any given site
- A good understanding of proven approaches
- Proximity of the local support institution to the community
- Political will and support of the community-based marine sanctuary concept by the organization's leadership
- A clear organizational vision and strategy
- Adequate human and logistical resources
- A management approach that can adapt to changing circumstances or contexts
- Realistic expectations of the time and effort required
- Continued engagement with communities once sanctuaries have been established

The present institutional context in the Philippines contrasts dramatically with the situation in the 1980s when most of the initial models of community-based marine sanctuaries were established under a centralized regime. The current institutional framework is highly decentralized. Another important change is that previously, intervening institutions had to persuade communities and local government of the need for and benefits of marine sanctuaries. Now, awareness of the benefits is much higher both among local government officials and the general public. Hence, intervening institutions are often working in a demand driven situation where communities and local officials are requesting assistance, rather than the intervening institutions needing to promote the concept first to initially reluctant or skeptical audiences. North Sulawesi province of Indonesia, however, is in an early phase of program development, similar to where the Philippines was ten years ago. While substantial support among officials in the province and the Minahasa Regency is emerging, additional awareness raising of the community-based marine sanctuary concept will be needed at all levels at this point in time.

Another recent trend in the Philippines is the expansion of institutional capacity at the provincial and regional level to assist local communities in establishing community-based marine sanctuaries. More regional universities are now involved with such programs, including Bicol University and the Visayas State College of Agriculture in Leyte. Additionally, several provincial governments, such as Negros Oriental and Bohol, have established natural resource and environment units that are assisting municipalities to

establish marine sanctuaries. They typically provide other technical support services as well. The Bureau of Fisheries and Aquatic Resources (BFAR) has also established a fisheries and coastal resource management unit within the administrative framework of their regional offices. Additionally, a large number of non-governmental organizations (NGOs), such as Haribon, have become actively involved with community-based coastal management initiatives. These developments, coupled with large amounts of external funding for coastal resources management initiatives, are clearly contributing to the rapid expansion of the community-based marine sanctuary concept in coastal communities throughout the nation.

Many questions remain unanswered, and more in-depth research is still needed to understand more clearly how approaches play out in a large number of situations in hundreds of coastal communities. This is essential if progress is to be made on improving the success rate of community-based marine sanctuaries in the Philippines. This is made even more important as the Philippine Fisheries Code calls for 15 percent of municipal waters to be set aside as fish sanctuaries. Hence, even greater efforts are needed at building capacity at the local level and among local/regional institutions that can provide support and assistance to municipal governments and community organizations.

The information provided in this report, which is based on the results of the focus group discussions, is being used as inputs into field research activities, which are being carried out subsequent to these meetings. Some preliminary hypotheses concerning community-based marine sanctuaries that have been extracted from the focus group discussions are stated in the box below. The field research will attempt to empirically verify or not, the conclusions and hypotheses of many experts concerning factors influencing the success of community-based marine sanctuaries in the Philippines. The results will also be used to provide guidance to Indonesian colleagues attempting to emulate the Philippine experience with community-based marine sanctuaries, and who are considering development of institutional systems in North Sulawesi for replication of their early stage experience. It is also expected that the contents of this report will be of equal value to many individuals and institutions in the Philippines who are assisting coastal communities throughout the country to establish and implement community-based marine sanctuaries and a host of other community-based management initiatives. Additional opportunities for sharing experiences and elaborating on successful approaches to establishing community-based marine sanctuaries will take place during the joint Philippine –Indonesian workshop scheduled for September 2000, which will be held in Davao and Manado.

Some Hypotheses for Successful Community-Based Marine Sanctuaries

1. The community's sense of ownership over the marine sanctuary is essential and requires substantial participation by the community in planning and implementation phases.

2. Capability building of the community and the local group tasked to manage the marine sanctuary is an important activity that is given emphasis throughout the sanctuary planning phase and continuing into implementation. Without sufficient local capacity for management, the likelihood of sustained success of the marine sanctuary is less certain.

3. Community-based marine sanctuaries will be more successful if they are co-management regimes, where the community and local government units actively cooperate for planning and implementation.

4. It will be easier and quicker to achieve successful establishment of a marine sanctuary in communities, which have strong and supportive local leadership at the start of the planning process. Once a strong community constituency is in place and a marine sanctuary is formally established, changes in local leadership which may or may not support the marine sanctuary initially, will be less important and have less impact on its success.

5. Community-based marine sanctuaries may be more successful if they function as part of larger coastal management initiatives, either within the community itself or within the larger area in which the community resides.

6. The type of institution (NGO, government, university) providing the interventions or assistance to a community for establishing a marine sanctuary is less important than the qualities of the institution. These qualities include an understanding of the participatory planning process, supportive and committed leadership, as well as the availability of sufficient resources and talented field workers. Ideally, the supporting institution is located within the province or region where the community resides.

7. Once a community-based marine sanctuary is formally established, sustainability is more likely if there is continued networking and engagement with an external supporting institution.

8. Within a nation or region, which has few or no existing examples of successful community-based marine sanctuaries, institutions will need to strongly promote the marine sanctuary concept. In the initial communities where the marine sanctuaries are established, it will take a longer length of time, and most likely will require a full time field worker living in the community. Once the marine sanctuary concept is well known and demanded by communities and local government, the length of time needed to establish a sanctuary in any given community will lessen, and it may not be necessary to have a field worker living in the community full time.

9. Well-supported pilot community-based marine sanctuary sites tend to be successful. However, when scaling up from pilot sites to more widespread replication, a large percentage of the replicate sites may fail and the initial success rate may be quite low. Over time, as experience is gained, and if the promoting institutions exhibit an adaptive management and learning culture, the success rate will ultimately improve.

10. Enabling legislation that empowers and legitimizes local community and government control to establish community-based marine sanctuaries is very important. The absence of such legislation will slow the speed at which replication can occur, and the presence of such legislation will increase the rate at which replication can proceed.

11. Community-based marine sanctuaries can be one of many effective regional or national approaches to integrated coastal resources management. However, this will require significant investments in institutional capacity building and most likely will take a decade or more before substantial results are evident.

Ringkasan Eksekutif

(Executive Summary in Bahasa Indonesia
by Chris Rotinsulu and Johnnes Tulungen)

Sekelompok yang terdiri dari 54 praktisi lapangan dan para ahli yang memiliki pengalaman luas dalam pengelolaan sumberdaya wilayah pesisir berbasis masyarakat dan pengelolaan daerah perlindungan laut di Filipina, mewakili berbagai kelompok lembaga dan latar belakang yang berbeda-beda berpartisipasi dalam empat fokus group diskusi masing-masing selama satu hari (empat hari diskusi kelompok) dalam bulan pertama di Milenium ketiga ini. Tujuan dari pertemuan ini adalah untuk mendiskusikan dan merangkum pengalaman dan pelajaran yang berhubungan dengan penetapan, implementasi, promosi dan penyebarluasan replikasi dari daerah perlindungan laut berbasis masyarakat di Filipina.

Laporan ini merangkum hasil diskusi yang telah diselenggarakan. Rangkuman ini menjelaskan apa yang dimaksud dengan daerah perlindungan laut berbasis masyarakat dan apa manfaatnya yang potensial. Laporan ini menggambarkan konsep kerangka kerja atau model yang umum yang digunakan di Filipina dan variasi dalam model ini dapat ditemukan diantara sejumlah contoh yang saat ini ada di ratusan municipal di pesisir Filipina. Laporan ini juga merinci kisaran ukuran keberhasilan dan konteks yang potensial serta faktor-faktor intervensi proyek yang dipertimbangkan dalam mempengaruhi keberhasilan. Lampiran dari laporan ini terdiri dari; sebuah makalah latar belakang yang dibagikan kepada para peserta sebelum diskusi; agenda dan pertanyaan diskusi; susunan daftar lokasi-lokasi daerah perlindungan laut; sebuah daftar peserta fokus group; daftar refrensi pilihan; ringkasan evaluasi peserta dan sebuah contoh aturan penetapan daerah perlindungan laut dan pelestarian laut tingkat municipal.

Filipina sampai saat ini sudah memiliki lebih dari dua dekade pengalaman pendirian dan pengelolaan DPL berbasis masyarakat dan memiliki sejumlah literatur yang banyak mendokumentasi pengalaman dan pelajaran sehubungan dengan DPL-DPL ini. Ratusan DPL ini telah didirikan dan dilaksanakan, tetapi tidak diketahui dengan pasti berapa banyak yang dapat dikatakan berhasil. Banyak orang percaya bahwa sejumlah besar DPL berbasis masyarakat ini belumlah berhasil dengan baik sesuai harapan dan alasan yang diperkirakan mempengaruhi keberhasilan dan kegagalan tersebut didiskusikan dalam empat diskusi fokus group ini.

DPL dapat secara umum diartikan sebagai daerah yang ditutup secara permanen dimana semua kegiatan ekstraktif manusia dilarang, terutama menangkap ikan. Hal ini juga berkenaan dengan “Zona dilarang mengambil”. Di Pilipina definisi ini digunakan di banyak kawasan yang disebut daerah perlindungan ikan, daerah perlindungan laut dan dalam beberapa contoh juga pelestarian laut. Meskipun demikian pelestarian laut umumnya diartikan sebagai tempat dimana beberapa kegiatan diatur tetapi tidak merupakan zone dilarang mengambil yang ekslusif. DPL dapat dapat dibentuk secara individu tetapi biasanya terkonsentrasi sebagai zona inti dalam kawasan pelestarian yang lebih luas, dimana kawasan pelestarian atau zone penyangga melarang beberapa kegiatan tetapi tidak semua kegiatan disekitar daerah inti perlindungan. Ada banyak hal yang

membingungkan di Pilipina sehubungan dengan istilah ini, terutama pada tingkat pemerintah lokal. Oleh karena itu dalam beberapa contoh daerah yang disebut pelestarian laut dapat juga merupakan "daerah yang dilarang keras mengambil" dan beberapa kawasan yang disebut DPL dapat merupakan kawasan yang diatur tetapi tidak harus secara permanen ditutup atau sebagai kawasan dilarang mengambil.

Tujuan dari fokus group adalah ingin menuju pada satu konsensus sehubungan dengan model apa yang seharusnya dipakai di Pilipina untuk menetapkan DPL-BM, tetapi untuk dengan lebih baik memahami kisaran pendekatan yang sedang digunakan. Sementara sebuah kerangka kerja umum dimunculkan, terdapat banyak adaptasi dan variasi dalam kerangka kerja dasar. Adaptasi tergantung pada konteks lokal secara situasional dan jenis lembaga yang terlibat. Terdapat juga banyak filosofi yang berbeda sehubungan dengan pendekatan yang spesifik dan waktu serta urutan dari berbagai macam intervensi.

Langkah-langkah umum dari penetapan dan implementasi DPL-BM adalah: (1) tahap masuk ke masyarakat, persiapan dan penilaian; (2) perencanaan yang termasuk pembentukan kelompok inti, pemilihan lokasi perlindungan, pembentukan aturan, penentuan mekanisme pengelolaan dan pengaturan keuangan; (3) peresmian melalui persetujuan sebuah aturan municipal, perencanaan dan penganggaran; dan (4) implementasi. Beberapa hal berlangsung selama proses dan terutama dalam tahapan sebelum implementasi. Hal-hal tersebut termasuk pembentukan kemampuan masyarakat, pendidikan umum dan partisipasi masyarakat, monitoring dan evaluasi. Elemen kunci dalam strategi implementasi termasuk penugasan penyuluh lapangan tetap di masyarakat mulai dari tahap paling awal melalui masa implementasi oleh masyarakat. Juga, penting dalam waktu yang panjang, karena terdapat perubahan dalam peran diantara masyarakat, penyuluh lapangan dan lembaga yang melibatkan diri. Pada masa ini secara berangsur-angsur tanggung jawab masyarakat bertambah sejalan dengan bertambahnya kemampuan mereka dan usaha-usaha petugas lapangan di masyarakat mulai berangsur diperkecil. Meskipun demikian, kelanjutan hubungan dengan lembaga-lembaga dari luar dalam satu wilayah dan sistem dukungan mereka sangat diharapkan untuk memastikan kelanjutan dari usaha ini.

Umumnya peserta merasa bahwa lembaga eksternal perlu memiliki komitment atau kemauan untuk terlibat dengan masyarakat setidaknya dalam masa dua sampai tiga tahun untuk mencapai keberhasilan dan kesinambungan program, tetapi sulit untuk menduga berapa waktu yang diperlukan di setiap tempat. Meskipun demikian lembaga yang melibatkan diri perlu untuk tetap terlibat dengan baik sampai tahap implementasi sebelum upaya-upaya dalam masyarakat dari lembaga yang terlibat mulai mengurangi kegiatannya. Setelah DPL ditetapkan, beberapa manfaat (masyarakat diberdayakan, pemasukan dari wisata, kelimpahan ikan bertambah di dalam DPL) dapat dilihat dengan lebih cepat, namun perlu antara tiga sampai lima tahun setelah DPL ditetapkan untuk melihat manfaat jangka panjang seperti yang sudah dikemukakan yaitu pertambahan dalam produksi perikanan terjadi. Selama tahap implementasi, peran lembaga yang terlibat adalah terutama pada monitoring dan evaluasi, dan dukungan teknis seperlunya yang bersifat ad-hoc.

Keberhasilan dapat diukur dalam berbagai cara tetapi peserta diskusi tidak mempertimbangkan jumlah DPL yang ditetapkan dan aturan-aturan yang dibuat sebagai ukuran keberhasilan yang baik. Sementara konservasi laut adalah sebuah pertimbangan penting untuk menetapkan DPL, dan beberapa bentuk manfaat bagi masyarakat adalah hal yang penting. Manfaat masyarakat yang terutama adalah berkaitan dengan membaiknya produksi perikanan dan pemberdayaan masyarakat yang lebih luas. Manfaat wisata juga memungkinkan, namun, kelompok diskusi menekankan bahwa dari banyak contoh dimana manfaat keadilan sosial ekonomi antara masyarakat dan pelaksana bisnis dari luar telah menjadi satu issue. Maka dari itu wisata selain secara potensial bermanfaat, juga dapat dapat dilihat sebagai satu ancaman bagi struktur masyarakat dan bagi lingkungan laut. Oleh karena itu tujuan DPL ini perlu dipertimbangkan dan direncanakan secara hati-hati.

Banyaknya faktor-faktor yang berhubungan dalam masyarakat dan sistem geografis yang lebih luas mempengaruhi keberhasilan dari inisiatif yang dilakukan. Sementara diskusi yang dilakukan mendapati bahwa sulit untuk memprioritaskan faktor-faktor yang mana yang paling penting dan kapan faktor-faktor ini berpengaruh, kepemimpinan dan dukungan lokal yang kuat merupakan satu element penting yang sering dibicarakan.

Dalam menjawab pertanyaan mengenai mengapa beberapa upaya menetapkan DPL-BM gagal, maka kurangnya partisipasi dalam proses perencanaan sering diungkapkan. Sementara partisipasi merupakan satu strategi intervensi proyek yang mendasar, tujuannya adalah untuk membangun rasa kepemilikan masyarakat dan dukungan lokal dalam mendukung DPL. Tanpa komitmen dari masyarakat, kerelaan mengikuti aturan main serta kerelaan waktu dan investasi sumberdaya yang diperlukan, komitmen dari anggota masyarakat tidak akan datang. Satu dukungan berbasis masyarakat yang kuat dalam mendukung DPL juga sepertinya dapat merupakan satu faktor penagkal di tempat-tempat dimana terjadi perubahan kepemimpinan politik yang bisa saja tidak mendukung konsep DPL. Tantangan lain yang diungkapkan peserta diskusi adalah perlu bagi unit-unit pemerintah lokal untuk memberikan komitmen keuangan dalam implementasi kegiatan-kegiatan seperti pemasangan tanda batas dan patroli penegakakan aturan. Sementara anggaran pemerintah lokal Pilipina telah meningkat secara substansial semenjak pelaksanaan undang-undang pemerintah lokal tahun 1991, namun masih terdapat kekurangan dana dalam persaingan sekian banyak prioritas pembangunan, jadi tanpa dukungan pemerintah lokal, pendanaan untuk pelaksanaan tidak ada kepastian.

Faktor-faktor keberhasilan yang penting adalah termasuk implementasi dari model yang tepat, keputusan kegiatan yang baik, partisipasi masyarakat yang cukup dan dukungan yang cukup, pengembangan kemampuan masyarakat yang memadai, pemilihan lokasi yang benar, petunjuk yang jelas dan sah, adanya dukungan dari pemimpin setempat, hubungan yang berlanjut antara masyarakat, dukungan sistem-sistem dan lembaga di tingkat lokal dan regional. Peserta merasa bahwa pengembangan berbagai bentuk mata pencaharian tambahan merupakan komponen penting dari program DPL karena tingginya tingkat kemiskinan yang ada di wilayah pedesaan pesisir yang sangat tergantung pada perikanan sebagai mata pencaharain utama kereka. Walaupun demikian peserta lain merasa bahwa dari titik pandang konsep hal ini penting, tetapi secara praktis hanay

beberapa contoh komponen mata pencaharian tambahan ini merupakan strategy yang berhasil.

Idealnya, daerah perlindungan laut berbasis masyarakat yang terbaik merupakan bagian dari masyarakat luas yang berinisiatif dalam pengelolaan sumberdaya-sumberdaya pesisir. DPL juga dapat menjadi strategi efektif yang merupakan pintu masuk dalam menjawab isu-isu pengelolaan pesisir yang lebih luas dengan masyarakat atau dalam konteks geografi yang lebih besar. Umumnya para peserta sepakat pada saat ini, bahwa inisiatif berbasis masyarakat di Pilipina harus dilakukan dengan regim pengelolaan bersama (co-management), terutama dalam hubungan dengan Undang-Undang desentralisasi pemerintah lokal tahun 1991 (RA 7160) dan Undang-Undang Perikanan Pilipina tahun 1998 (RA 8550) . Sementara itu investasi dan tanggung jawab yang nyata terjadi di tingkat masyarakat, harus terintegrasi dengan baik dalam sistem pemerintahan municipal. Oleh karena itu, pengelolaan berbasis masyarakat di Pilipina dapat diartikan sebagai kelompok-kelompok masyarakat bekerja bergandengan tangan dengan unit-unit pemerintahan lokal.

Keberhasilan tidak hanya ketergantungan pada apa yang telah dilakukan pada tingkat desa tetapi juga pada lembaga yang terlibat dan yang akan mereplikasi DPL-BM di suatu negara atau di kawasan regional. Kunci-kunci keberhasilan ini termasuk : tingkat ketrampilan dari petugas lapangan yang ditugaskan di masyarakat dan tingkat upaya dan keahlian teknis yang digunakan disetiap lokasi; pemahaman yang baik dari pendekatan-pendekatan berhasil, dekatnya lembaga pendukung di tingkat lokal bagi masyarakat; keinginan politik pemerintah dan dukungan pada konsep perlindungan laut berbasis masyarakat melalui kepemimpinan organisasi; strategi dan tujuan organisasi yang jelas; sumberdaya manusia dan logistik yang cukup; pendekatan pengelolaan yang dapat diadaptasikan dalam situasi dan konteks yang berubah-ubah; harapan-harapan yang wajar terhadap waktu dan usaha yang diperlukan, serta; kelanjutan keterlibatan dengan masyarakat pada saat daerah perlindungan itu ditetapkan.

Situasi kelembangan di Pilipina saat ini secara dramatis berbeda dengan situasi pada tahun 1980-an ketika model awal DPL-BM umumnya ditetapkan di bawah satu rejim terpusat. Kerangka kerja kelembagaan pada saat ini lebih tersusun secara desentralisasi. Perubahan penting lainnya adalah sekarang ini yaitu lembaga-lembaga yang terlibat harus meyakinkan masyarakat dan pemerintah lokal akan perlunya serta manfaat dari DPL. Pada saat ini kesadaran akan manfaat DPL adalah lebih tinggi, baik antara pejabat pemerintah lokal dan masyarakat umum. Maka dari itu lembaga yang terlibat sering bekerja dalam satu situasi yang didorong oleh keinginan dimana masyarakat dan pejabat lokal meminta bantuan, daripada lembaga yang terlibat perlu memperkenalkan konsep terlebih dahulu terhadap apa yang biasanya pada awalnya orang-orang enggan atau ragu. Sulawesi Utara, Indonesia masih dalam fase awal dari pengembangan program , sama halnya dengan Pilipina pada lima atau sepuluh tahun yang lalu. Dukung yang nyata di antara pejabat di Propinsi dan di Kabupaten Minahasa sedang mencuat, masih diperlukan peningkatan kesadaran konsep DPL-BM pada semua tingkatan saat ini.

Perkembangan baru di Filipina sekarang ini adalah makin banyaknya lembaga yang punya kapasitas di tingkat lokal dan propinsi untuk membantu masyarakat dalam membangun DPL berbasis-masyarakat. Lebih banyak universitas lokal sekarang terlibat dalam program ini, termasuk Universitas Bycol dan Sekolah Tinggi Pertanian Visayas di Leyte. Tambahan lagi, beberapa propinsi seperti Negros Oriental dan Bohol telah membentuk unit Lingkungan dan Sumberdaya Alam yang membantu municipalities membuat DPL dengan memberikan bantuan teknis. Biro Perikanan dan Sumberdaya Perairan (BFAR) juga telah membentuk unit pengelolaan sumberdaya pesisir dan perikanan di kantor daerah mereka. Perkembangan ini ditunjang oleh pendanaan yang besar dari luar bagi upaya-upaya pengelolaan sumberdaya pesisir secara nyata menyumbang bagi kecepatan pembentukan konsep-konsep DPL berbasis masyarakat di seluruh negara ini.

Banyak pertanyaan yang masih belum dijawab, dan memerlukan lebih banyak penelitian yang mendalam untuk memahami dengan lebih jelas bagaimana pendekatan-pendekatan tersebut berperan dalam sejumlah besar situasi dalam ratusan DPL. Hal ini penting jika keberhasilan ingin dicapai dalam memperbaiki tingkat keberhasilan DPL-BM di Pilipina. Hal ini juga bahkan menjadi lebih penting sebagaimana UU Perikanan Pilipina menyebutkan bahwa untuk 15 % perairan municipal akan ditetapkan sebagai Daerah perlindungan ikan. Oleh karena itu, bahkan diperlukan usaha-usaha yang lebih besar dalam membangun kemampuan di tingkat lokal dan diantara lembaga-lembaga lokal/regional yang dapat memberikan dukungan dan bantuan bagi pemerintah municipal dan organisasi-organisasi masyarakat.

Informasi yang diberikan dalam laporan ini adalah berdasarkan hasil diskusi fokus group, dan akan digunakan sebagai masukan bagi kegiatan penelitian lapangan yang dilakukan setelah pertemuan ini. Penelitian lapangan akan mencoba secara empiris menguji, kesimpulan dan hipotesis dari banyak ahli sehubungan dengan faktor-faktor yang mempengaruhi keberhasilan DPL-BM di Pilipina. Hasil penelitian tersebut juga akan digunakan untuk memberikan panduan bagi rekan-rekan di Indonesia untuk mencoba berusaha menyamai atau melebihi pengalaman Pilipina dengan DPL-BM, dan sedang mempertimbangkan pengembangan sistem kelembagaan di Sulawesi Utara untuk mereplikasi tahap awal dari pengalaman mereka. Diharapkan juga bahwa isi dari laporan ini akan bermanfaat juga bagi lembaga-lembaga dan individu di Pilipina yang membantu masyarakat pesisir di seluruh pelosok negeri dalam mendirikan dan melaksanakan DPL-BM dan kepada sejumlah pelaksana pengelolaan berbasis masyarakat. Kesempatan tambahan untuk saling membagi pengalaman dan bekerjasama untuk belajar dari pendekatan yang berhasil dalam menetapkan DPL-BM akan berlangsung selama lokakarya bersama Indonesia-Pilipina yang dijadwalkan pada Bulan September 2000, dan akan dilaksanakan di Davao dan Manado.

Beberapa Hypotesa bagi Keberhasilan
Daerah Perlindungan Laut Berbasis-Masyarakat

1. Rasa memiliki masyarakat yang kuat terhadap Daerah Perlindungan Laut (DPL) sangat penting dan membutuhkan partisipasi yang nyata oleh masyarakat dalam tahap-tahap perencanaan dan pelaksanaan.

2. Pengembangan kapasitas masyarakat dan kelompok yang bertugas untuk mengelola DPL haruslah merupakan kegiatan penting dan diberi penekanan utama selama tahap perencanaan DPL dan diteruskan sampai tahap pelaksanaan. Tanpa kapasitas yang cukup bagi pengelolaan, maka kemungkinan untuk mencapai keberhasilan yang lestari dari DPL sulit untuk dijamin.

3. DPL Berbasis-Masyarakat (DPL BM) haruslah menganut pendekatan co-management, dimana masyarakat dan pemerintah setempat secara aktif bekerja bersama selama tahap perencanaan dan pelaksanaan.

4. Akan lebih mudah dan cepat untuk mencapai keberhasilan pembuatan DPL dalam masyarakat yang memiliki pemimpin lokal yang kuat dan mendukung sejak awal proses perencanaan. Saat dukungan yang kuat dari masyarakat diperoleh dan DPL secara resmi didirikan, perubahan dalam kepemimpinan lokal yang kemungkinan akan mendukung atau tidaknya DPL, tidak penting dan akan kurang berpengaruh terhadap keberhasilan DPL.

5. DPL BM akan lebih berhasil apabila berada dibawah pengelolaan pesisir yang lebih luas, baik di dalam masyarakat itu sendiri maupun di dalam areal yang lebih besar dimana masyarakat itu tinggal.

6. Jenis lembaga (LSM, Pemerintah, Universitas) yang memberikan bantuan atau intervensi kepada masyarakat untuk mendirikan DPL tidak terlalu penting dibandingkan dengan kualitas lembaga. Lembaga tersebut harus memahami proses perencanaan partisipatif, mempunyai kepemimpinan yang supportive dan punya komitment, memiliki sumderdaya yang cukup dan tenaga pendamping masyarakat yang terlatih. Idealnya lembaga pendukung tersebut harus berada dalam propinsi atau daerah dimana masyarakat tersebut tinggal.

7. Setelah DPL BM secara formal didirikan, dibutuhkan adanya hubungan kerja yang terusmenerus dan keterlibatan dengan lembaga pendukung dari luar.

8. Di negara atau daerah yang mempunyai sedikit atau tidak contoh-contoh DPL BM, lembaga yang terlibat perlu secara terus-menerus dan nyata mempromosikan konsep DPL. Di dalam masyarakat dimana DPL akan didirikan, akan diperlukan waktu yang cukup lama dan membutuhkan tenaga pendamping masyarakat untuk tinggal secara permanen dengan masyarakat.

9. DPL BM yang didukung secara baik kecenderungan keberhasilannya akan besar. Namun saat replikasi ditingkat yang lebih besar untuk tempat yang lebih banyak, maka dapat diharapkan bahwa persentasi replikasi yang gagal akan besar atau tingkat keberhasilannya akan rendah. Sejalan dengan berlalunya waktu, saat pengalaman semakin baik dan banyak diperoleh, dan jika lembaga pelaksana yang mempromosikan DPL BM menerapkan pengelolaan yang adaptive dan budaya belajar dari pengalaman, maka tingkat keberhasilannya pasti akan semakin baik dicapai.

10. Perbaikan kebijakan dan aturan yang memperkuat dan mengakui kewenangan masyarakat dan pemerintah setempat (lokal) untuk mendirikan DPL BM adalah sangat penting. Ketiadaan aturan akan memperlambat kecepatan dimana replikasi dilakukan sedangkan adanya aturan akan mempercepat tingkat keberhasilan dimana replikasi DPL BM dilakukan.

11. DPL BM dapat dipandang sebagai salah satu pendekatan yang efektif dari berbagai pendekatan daerah maupun nasional dalam pengelolaan sumberdaya wilayah pesisir terpadu. Namun diperlukan investasi yang besar bagi pengembangan kapasitas kelembagaan serta akan membutuhkan waktu yang panjang, sepuluh tahun atau lebih, sebelum hasil yang nyata diperoleh.

1. Introduction

1.1 Project Overview

The Coastal Resources Center of the University of Rhode Island (CRC) was awarded a three-year grant in September 1999, from the David and Lucile Packard Foundation to foster marine conservation in Indonesia. The overall goal of the project is to build local capacity in North Sulawesi Province to establish and successfully implement community-based marine sanctuaries. The project builds on previous and on-going CRC field activities in North Sulawesi supported by the USAID Coastal Resources Management Project, locally known as *Proyek Pesisir*. While the primary emphasis of the project is on Indonesia, it includes a significant Philippine component in the first year. The project objectives are to:

- Document methodologies and develop materials for use in widespread adaptation of community-based marine sanctuary approaches to specific site conditions
- Build capacity of local institutions in North Sulawesi to replicate models of successful community-based marine sanctuaries by developing human resource capacity and providing supporting resource materials
- Replicate small-scale community-based marine sanctuaries in selected North Sulawesi communities through on-going programs of local institutions

Activities in the first year of the project are focusing on documenting the limited Indonesia experience and the more than two decades of Philippine experience in establishing and replicating community-based marine sanctuaries.

The Philippine experience is highly relevant to Indonesia for several reasons. First, the initial models of community-based marine sanctuaries recently established in North Sulawesi are based on Philippine examples which were catalyzed by cross visits between Apo Island and several *Proyek Pesisir* field sites. Secondly, Indonesian community-based marine sanctuaries are quite new and there is very little implementation experience yet to draw on. The Philippines has a long history of experience and a large number of sites where community-based marine sanctuaries are being implemented. Therefore, it is felt that the Philippines experience can help inform Indonesian counterparts on how to establish and successfully implement community-based marine sanctuaries.

The second and third years of the project will build on and complement the efforts and outputs of the first year, with an emphasis on disseminating information, producing educational materials and capacity building of local institutions in North Sulawesi to establish successful community-based marine sanctuaries.

1.2 Philippine Component

Philippine Project Activities: A number of project activities will take place in the Philippines between January and September 2000, to review and assess Philippine community-based marine sanctuary (CB-MS) experience. The substantial history and the

large number of CB-MS sites established to date, is why the project has chosen the Philippines as the focus for documentation of experience and lessons learned. Activities include a compilation and review of existing literature as well as interviews and focus group discussions with Philippine experts and leaders in CB-MS to determine a set of factors (contextual apriori conditions and project interventions) and hypotheses which lead to successful CB-MS and their replication. This will be followed by a field study of approximately 50 CB-MS sites to empirically test and validate hypothesized success factors, and preparation of a few selected successful and unsuccessful case studies that illustrate these factors. Philippine activities will culminate with the organization of a workshop between individuals and institutions involved in the establishment and implementation of CB-MS from the Philippines and Indonesia. The purpose of this workshop will be to:

- Share experience and lessons between the two countries
- Discuss and review the focus groups and field study findings, and in-depth case studies
- Elaborate on guidance—approaches and critical factors—for establishing successful community-based marine sanctuaries

Project Outputs: Outputs of the Philippine activities will be documentation of the experience and lessons learned for establishing and implementing community-based marine sanctuaries. Several products will be developed including:

- Report on the focus group sessions
- Report on field research and analysis
- Proceedings of the Philippines – Indonesia workshop

The reports on the focus group discussions and field research will be interim documents distributed to individuals who participated and contributed to these efforts as well as to others interested in this topic. The data collected for the field research will also be made available to individuals and organizations that have contributed to the information within it. The most important document produced from this effort will be the proceedings of the workshop. The proceedings will contain results of the focus group sessions and field research, several in-depth case studies from the Philippines, several papers documenting the early community-based marine sanctuary experience in Indonesia, summary of discussions in the workshop, and a synthesis paper. The synthesis paper will provide a summary of the CB-MS concept and guidance to practitioners on critical success factors for establishing and implementing community-based marine sanctuaries. The proceedings will also serve as a source document for the development of an in-depth guide on how to establish and implement community-based marine sanctuaries that will be produced in the subsequent year of the project.

The Focus Group Discussions: This report is a summary of four focus group discussions conducted with experts on community-based marine sanctuaries in the Philippines. Focus group sessions were conducted in Manila (two sessions), Cebu and Dumaguete during the last two weeks of January 2000. Each of these one-day sessions

involved approximately 10 - 20 participants each. Philippine participants were selected to ensure a wide representation of institutions involved with CB-MS projects and programs, as well as to have a mix of representatives with direct field experience and/or project management experience. Two Indonesians from North Sulawesi participated in the Cebu and Dumaguete sessions. The focus group agenda and discussion questions are detailed in Annexes 2 and 3, and the list of participants is provided in Annex 5. The purpose of the focus group sessions were to:

- Discuss conceptual models for developing and implementing community-based marine sanctuaries
- List potentially important context and project intervention factors essential for establishing successful sanctuaries
- Develop a preliminary list of existing sanctuaries for potential inclusion in the field research
- Compile existing information on these sanctuaries
- Provide recommendations and comments on the field research design and subsequent workshop

Prior to the focus group discussions, a working paper was prepared and distributed to all participants along with the meeting agenda and a list of questions to be discussed. The working paper was organized based on the objectives of the discussions listed above and the general questions listed below (see Annex 3 for the detailed list of discussion questions).

- To what extent is there a general framework or model (see section 2) that is followed in establishing CB-MS in the Philippines?
- What are the factors/variables that influence success (see section 3) including context variables (existing site conditions) and project variables (intervention strategies and actions)?
- What are the factors that lead to successful replication or institutionalized extension programs for community-based marine sanctuaries?
- Can marine sanctuaries serve as an entry point for addressing broader coastal management issues?

During the focus group sessions, one person facilitated the discussion while several other individuals took detailed notes. The Cebu and Dumaguete focus groups had a slightly larger number of participants. Therefore, several small group discussions were held followed by plenary sessions. A summary of the results of the focus group discussions including a description of a general framework or model, success factors, community based marine sanctuary sites, and comments on the research design and workshop, are provided in Sections 2-5 of this report. The report is a combination of the information initially provided in the background paper that was based on a review of the existing literature of community-based coastal resources management and marine sanctuaries as well as the outputs and comments provided by the focus group participants. Prior to these sections, some background on the history of community-based marine sanctuaries in the Philippines and the Indonesian context are provided below (Sections 1.3 and 1.4).

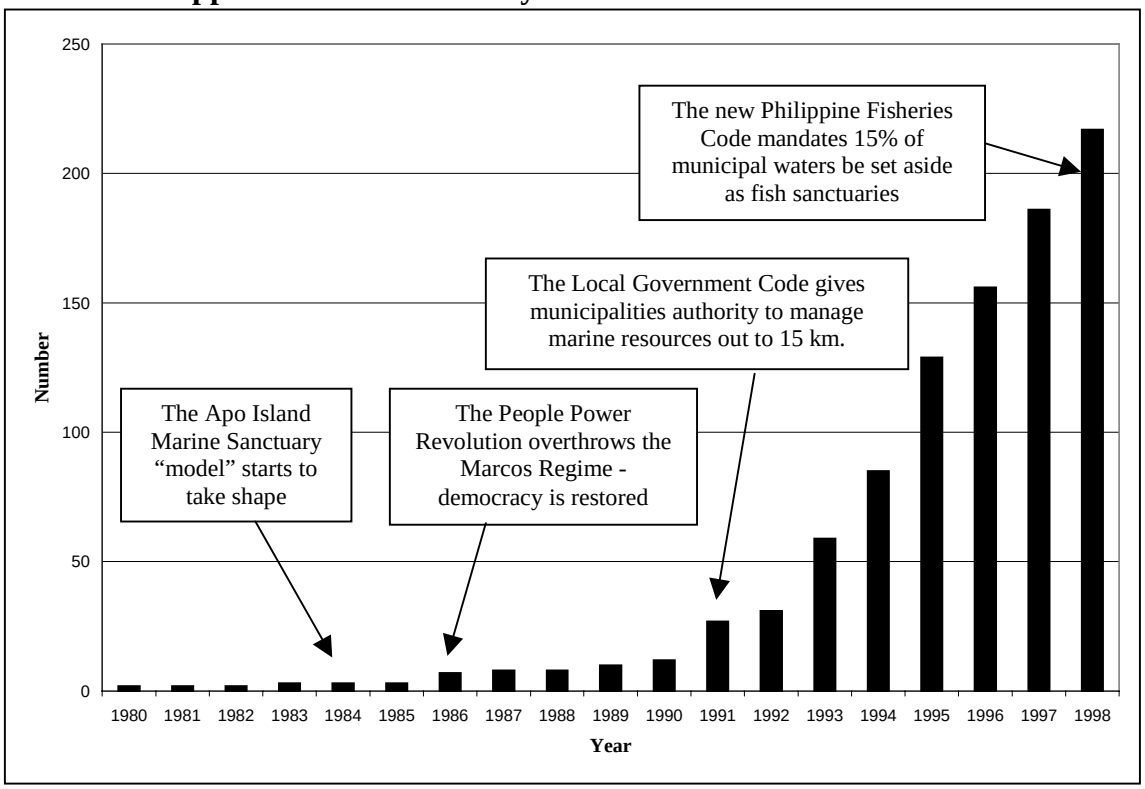
1.3 Community-Based Coastal Resources Management and Marine Sanctuaries in the Philippines

The Philippines has over two decades of experience with community-based coastal resources management (CB-CRM) initiatives where marine sanctuaries have played an important role. The first small-scale marine sanctuary was developed on Sumilon Island in the mid-70s and has been well documented over a period of more than two decades (Alcala, 1988; Russ and Alcala, 1989; 1994; Russ, *et.al*., 1992). This early experience was followed in the 1980s by projects in the Visayan region, such as the Central Visayas Regional Project (Calumpong, 1996) and The Marine Conservation and Development Program of Silliman University (White, 1989a; 1989b). These projects applied the small-scale marine sanctuary concept to coastal community development and management programs where a marine sanctuary was either a main theme of the development effort or one of several important project strategies. Over the last decade, additional projects such as the Fisheries Sector Program (Ablaza-Baluyut, 1995) and several other local and foreign-assisted projects, also started to promote the CB-MS concept. Several government agencies, universities and environmental non-governmental organizations (NGOs) have all been developing and implementing programs that CB-MS, sometimes as a component of larger coastal management initiatives.

At the turn of the millennium, there are now many marine sanctuaries located in every coastal region of the country. Parajo et al. (1999) documented the establishment of 439 marine protected areas of all types in the Philippines, a majority of which are small-scale marine reserves and sanctuaries. A list of CB-MS compiled for the field research component of this project is provided in Annex 6. Figure 1 below shows an estimate of the cumulative number of marine sanctuaries that have been established since 1980 based on this list. It shows an explosion in the number of sites established during the 1990s. Figure 1 does not represent the total number of marine sanctuaries in the Philippines at any given time, but is only the total number established in any given year based on a compilation of information available from secondary data sources gathered prior to and during the focus group discussions. Annex 6 lists over 400 sites. However, information on date established was only available for approximately half of the sites. If we assume this information is a fairly consistent sample of existing sites in the country and dates established, what is important are the trends that are apparent, not the total number of marine sanctuaries at any particular time. Many people believe a democratic governance regime is an important pre-condition to foster community-based approaches. However, the figure shows that the enabling legislation (Local Government Code of 1991) granting greater authority to municipalities (decentralization) may have been a more important trigger for the rapid rise in the number of community-based marine sanctuaries established.

While the number of marine sanctuary sites has increased over the years, there is growing concern that many of these sites are not successful. Most of the literature describes cases of successful sites and lessons learned from these examples. There is less information and literature available concerning failures and the reasons for these failures. However, in

Figure 1: Cumulative Number of Community-Based Marine Sanctuaries in the Philippines in Relation to Key Events*



* Based on the list of sites compiled in Annex 6 where the cumulative number of sites above is only for those sites where information was available on the date the marine sanctuary was established.

a recent evaluation of CB-CRM programs and projects, including those mentioned above, many of which have marine sanctuary elements, Pomeroy and Carlos (1997) stated that only 19 percent of the project sites were considered successful. When experts in CB-MS were asked individually for their opinion on what percentage of sites in the Philippines do they consider successful, the typical response was between 20-25 percent, which is very similar to the Pomeroy and Carlos assessment.

Commensurate with the rise in the number of CB-CRM and CB-MS projects and sites is the growth and evolution in the number of institutions and approaches for establishing marine sanctuaries, along with a diversity of localities where they are being applied. For instance, some marine sanctuaries are established on small island settings while others are adjacent to villages located along stretches of the larger island coastlines. Some are catalyzed by NGOs, others by universities or government agencies. Some have placed field workers full time in the community, and emphasized public education and capacity building, while others have not. Some contain a strong alternative livelihood component while some do not. Some establish local management committees and management plans while others do not. As the variety of approaches and locations becomes increasingly diverse, it is not clear to what extent these variations all lead to successful marine sanctuaries. It is useful to briefly examine the history of how these approaches have evolved over time, and this history is detailed below.

Sumilon Island in the municipality of Oslob, Cebu, was one of the first attempts at establishing a marine sanctuary in the 1970s and its history of development has been well documented (Russ and Alcala, 1994; White, 1989a). It can be argued that this first model was not a community-based approach. The main goal of the Sumilon Island marine sanctuary initially was for conservation. There was no indigenous population on the island so there was no full time community organizer on-site. There was consultation with the Municipality and an ordinance was formulated and approved. BFAR later passed a Fisheries Administrative Order protecting the island in 1980 as a nationally declared fish sanctuary. At this time the Philippines still had a centralized system of governance that required national approval of marine and fish sanctuaries. Site selection was primarily done by Silliman University researchers and initially, management was by the university and enforcement carried out by stationing a security guard on the island. The sanctuary showed initial success in terms of increases in fish abundance and fish catch in adjacent areas. However, a change in municipal leadership that was not supportive of the marine sanctuary led to the area being opened to fishing. Destructive fishing practices in the area resumed in 1984. Reef quality, fish abundance and catches quickly dropped to pre-marine sanctuary levels. The island was recently leased for a foreign tourism venture. The Sumilon marine sanctuary has gone through a series of ups and downs but is generally not considered a successful example of a community-based approach. However, it has been extremely useful from a research standpoint to show potential benefits of marine sanctuaries if properly managed, and what happens when these management measures are removed.

The next series of marine sanctuaries were established by the Marine Conservation and Development Program (MCDP) of Silliman University (White, 1989b), and the World Bank funded Central Visayas Regional Project (CVRP). Both these projects started at about the same time in the mid-80s and built on the experience gained from Sumilon Island. These projects were among the first to implement a truly community-based approach.

Unlike Sumilon Island, the MCDP had community participation and community development as a core strategy. Similar to Sumilon Island, the emphasis was on establishing marine sanctuaries on three small island sites. However, these islands had indigenous populations and field workers lived and worked full time at the island sites. The program included intensive public education activities, core group development and capability building, along with alternative livelihood development projects. Site selection was a negotiation of technical considerations and recommendations made by researchers, balanced by community concerns and aspirations. A resolution was passed at the *barangay* level, and then a municipal ordinance was formally approved establishing the marine sanctuary at each site. Fees (donations) were charged for divers, as some of these sites became popular dive destinations. The main objectives initially however, were not tourism development but biodiversity conservation and community benefits in the form of increased fish production. Alternative livelihoods and reduction of destructive fishing were also important objectives. Management committees were formed whereby membership was wholly from the community. The community took major responsibility for surveillance and enforcement. Reef monitoring was conducted by researchers but

results were shared with the community. No management plans were developed for these sites. Several case studies have written about the history and evolution of these sites (White and Savina, 1987; White, 1989a; 1989b; White and Voght, 2000; White *et. al.*, 2000)

The MCDP marine sanctuary sites have been successful at increasing fish production, stabilizing coral cover and enhancing community capacity to manage their own resources. Destructive fishing has been stopped or reduced. Several of the locations (Apo Island and Balicasag Island) have become increasingly popular for dive tourism. This has resulted in a new set of coastal resources management issues arising but which are being addressed in various ways. In the marine sanctuaries that have become popular for diving, revenues from use fees and sales of handicrafts provide some benefit to the communities. In the case of Apo Island, Silliman University has continued to provide part time involvement and encouragement over the years, and many people believe this is a contributing factor to its success. These sites demonstrate resilience, adaptability and sustainability over more than a decade of implementation.

The CVRP used a similar community development and organizing strategy similar to that carried out by the MCDP. However, CVRP included a number of packaged technologies that were promoted in community sites in order to broaden the coastal community development initiative. In addition to marine sanctuaries, water resources, mangrove reforestation and artificial reefs were also promoted as technology packages for coastal community sites. Another difference was that CVRP expanded the concept from small island communities to those that where located along larger mainland shorelines. While the project in general and particularly the marine sanctuary component were considered to be successful, the experience with the mangrove reforestation and artificial reef components was less successful (Calumpong, 1996; SUML, 1996). Another criticism of the CVRP was that baseline data was not collected, making evaluation difficult. The CVRP experience is important as it started to apply the successful CB-MS model exemplified by Apo Island, to a broader range of community contexts. It also attempted to address a broader number of coastal management issues faced by coastal communities and place them in a larger community development context.

The trend of community-based marine sanctuaries being placed in a larger CRM framework was also demonstrated in the Fishery Sector Program. This was a $180 million-dollar loan program to the Philippines from the Asian Development Bank ($150 million) and the Overseas Economic Cooperation Fund of Japan ($30 million) aimed at sustainable fisheries management (Ablaza-Baluyut, 1995; CRMP, 1997). One component of this loan focused on integrated coastal resources management in twelve priority bays. The approach used similar elements to those seen in the MCDP and CVRP, including community organizing and capacity building, development of alternative livelihood projects for fishers, development of artificial reefs and establishment of fish sanctuaries. Fish sanctuaries are usually no-take zones and are equivalent to the MCDP marine sanctuaries. An important development in the FSP was the use of local universities, NGOs and consulting firms to provide technical support for conducting resource assessments, research and extension activities, as well as the use of

NGOs for community organizing and development. In addition, the 24 fish sanctuaries established under the FSP are part of a broader CRM strategy, as one of many components of regional bay management plans.

These projects, along with many others, all had important impacts on the evolution of CB-MS and developing capacity for their establishment and replication within the country. However, the legal and jurisdictional framework also made a dramatic shift in 1991 with the passage of the Local Government Code (RA 7160, 1991). The implications of the Local Government Code and several other laws with respect to marine protected areas are described by White, *et.al.* (2000). Under this law, municipalities were given jurisdiction for fisheries management out to 15 kilometers from the shoreline. The provincial field offices of BFAR were devolved and now fell under the administrative jurisdiction of the governors. A number of other functions were also devolved to local government units (Provinces and Municipalities). In addition, revenue sharing formulas put a greater share of the national budget into the hands of the provincial administration under the governors and within the municipalities and cities under the jurisdiction of local mayors. The implications for CB-MS were dramatic. Municipalities could now establish marine sanctuaries and fish sanctuaries without the need for central government approval. For instance, under the 1990 Department of Agriculture guidelines for the establishment of fish sanctuaries (BFAR, 1990), all fish sanctuaries had to be forwarded up into the system and be approved by the Secretary of Agriculture in Manila. Under the proposed new guidelines (BFAR, 1999), fish sanctuaries are approved at the municipal level in coordination with BFAR and in consultation with the municipal fisheries and aquatic resources management councils. Hence a major bottleneck was removed by the Local Government Code.

Within the decentralized context created in 1991, the community-based marine sanctuary concept has flourished as previously illustrated in Figure 1. Barangay and Municipal Fisheries and Aquatic Resource Management Councils (FARMCs) are typically formed under the new decentralized framework. The FARMCs are an attempt to institutionalize resources management at the local level. Often, but not always, FARMCs have some form of oversight or other role concerning marine sanctuary establishment and management. Many sites have special committees or councils formed specifically to manage the marine sanctuaries. Institutional roles of these committees or councils are often detailed in the approved municipal ordinance. Examples of municipal ordinances forming a marine sanctuary and marine reserve in the municipality of Bolinao, for Apo Island in the municipality of Dauin, and for San Salvador Island are provided in Annex 7.

As the CB-MS concept became better known, communities and municipalities started to request assistance of local and national institutions to establish marine sanctuaries in their own communities. There have even been reports of communities learning about nearby examples of CB-MS and then establishing their own sanctuaries without any outside intervening institution providing support. Some provinces have started to establish natural resources and environmental offices under the administration of the governor and independent of national central agencies. These offices are funded out of the independent provincial government budget. Negros Oriental Province in particular has had a marine

resources unit providing services to municipalities (including assistance in the establishment of CB-MS and reef monitoring, among other services) for almost a decade. Bohol and several other provinces are following this lead. Central agencies such as the Department of Agriculture (BFAR is a bureau under this department) and the Department of Environment and Natural Resources (DENR) also have programs which in one way or another promote marine sanctuaries, but it seems they have been unable to meet the needs of hundreds of coastal municipalities within the nation. Hence, provincial government units are now starting to fill this gap along with regional universities and environmental NGOs.

One of the more recent trends being promoted for CB-CRM is the development of local and site-level management plans. For instance, the DENR Coastal Environmental Program (CEP) requires CEP sites (marine protected areas) to develop a management plan. The USAID-supported Coastal Resources Management Project is also promoting the development of barangay and municipal level coastal resources management plans. The new BFAR fish sanctuary guidelines also recommend that management plans be developed for municipal fish sanctuaries.

As the numbers of CB-MS have proliferated, more and more literature and case studies on CB-CRM and marine protected areas have been developed (Polotan-de la Cruz, 1993; Ferrer, *et. al.,* 1996; Brooks *et. al.,* 1997; Uychiaoco and Schoppe, *in press*). In spite of this increasing documentation of Philippine experience, and given the large number of institutions involved with projects and sites throughout the country, it is becoming increasingly difficult to assess overall progress. It is difficult to keep track of the actual number of CB-MS sites, let alone assess how successful each site is or understand how progress for the nation as a whole looks. Overall, most people would probably agree that tremendous progress is being made and in-country capacity to support CB-MS has increased substantially. However, in light of the increasing total number of sites, current institutional capacity while expanding, is having difficulty keeping pace with increasing demand from municipalities and communities that want to establish CB-MS.

Demand can be expected to increase even further as the 1998 Philippine Fisheries Code (RA 8550) has mandated that 15 percent of municipal waters be set aside as fish sanctuaries (no-take zones equivalent to what is referred to in this paper as marine sanctuaries). Issues have previously been raised and are continuing to be raised concerning capacity of NGOs, universities, as well as central and local government institutions to provide technical advice and funding for sustained planning and implementation. There are also concerns about a lack of funding for implementation. In addition, the 1980s style "Apo Island" CB-MS model is evolving and adapting as it is applied in a more diverse number of coastal community contexts. The number and complexity of issues surrounding CB-MS has also been evolving and no longer involves just destructive fishing, reef-related fisheries production and coral reef conservation.

As reef quality has declined nationwide, many of CB-MS sites are becoming popular dive tourism destinations. Business operators from outside the community have increasing influence on how these sites are used and managed. Dive tourism may bring benefits to

local communities, but it raises issues concerning equity of benefits among locals and outsiders, among others. In addition, tourism can be a new source of potential reef degradation. It will be worthwhile tracking more specifically how community-based marine sanctuaries fare in this specific context.

The Philippines has come a long way in the last 20 years of experience. The process of developing pioneering models for CB-MS and achieving widespread replication to all corners of the country is the result of multiple factors and events occurring at multiple levels. Lessons learned concerning marine protected areas in the Philippines, including CB-MS, have recently been summarized by White *et.al.* (2000). Looking towards the future, the context and response mechanisms for CB-MS in the Philippines will continue to evolve and change over time.

One lesson for Indonesia is that developing models and capacity for widespread replication takes time. It cannot be accomplished in months or even a few years, but more realistically, will take more than a decade. On the bright side however, in a period of 20 years, almost half of the municipalities in the Philippines has some form of marine sanctuary. If current trends continue, within another decade we can be reasonably assured that every coastal municipality will have a CB-MS even if the mandate for 15 percent of municipal waters to be designated as fish sanctuaries is not yet achieved. The Philippine experience demonstrates that CB-MS can make a significant contribution to coastal management nationwide. For Indonesia therefore, the vision that every village in North Sulawesi by 2020 will have a CB-MS, is a goal that can be realistically achieved.

1.4 The Indonesian Context in North Sulawesi

The time for promoting CB-MS within Indonesia is opportune, as the political context in the country has changed dramatically in the last year. In 1999, a new democratically elected national government was put into office, and two new national laws (UU 22 and UU 25) were also passed which provide provincial and regency (sub-provincial) administrations with authority to manage marine resources out to 12 and 4 nautical miles respectively. Additionally, a new ministry (Ministry for Marine Exploration and Fisheries) was also established to promote the management and development of Indonesia's vast marine resources. Increased local autonomy and participatory governance have become popular political themes. In February 2000, North Sulawesi Province became the first Indonesian province to democratically elect their governor.

The changes occurring in Indonesia are similar to the changes that occurred over a decade ago in the Philippines with the overthrow of the Marcos regime in 1986 and the passage of the Local Government Code in 1991. While different, the two nations systems of governance are converging with both showing trends towards increasing democracy, local autonomy and decentralization. Hence, Philippine experience and history in coastal resources management may hold many useful lessons for Indonesia.

Progress has been made in Indonesia with the development of several community-based marine sanctuaries and village-level integrated coastal resources management plans at

several pilot sites in North Sulawesi Province. These community-based models have the full support of national and local government.

Indonesia also faces conditions that could make more widespread replication of these pilot models a challenge. These include its geographic isolation, foreign language barriers which limit the ability of local institutions and individuals to learn about experience outside Indonesia, weak capacity of local institutions to implement community-based management programs and a centralized governance tradition that has until recently constrained local institutional ability to adopt decentralized approaches.

However, the CB-MS model is likely to be appropriate in communities that are relatively isolated, and where extrinsic factors—heavy fishing pressures from non-community members, non-localized habitat destruction from industrialization, urbanization or sedimentation from large scale adjacent watersheds—are minor or non-existent. The coastal communities of North Sulawesi and many other areas of Eastern Indonesia exhibit these conditions, making them excellent candidates for community-based management.

North Sulawesi Province (located just south of Mindanao) is an ideal location for promoting CB-MS for the following reasons:

- It is the location of several new community-based marine sanctuaries in Indonesia.
- Local institutions strongly support the community-based marine sanctuary concept.
- It is at the core of global marine biodiversity.
- Its coral reefs are in good to excellent condition.
- It is in close physical proximity to the Philippines, providing a wealth of experience on community-based marine sanctuaries.
- Most of the coastal communities in the province are rural villages with a high dependence on an agrarian and fisheries-based economy.
- The reef areas are coming under increasing pressure from expanding populations, increasing fishing pressure, destructive fishing methods, tourism, sedimentation and pollution.

Local government is currently developing a program for promoting and replicating the initial community-based examples that have been developed with assistance from the USAID Indonesian Coastal Resources Management Project (locally known as *Proyek Pesisir*). The vision for this program is one where every coastal village in the province will have a community-based marine sanctuary by 2020. It is likely that other national government programs will also adopt these examples. Based on this vision, the newly established marine sanctuary models in North Sulawesi are extremely important, as Indonesia contains approximately 20 percent of the world's coral reefs, and contains the highest marine biodiversity in the world. In addition, over two-thirds of the nation's 6000 coastal villages have adjacent coral reefs, and several hundred thousand small-scale fishers are dependent on nearshore and reef-related fisheries resources.

Regional cooperation between the Philippines and Indonesia CB-MS CB-CRM has already started. In 1997, a delegation of Indonesians including several villagers from the

pilot sites in North Sulawesi visited the Philippines to learn about community-based coastal resources management. The trip to the Apo Island marine sanctuary in particular inspired several of the Indonesian field extension workers and community representatives. Later that year, two representatives from Apo Island visited North Sulawesi and gave presentations in several of the North Sulawesi pilot sites. Hence, the Philippine experience has been the crucible for developing the initial Indonesian examples of CB-MS in North Sulawesi.

2. Models and Conceptual Framework for Community-Based Marine Sanctuaries

2.1 Definition of a Community-Based Marine Sanctuary

There are many types of marine protected areas in the Philippines. A community-based marine sanctuary (CB-MS) is generally defined in the literature as a relatively small no-take zone or permanent closed area managed by the local community. Often these "sanctuaries" or core zones are surrounded by a buffer zone with limited restrictions on human use. The buffer zone is usually referred to as the reserve area and the core zone as the sanctuary. Focus group participants provided some examples of Philippine definitions. For instance, the Bolinao municipal ordinance in Annex 7 provides an example of definitions for a marine sanctuary and marine reserve, which are core and buffer zones respectively. Combined, they make up a marine rehabilitation and replenishment area. The BFAR guidelines (BFAR, 1999) define fish sanctuaries as no-take zones where fishing and other activities are prohibited. In the Province of Negros Oriental, the Environment and Natural Resources Management Division uses the term marine reserves. In the case of Apo Island, there is a core sanctuary, surrounded by a marine reserve, and more recently, the entire island and surrounding waters have been declared a protected seascape and landscape (see Annex 7 for examples of the Apo Island ordinances). In the Bicol region, the term marine fishery reserves are used.

This proliferation of terminology can be confusing and further confusion results when these terms are translated into local dialects. For the purposes of this project and for the focus group discussions, the emphasis was on one particular type of marine protected area (as typified by the Apo Island sanctuary) which is the primary basis for adaptation and replication in Indonesia. A working definition was provided to the participants and discussed. The participants made some suggested changes in the initial definition. We did not add in the suggestion that they should be planned with significant community participation, since participation is a project intervention factor we want to test for in the field research as an independent variable determining success. However, most people believe this is one of the more important elements of a CB-MS. On the other hand, we did add in the suggestion that the local community through municipal or barangay institutions (e.g., FARMCs) or community-based peoples organizations (e.g., sanctuary committee) primarily manage them. The definition was modified into the final format provided below.

> *A community-based marine sanctuary is an area of sub-tidal marine waters where the majority of the underwater area is coral reef habitat (which may or may not include portions of inter-tidal waters and other habitats such as seagrass beds or mangroves) that has been legally designated by local government ordinance (municipal) as a protected area that permanently prohibits all human extractive resource activities (particularly fishing) and is primarily managed by the local community through municipal or barangay institutions (e.g., FARMCs), or community-based peoples organizations (e.g., sanctuary committee,*

fishers' associations). It does not include areas with seasonal closures or limited restrictions on only some extractive/fishing activities, or areas which are primarily mangrove reforestation or mangrove/seagrass reserve areas, or artificial reef areas. These community-based marine sanctuaries may be referred to locally as marine sanctuaries, fish sanctuaries, marine reserves or marine protected areas.

There was some discussion concerning what "*community-based*" means. Community-based in most cases refers to a co-management regime between local citizens or community groups working together with local government (particularly municipal government) in the planning and implementation phases. Participants mentioned that there are often several layers of local government involved, where the barangay, municipality and the province all have a role to play in the process of establishing and managing CB-MS. Collaborative management was considered by some participants to be an import factor in determining success. In some cases, they mentioned that CB-MS (which may be successful or not) do not have formal recognition by municipal ordinance, but are de-facto governance regimes which may or may not be informally supported by local government officials. In other cases, they pointed out that the community (de-facto implementation) might start enforcing a sanctuary site before a municipal ordinance is formally approved.

Participants discussed the general process for how marine sanctuaries are formalized Typically, the community first approves the marine sanctuary through a community meeting and a barangay resolution (not considered a law or an ordinance) prepared by the Barangay Council. This is not legally binding. Then, the Municipal Council approves it, at which time it attains legal status. Several participants stressed that by law (RA 8550), the Provincial Council must review municipal ordinances for consistency with existing laws and regulations. If there is no action at the provincial level after 15 days, the municipal ordinance stands and is legal. If the municipal ordinance is not submitted for provincial review, its legality can be contested in courts and violators freed from any sanctions called for in the municipal ordinance.

Participants pointed out that some marine protected areas that are managed with some degree of local government and community involvement may not fit the definition because these sites were nationally-designated (e.g., CEP sites). Additionally, some CB-MS areas are opened for extractive uses seasonally. These types would not fit the strict definition of a permanent closure described above. While the definition provided above may be clear, participants noted that political and cultural considerations often require negotiations to clarify definitions for all concerned. Some participants felt that what the area is called is not so important. However, how it is defined is important and should be determined by the community based on its understanding of what a marine sanctuary is.

In Indonesia, a community-based marine sanctuary is being defined as an area of subtidal marine environment, primarily coral reef habitat, where all extractive and destructive activities are permanently prohibited, and which has been established by a formal village ordinance with widespread support and participation of the local community. This

definition does not include mangrove reforestation areas or areas under "*sasi*" (*sasi* is a traditional form of management found in Eastern Indonesia that refers to a system of open and closed seasons, not a permanent closure or prohibition).

2.2 Benefits of a Community-Based Marine Sanctuary

Several broad categories of benefits from marine sanctuaries were presented to the participants based on a review of existing literature. These were generally defined as those that provide benefit to the community, and serve a conservation function. Specifically, they result in final outcomes such as improved reef quality, increased fish production and/or income generated from tourism. Other potential benefits include greater community empowerment. Beyond the community, government and the general public can see benefits in terms of CB-MS as a means to addressing broader CRM issues and possibly as more cost effective and sustainable over the long-term. These benefits or final outcomes can also be referred to as CB-MS impacts. Other outcomes such as widespread participation by the community in the planning process or an ordinance approved can be seen as intermediate outcomes. It is assumed that these intermediate interventions will eventually lead to the final desired results or impacts. A successful community-based marine sanctuary is the dependent variable from which a number of independent variables are hypothesized to influence success. "Success" can be measured by a number of variables. A compilation of specific success measures organized into the broad benefit categories mentioned above was presented and then modified by the focus groups. The final compiled list is provided in Table 1 below.

Table 1: Success Measures for Community-Based Marine Sanctuaries

Marine Conservation

- Increased fish abundance and diversity in the sanctuary
- Relatively stable or improved coral cover and diversity in the sanctuary. No evidence of recent human induced damage (reduction of threats such as illegal fishing and bomb/dynamite fishing)
- Rehabilitation of coastal resources that impact a larger system/network
- Recruitment /larval production for other areas
- Biodiversity conservation of global significance, e.g., tuna, marine turtles
- Enhancement of adjacent reef areas – spillover effects

Community

Socioeconomic

- Increased fish catch per unit of effort by local fishers (reef associated target species) in area adjacent to the sanctuary
- Perceptions by people in the community that fish abundance, fish catch (total catch or catch rates) and/or habitat is improving or stable.
- Perceptions by the community that they are better off.
- Alternative or supplemental livelihoods developed.
- A cleaner overall community environment.
- Greater community understanding of the value of the resources.
- Creation of environmental education sites.

Table 1: (continued)

- Establishment of a demonstration site for neighboring communities.
- Increased household income and other measures of quality of life.
- Spiritual benefits.
- Intergenerational benefits.

Governanace

- Functional management by the community and LGU is occurring as evidenced by surveillance patrols, public education activities, environmental monitoring, management institution meetings, etc.
- Enhanced self-governance, self-esteem and community empowerment as evidenced by perceptions of the people that they have greater control over the adjacent coral reef and fisheries resources of their community
- A high level of community support (approval rating) for the marine sanctuary
- Improvement of local government
- Competence and accountability of organizations involved

Broader Government and Public

- The CB-MS is a means to address broader CRM issues in the community or on a larger scale as evidenced by the extent to which other issues have been addressed in the community or larger-scale CRM programs have been established
- A CB-MS is cost effective and sustainable in the long term as evidenced by continuing funding support for implementation in local and regional government budgets, or from other sources (endowments or grants from outside donors, use fees, donations, fines, etc.)
- Neighboring communities are motivated to develop sanctuaries based on observations and perceptions of success in communities that have already established a CB-MS
- Community leaders serve as motivators and trainers for neighboring communities in the establishment of CB-MS

2.3 The General Program Model and Conceptual Framework

A general organizing framework for describing the establishment and implementation of CB-MS was presented to the focus groups and is illustrated in Figure 2. This simplified program logic model looks at what a program does in terms of resources or inputs to a program, what activities are conducted, and what are the outputs of these activities. The implementation of the activities is then assumed to result in a series of intermediate outcomes as well as final goals or impacts. A program logic model commonly includes issues, goals, objectives, strategies and actions that are logically connected. It describes how a program is supposed to work and what it is supposed to accomplish (Wholey *et al.* 1994). Conceptual frameworks for CB-MS and management of coral reefs can be found within the existing literature (White, 1989b; White *et.al.* 1994; Buhat, 1994) and are quite similar. A proposed program logic model for establishing and implementing community-based marine sanctuaries was presented. The focus groups worked on modifying this model which is illustrated in Figure 3. Different focus groups and different individuals within each focus group had varying opinions as to the number of steps in the process and

what activities should take place in each step. Figure 3 is an attempt to capture as best as possible, the opinions of all the groups and individuals. Some of the differences and variations proposed by participants are described below.

In reference to the question of whether there are different models being applied in the Philippines, participants mentioned that while there are variations to the general model presented, there are perhaps several different models that are implemented in the Philippines. One group proposed a classification based on who designates the marine sanctuary as follows:

1) Nationally designated and community-managed
2) Municipally designated (community-managed), but not nationally-designated
3) Nationally designated, but not community-based or community-managed

Another proposed classification was based on who initiated the marine sanctuary:

1) Barangay initiated, where the process begins at the community/village level, then is municipal-designated (e.g., original Apo Island model, many NGO/university initiated sites such as the CB-MS in San Salvador, Zambales and Mabini, Batangas)
2) Municipal initiated and designated (e.g., Sagay Municipality: A municipal ordinance was initiated by municipal officials, then passed by the municipal Council which formally established the MS. Intensive public education followed. It took a while to convince the community to accept the MS, to foster a sense of ownership as well as get the trust and confidence of the people in the actions taken by LGU officials.)
3) Nationally initiated and designated (e.g., older BFAR sites, CEP sites: For CEP sites, a Protected Area Management Board, with short-term and long-term members, sets the policies for the MS)
4) Nationally/provincial-initiated but municipal-designated, where national or provincial institutions initiate the process at the municipal level (e.g., FSP sites, CRMP sites)

With respect to the final outcomes or impacts, some participants suggested that this should be more specific and there should be an estimation of the length of time it will take for each impact to be attained. Some impacts may take years to achieve (e.g., increased fisheries production) while others may be achieved sooner (e.g., community empowered). In addition, it was suggested that measures of impacts should be included in the model (see Table 1 for measures of success of a CB-MS and Table 3 for examples of measures for intermediate and final outcomes at each step in the process).

Focus group participants described many variations in the framework (illustrated in Figure 3) from project to project and among different institutions. Some participants felt that while their may be many approaches or ways to classify how community-based marine sanctuaries are established or who initiated the process, it does not matter as long as there is primary local government unit (LGU) involvement in the process. The contrary view was also expressed; that success does depend on whom initiates the process and how issues are addressed within the location. Another comment was that local officials come and go with each election, hence it is important to institutionalize

management through some form of local organization or people's organization that will stay in place through a succession of local political administrations. It was also pointed out that CB-MS are often just one component of a larger CB-CRM initiative. Hence, steps 1 and 2 of the generalized model can apply to almost any CB-CRM initiative.

Table 2 below is a detailed version of Figure 3, which lists the key steps, activities and outcomes expected for establishing and implementing a CB-MS. It is an attempt to provide a basic or general framework for how institutions (NGOs, government, university, and development assistance projects) are implementing CB-MS in the Philippines based on the inputs provided by the participants.

The focus group participants emphasized a number of key project interventions that should be applied throughout the process rather than solely in any one step. These included public education and capability building as well as monitoring and evaluation. Some individuals however, felt that a monitoring and evaluation step should follow implementation. Others argued that monitoring and evaluation should be on going throughout all steps. Those participants promoting a final evaluation step felt that at some time after a period of implementation, a summative evaluation should be carried out that would then lead to adjustments in the management of the sanctuary and its management plan, if necessary. This view reflects a cyclical perspective to the model that moves through generations of planning and implementation cycles. This type of model for coastal management programs is described in more detail by Olsen *et.al.* (1998, 1999) and DENR *et. al.* (2000).

Some participants felt there should be a step prior to community entry, preparation and appraisal called site selection or pre-entry activities. This step would involve project preparation, staff hiring and training, and selecting appropriate communities or sites within an area or region for establishing marine sanctuaries. Some participants felt steps one and two should be combined. Another suggestion was that marine sanctuary site selection should be a separate step after step 2. It was suggested that a site selection step include ecological assessment of candidate sites and other adjacent areas, development of an ecological history of the area, community validation and consultation about the site including delineation of boundaries. It was mentioned that communities tend to reject the establishment of marine reserves if the site selected encompasses reef flats that are prime fishing areas. In this case, if a second best site is chosen and managed well as a reserve, it eventually becomes the next area of attraction to fishers as well as tourists.

There was also discussion about a possible final step after implementation, a phase-out or phase-down step. As this is a step undertaken by the replicating institution and not by the community, some participants felt it should be considered as an activity carried out during the implementation phase rather than as an additional separate step. Some individuals preferred the term phase-down rather than phase-out. Phase-out reflects a view that the intervening institution severs all ties permanently with the community. While this does occur in many sites, some participants felt that sustainability is enhanced if the intervening institution continues to maintain some linkages with the community

Figure 2: A Program Logic Model

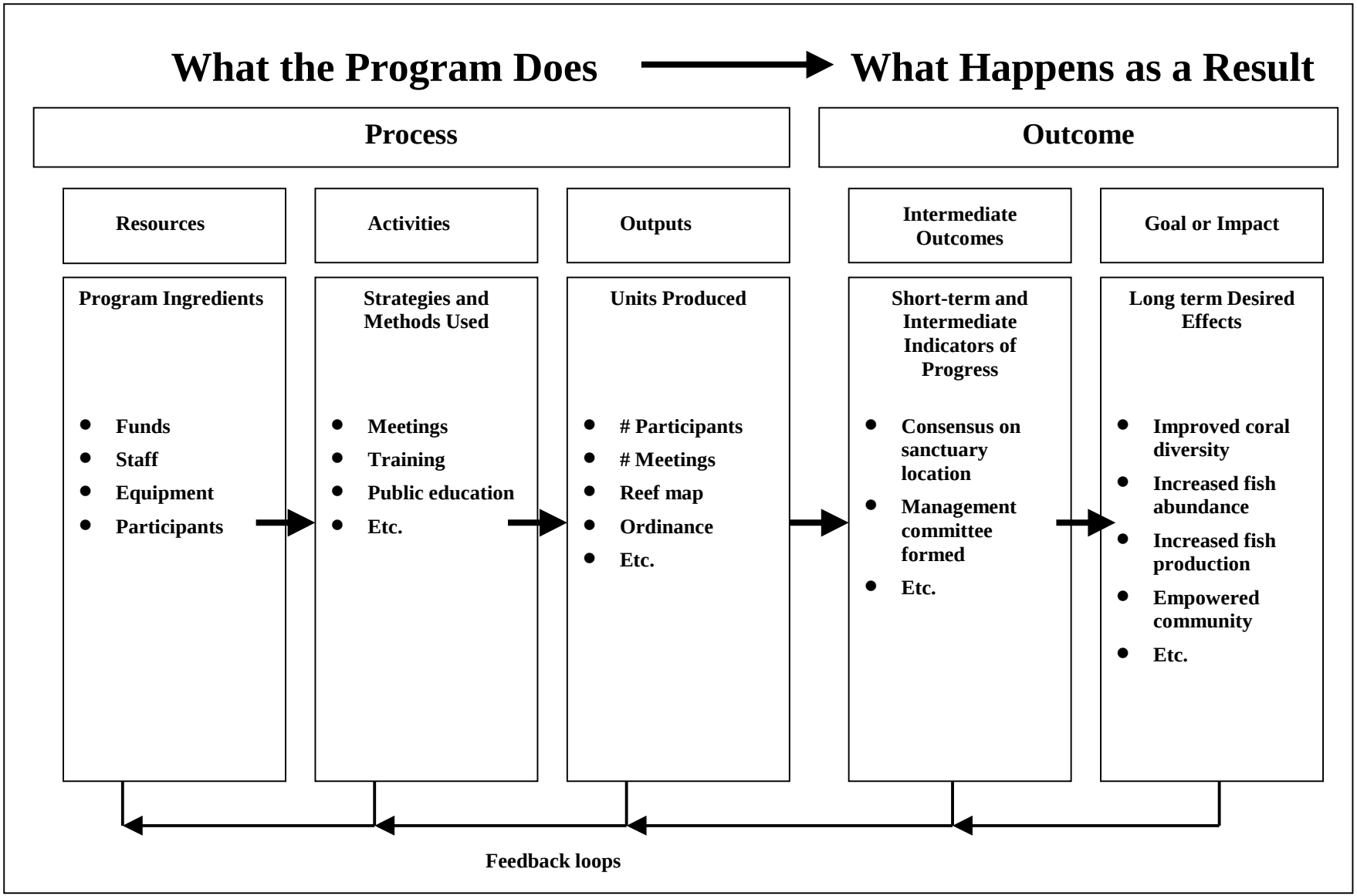
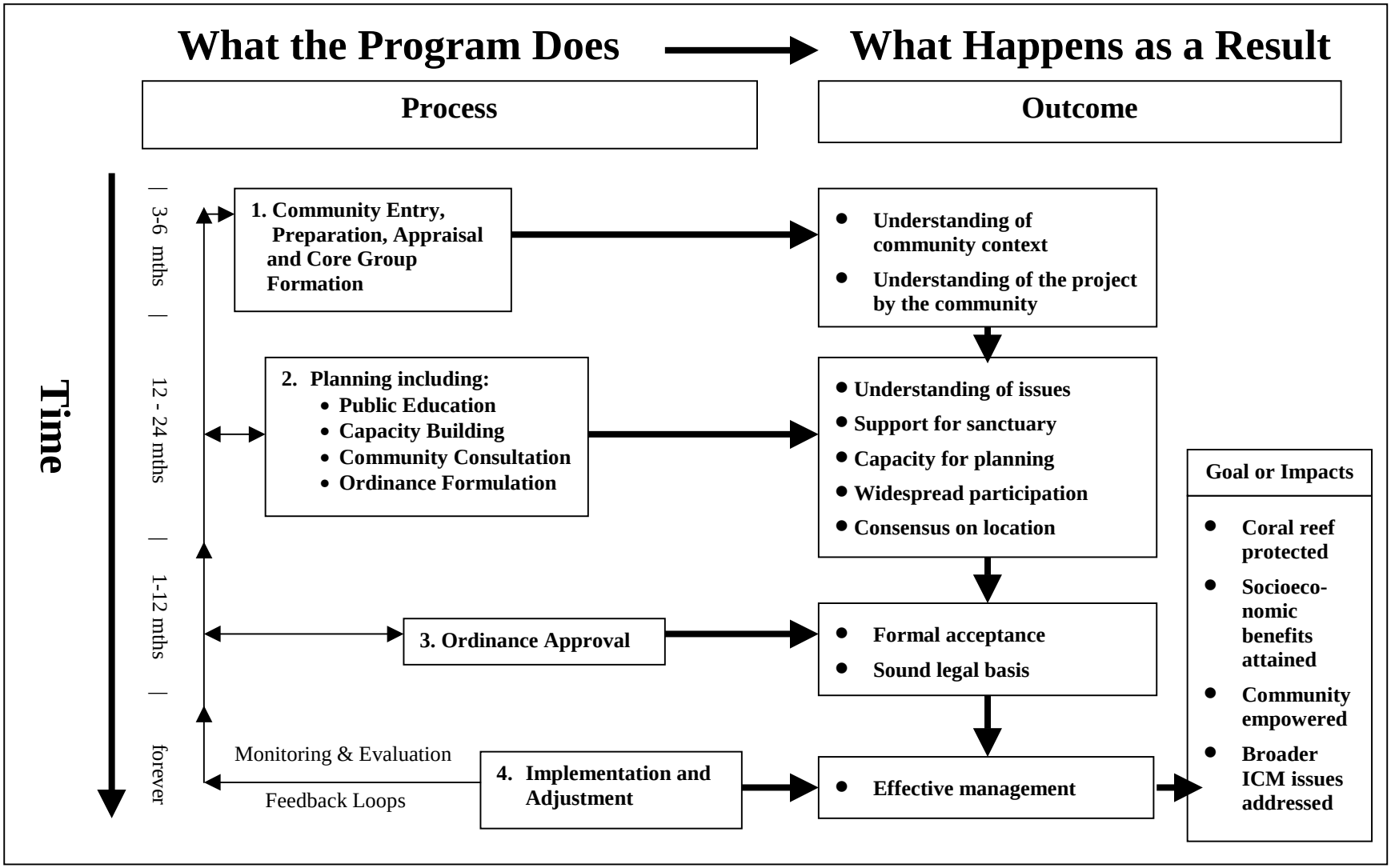


Figure 3: The Community-Based Marine Sanctuary Program Logic Model



periodically or on an ad-hoc or as-needed basis. Hence, the preference by some participants to use the term "phase-down" rather than "phase-out". If phase out or phase down is part of the implementation and adjustment step, some participants suggested that monitoring and feedback should be conducted jointly by the community and intervening institution and roles redefined jointly for phase down or phase out.

Some participants felt that community core groups should be identified and formed as soon as possible in the first step of the process. A core group is defined as a group of community leaders, either formal and/or informal, who lead the planning and organizing initiative at the community level, and who also may play a role in implementation. Others felt that core groups should not be formed too quickly as it takes time for the field worker who facilitates core group formation to understand the local community social and political dynamics. If a core group is selected too quickly, the wrong individuals may be selected or local élites may dominate the core group. The élites may be more concerned in their own interests rather than the community as a whole. The length of time needed to identify and form a core group may be partially related to the skill and experience level of the field worker. Some participants who felt that core groups should not be formed too quickly also felt that forming a core group should not be done until key issues have been identified and there is a specific purpose for the group. Forming a core group before there is a clear role and purpose may undermine its long-term ability to function effectively and lead to disenchantment by core group members or the community.

Some participants felt that livelihood development should be highlighted more in the model and not considered only as part of "early actions" or only in step 2, but could be started and continued at any step in the process. Some participants felt that eco-tourism development is an important livelihood development activity that should be stressed. It was pointed out however, that the concept must be well understood by the community and facilitators. It was also mentioned that it is important to involve the community in deciding about eco-tourism and there is a need for social preparation if eco-tourism is promoted. This would include negotiation with proponents; and being careful to avoid unsustainable tourism practices and raising unrealistic expectations. It was also mentioned however, that not every community may want tourism development and that not all sites may have tourism potential. Other participants wanted to see zoning highlighted more to address sea and land use, and to address marine impacts of land-based activities. This may be stipulated in the municipal ordinance designating the CB-MS or in succeeding municipal ordinances that aim to improve management of the CB-MS

Some participants felt that the steps in the model should not always be considered sequential. While there are occasions where some intermediate outcomes need to be achieved before certain activities are started, there can also be overlap in timing and sequence of activities within and between each step. This reflects a viewpoint that such programs need to be flexible and adaptive in how implementation is carried out. It was also noted by participants that there are certain assumptions made in the process (e.g.,

widespread consensus on site location should be achieved before the ordinance is approved) and these assumptions should be more explicit in the model.

Additional comments made for specific inclusion to each step in the initial five-step model that was presented to the focus groups are provided below. The model in Figure 3 and Table 2 is a four-step model where steps two and three in the initial model were combined into one step.

Step 1(Community entry, preparation and appraisal):

- Identification of major stakeholders needs to be included in Step 1.
- Core group formation should start in Step 1. Composition of the group is critical and must be representative of major stakeholders. There should be criteria for selecting members of the core group (e.g., identify and assess existing groups, both formal and informal, before forming a new core group). Include informal leaders in the core group.
- Identify core actor(s) or leaders (such as a Mayor, academic, NGO or PO) that can keep the vision of CB-MS going.
- The term "Facilitator" or Field Worker" is preferred over "Extension Officer. There are other names used including "Community Organizer" and "Community Facilitator".
- Instead of an Extension Officer, there should be a trained and committed project staff assigned full-time to the community if it is a community that has not received the benefits of previous efforts at environmental education and management capability building. "Extension Officers" from government agencies typically do not live full-time in the community as is done by most NGO, university and foreign assisted development projects. Some people felt that a community worker may not always need to live in the community full-time, but others felt this is essential.
- Courtesy calls to provincial, municipal, and barangay officials should be made before any other activity is undertaken in the area.
- The process begins with community consultation, issue identification, information dissemination, public education, and capacity building (core group formation).
- Informational meetings should include discussion of project goals.

Step 2 (Public education and capacity building):

- Include community organizing in Step 2.
- Step 2 involves many crosscutting activities such as public education and capability building. However, these activities need to be undertaken intensively at this stage.

Step 3 (Community consultation, ordinance formulation):

- Set up and formalize a management body for CB-MS institutionalization (e.g., create a management council).
- Ordinance formulation and approval is necessary to establish a sustainable institutional mechanism and to secure funding allocations. Planning of local funding allocations needed for implementation should be included in Step 3.
- There should be a delineation of the roles of participating organizations and an expression of commitment of each organization as part of the planning process.

- There should be a focus on the planning process and development of ownership of the marine sanctuary by the community.
- The development of a municipal ordinance is usually initiated at the village level by people's organizations (POs), fishers' associations or the Barangay Council. It is then forwarded to the Municipal Council for approval. When approved at the municipal level, it has to be reviewed by the Provincial Council.
- Include formulation of implementing guidelines of the municipal ordinance in Step 3.

Step 4 (Ordinance and Approval):
- No major comments were provided on this step.

Step 5 (Implementation):
- Include phasing out or modification of partnership arrangements with the community in Step 5.
- Information should be managed at various levels (village, municipal, provincial).
- Include continued biophysical monitoring in this step.

Participants were asked how long each step in the process takes. There were varying opinions on this topic. The length of each intervention step is variable and is most likely related to the amount of resources that can be applied, the intensity and degree of application of program strategies or techniques, and the quality of outcomes desired. The entire length of the process into the implementation phase can take from one to three years but the pace also depends on the community. It the case of Apo Island, the process took three or more years. Steps 1 and 2 could take as long as one to two years each. Based on the Balicasag and Pamilacan experience, shorter timeframes may result in a not so successful CB-MS. Step 1 may take three to six months as a minimal time frame. Step 2 may take a minimum of 9 - 12 months. In one case mentioned, Step 3 (ordinance approval) took longer than a year from the time the community approved the sanctuary until the Municipal Council formally passed the ordinance. It was also pointed out that once into the implementation phase, biological impacts might take as long as from 5 - 10 years before they are noticeable (e.g., Apo and Sumilon islands).

Table 3 is the conceptual framework developed by the Indonesian Coastal Resources Management Project for CB-MS sites being established in North Sulawesi (Crawford, 1999). It outlines the general steps in the process, activities undertaken, outcomes expected and possible indicators for each step. This framework is based on the Apo Island experience and adapted for the local Indonesian context. While Tables 2 and 3 are similar, they reflect differences in national institutional contexts as well as different levels of maturity in the evolution of locally adapted models for CB-MS. The Philippine model, perhaps, also reflects the larger diversity of sites and adaptations being applied within the country compared to the smaller number of examples at present in Indonesia.

A diversity of model adaptations is not necessarily bad and may reflect a strong bias towards adaptive management; a quality often cited as important for successful CB-CRM. A diversity of model adaptations may be needed where the context and institutional capacities of replicating institutions varies considerably. In the final

analysis, what is important is that the final desired outcomes are being achieved. However, the effectiveness or efficiency of the various approaches in comparison to one another or in achieving final outcomes is not clear. A more detailed assessment of the various model adaptations is needed.

Table 2: A Conceptual Framework for Community-Based Marine Sanctuaries in the Philippines

Steps in the Process	Time (months)	Actions Taken	Intermediate and Final Outcomes
1. Community Entry, Preparation and Appraisal	3-6	• Community site selected • Field officer assigned full-time to the community • Baseline surveys conducted • Selected PRA activities conducted • Informational meetings (formal and informal) and discussions concerning the project and goals • Preliminary public education activities carried out • Community core group identified	• CRM issues in the community identified • Socioeconomic, cultural and environmental context understood by project team • Widespread community understanding of project objectives and approach
2. Planning including: • Public Education • Capacity Building • Community Consultation • Ordinance Formulation	12-24	• Cross-visits with successful marine sanctuary sites • Public education on coral reef ecology, marine sanctuary concept, environmental laws and enforcement • Training on community monitoring and mapping of reef • Selected early actions on issues of concern to the community implemented • Training on financial management and accounting • Study tour, training or development of potential supplemental livelihood opportunities such as tourism • Community core group training on coastal management • Community ordinance contents drafted • Community consultation meetings and discussions (formal and informal) conducted • Community ordinance revised and final version completed	• Community understanding of human impacts on coastal resources, environmental laws and sanctuary concept • Map of the coral reef developed by the community to be used as basis of marine sanctuary site selection • Community awareness of local coral reef conditions and capacity for on-going monitoring established • Widespread community support for the project objectives and marine sanctuary concept • Community capacity for participatory planning, implementation and fund management strengthened • Community capacity to address CRM problems with simple solutions strengthened • Widespread participation of stakeholders in planning • Widespread/majority community consensus on marine sanctuary location, size, allowable and prohibited activities, sanctions and management arrangements

Table 2: (continued)

Steps in the Process	Time (months)	Actions Taken	Intermediate and Final Outcomes
3. Community Ordinance Approval	1-12	• Vote of approval for the sanctuary at a community meeting(s) and by barangay resolution • Approval and signatures on the municipal ordinance by the municipal council • Review of municipal ordinance by the province • Formal opening ceremony conducted with government representatives in attendance • Funding mechanisms for implementation (donations, fees, fines, grants, endowments, govt. allocations, etc.) identified and planned	• Formal acceptance of the marine sanctuary by the community and local government • Sound legal basis for management and enforcement • Financial resources for implementation determined
4. Implementation and Adjustment	∞ (forever)	• Boundary markers installed and maintained • Information signboards installed • Management plan developed • Management committee meeting • Reef and fisheries monitoring conducted • Enforcement actions occurring • Sanctions taken against violators • Public education ongoing • Implementation activities budgeted • Implementation funds received, spent and accounted for • Coordination and networking with external technical, financial or organizational support institutions occurring • Program monitoring, evaluation and adjustment by the community ongoing	• High compliance with rules governing the marine sanctuary • Effective management of the marine sanctuary occurring • Improved coral cover inside the marine sanctuary • Increased fish abundance and diversity in the sanctuary • Increased catch of reef-related target fish species adjacent to the sanctuary • Other quality-of-life improvements/benefits for the community attained • Sufficient resources (financial or in-kind) for implementation allocated, obtained and utilized • Access to outside support systems maintained • Management measures adjusted as needed

Table 3: The Conceptual Framework for Community-Based Marine Sanctuaries in North Sulawesi, Indonesia

Steps in the Planning and Management Process	Actions Taken	Expected Intermediate and Final Outcomes	Indicators that Outcomes and/or Objectives Achieved
1. Community Entry, Socialization and Preparation	• Community site selected • Extension officer assigned full time to the community • Baseline surveys conducted • Ecological history and selected PRA activities conducted • Informational meetings (formal and informal) and discussions concerning the project conducted by the field extension officer	• CRM issues in the community identified • Socioeconomic, cultural and environmental context understood by project team • Widespread community understanding of project objectives and approach	• Baseline reports prepared with description of CRM issues • Ecological History/PRA report prepared and distributed within the community • Number of formal and informal meetings/presentations on the project by the field extension officer • Discussions with community key informants and residents demonstrate they can articulate project objectives
2. Public Education and Capacity Building	• Community core group identified and formed • Cross-visits with successful marine sanctuary sites • Public education on coral reef ecology, marine sanctuary concept and environmental law • Training on community monitoring and mapping of coral reef • Selected early actions on issues of concern to the community implemented • Training on financial management and accounting • Study tour and potential supplemental livelihood opportunities such as tourism • Community core group training on coastal management	• Community understanding of human impacts on marine resources, environmental laws and the marine sanctuary concept • Map of the coral reef developed by the community to be used as basis of marine sanctuary site selection • Community awareness of local coral reef conditions and capacity for on-going monitoring established • Widespread community support for the project objectives and marine sanctuary concept • Community capacity to engage in participatory planning and implementation processes, and transparent funds management developed and/or strengthened • Community capacity to address small and local coastal resources management problems with simple solutions strengthened	• Number of public education, cross-visit and training events held • Number of participants attending training, public education events, gender and stakeholder group desegregated • Community drawn map of coral reef conditions prepared • Number of meetings held to decide on and prepare early action proposals • Number of participants and stakeholder groups attending early action planning meetings • Early action proposals prepared and submitted by the community • Early actions completed successfully by the community and adequate grant and financial reports submitted to granting institution

Table 3 (continued)

Steps in the Planning and Management Process	Actions Taken	Expected Outcomes (Intermediate and Ultimate Objectives)	Indicators that Outcomes and/or Objectives Achieved
3. Community Consultation and Ordinance Formulation	• Community ordinance contents drafted • Community consultation meetings and discussions (formal and informal) conducted • Community ordinance contents revised and final version completed	• Widespread participation of stakeholders in marine sanctuary planning • Widespread/majority community consensus on marine sanctuary location, size, allowable and prohibited activities, sanctions and management arrangements	• Number of formal and informal meetings held to decide on and prepare location and contents of community ordinance • Number of participants and stakeholder groups attending formal and informal meetings to decide on and prepare location and contents of community ordinance • Number of persons and stakeholder groups expressing agreement and objecting to ordinance content during meetings
4. Community Ordinance Approval	• Vote for approval of ordinance at an all-community meeting • Signatures on the ordinance by the head of community • Formal opening ceremony conducted with provincial government representatives in attendance	• Formal acceptance of the marine sanctuary by the community and local government • Sound legal basis for management and enforcement	• Community meeting and vote on ordinance held • Minutes of meeting indicate ordinance approved • Ordinance signed by head of community • Provincial officials attend ceremony formally establishing the marine sanctuary, or are quoted in newspaper articles as supporting the sanctuary
5. Implementation	• Boundary markers installed and maintained • Information signboards installed. • Management plan developed • Management committee meeting • Reef and fisheries monitoring conducted • Enforcement actions occurring • Sanctions taken against violators • Public education ongoing	• High compliance with rules governing the marine sanctuary • Effective management of the marine sanctuary occurring • Improved coral cover inside the marine sanctuary • Increased fish abundance in the marine sanctuary • Increased catch of reef-related target fish species	• Numbers of violations to the marine sanctuary reported • Number of “arrests” and enforcement actions conducted by the community • Number of times sanctions for violations have been applied • Number of sanctuary committee meetings being held • Manta tow surveys of coral cover • LIT transects of coral cover and visual fish census surveys • Fish catch statistics by community fishers of reef-related species

3. Factors Contributing to the Success of Community–Based Marine Sanctuaries

In order to initiate the discussion on the factors contributing to the success of CB-MS, participants were asked to discuss the following question; "Why do so many projects fail, and to what extent is this caused by poor or inadequate implementation, or due to an invalid approach/model used?" Responses to this question are listed below. Participants included reasons for success as well as failure (what to do and what not to do so as not to fail) and provided a few examples from their own experience.

Reasons for successful CB-MS projects included:

- In the case of Sagay Municipality, strong leadership (the Mayor) helped the process but a turnover in leadership affected the implementation of the CB-MS.
- The legitimacy of the community facilitator.
- Changing composition of the community population would affect management of the CB-MS; thus, the nature of the CB-MS should also be changing - dynamic and adaptive.
- The model has to be adapted based on the existing and current conditions in the community (adaptive/dynamic approach). Adaptive management - how the community responds to new and changing challenges is important (e.g., how the Apo Island community responded to the change in the management of the Apo Island Marine Reserve, from community-based to PAMB-based/CEP model.
- POs that take on responsibility for management of a CB-MS, like a group of fishers, need to be accredited to have a legal personality by the Department of Labor and Employment, the Securities and Exchange Commission, and the Cooperative Development Authority.
- The community has relatively homogeneous stakeholders.
- Empowerment of the community from the very start of the process.
- Involving the community in monitoring.
- Earlier, successful examples of CB-MS make establishment of CB-MS in other areas easier.
- Scientific input is used for proper siting of the marine sanctuary.
- Regular monitoring is conducted to determine whether a site is a sink or a source.
- Determination of the appropriate size of the no-take areas relative to buffer zones.
- The extent to which the CB-MS is community-implemented and receives support (legal, etc.) from the community
- The community can articulate benefits perceived coming from the CB-MS.
- Community confidence and ownership of the marine sanctuary.
- The community invited the initiating organization in to assist them.
- The initiating organization is in close proximity to the community.
- A barangay assembly first approved the barangay resolution that is submitted to the municipal council for approval.

- Replication of the CB-MS to neighboring communities. In this regard, the community or the leaders involved become the local experts for environmental advocacy in neighboring villages.
- Local conservation strategies need to be institutionalized and adopted and can be measured by budget and staff dedicated to the project.

Reasons given by focus group participants as to why CB-MS projects fail included:

- A lack of community participation or only token participation.
- Using a top-down approach.
- The CB-MS is not institutionalized.
- Resource use conflicts are not managed or controlled.
- Poor or inadequate implementation.
- Insufficient funding for planning or implementation.
- The implementing institution is not clear concerning the assumptions underlying the process or they do not understand the conditions where application of the model is most appropriate.
- Lack of support or political will from LGU officials.
- Lack of awareness or empowerment of LGUs.
- Lack of continuing support by the initiating institution once the sanctuary is established.
- Lack of capacity of the initiating institution and/or lack of skill or motivation by the field worker.
- Limited or no inclusion of livelihood components or the livelihood components was not related to coastal resources use.
- Lack of monitoring.
- No management plan for the sanctuary was developed.
- Lack of commitment by the community.
- The community had bad experiences with past development projects, which makes motivation for establishing and maintaining CB-MS difficult.
- Sanctions were unfairly applied.
- Lack of technical know-how by the project initiator even if their organizing skills are good.
- Inadequate site selection.
- Too much emphasis on outputs rather than outcomes.
- Lack of ability to adapt to a changing context or lack of ability to adapt the basic model to a different context.
- Project initiator severed links with the community and/or continuing linkages were never institutionalized.
- Outside political interference or internal political conflicts.
- Sanctuary was never formalized (no legal basis or ordinance).

Independent variables that may influence CB-MS success include context and project intervention variables. An initial list of variables that was a combination from the published literature on community-based management and those provided by coastal

management specialists was compiled. This list was presented to the focus groups for discussion (see Annex 4 for a summary of factors that may influence success based on a literature review by R.B. Pollnac). The list was modified by the focus groups and the final outputs are categorized by context and project intervention variables that are provided in Table 4 and Table 5 below. The focus groups had difficulty trying to prioritize which of these factors may be most important, particularly with respect to the context variables. The lists provided below do not reflect any order of priority but is rather the sum total of ideas from various sources including the focus group participants. The field research will attempt to determine which of these factors tend to be the most important for determining success as evidenced by an empirical analysis of a large number of existing sites.

3.1 Context Factors

Context factors refer to the existing conditions of a place. They include both local context factors as well as regional and national context. They can include geographic, biophysical, demographic, political, legal, institutional, social, cultural and economic aspects of any given place. Context variables may provide evidence as to whether there are certain typologies of places that may be predisposed to a successful result from a programmatic intervention such as CB-MS. The field research may shed light on whether community typologies are possible. The focus group participants felt that strong and supportive local leadership is probably one of the most important context variables. Some context variables (e.g., perceptions of the community, level of support by local management, leadership capacity, coral reef condition) can be changed over time through project interventions. However, many cannot.

Table 4: Context Variables

Community Level

Socioeconomic (including technology, culture, attitudes and beliefs)

- Community socioeconomic and cultural homogeneity/heterogeneity (ethnic, religious, social status, economic status)
- Community harmony/conflict
- Degree of collective action/cooperation
- Occupation structure and degree of commercialization and dependence on coastal resources (e.g., degree of resource dependent users especially fishers)
- Availability of livelihood options
- Target species composition, distribution and importance
- Technology used to extract coastal resource
- Diversity of productive activities among coastal residents
- Demographics – total population and density (moderate, high or low), changes in population or population density
- Level of community development
- Degree of integration into the larger economic and political system
- Extent to which the community perceive a resources management crisis (extent to which they perceive that threats are high)
- Level of community infrastructure and social services
- Past community experience with development projects and similar types of resources management initiatives
- Values and attitudes of the community towards coastal resources
- Prevalence of destructive use practices (e.g., cyanide or bomb fishing, coral mining)

Table 4: (continued)

Governance

- Local political organization (e.g., degree of honesty or corruption of local government and stability of local leadership), political maturity and level of existing community organization
- Quality of local leadership and political will (degree of local leadership support for environmental issues or sanctuary establishment)
- Degree of democracy or authoritarianism
- Tradition of cooperation and collective action
- Size (km^2) of the barangay or municipality and size of municipal waters
- Size of the marine sanctuary (single large or several small) as it relates to the ease of management and ability to share the burden of management
- Coastal resources use rights and management systems, formal and informal (e.g., existence of enabling institutions such as FARMCs, and legislation at the community or municipal level, or sanctuaries in operation but not formally approved through municipal ordinance)
- Existence of other community development programs in the community
- Extent to which the marine sanctuary is part of a larger CB-CRM initiative in the community (also see Program Intervention Variables: Program Strategy)

Biophysical

- Local coral reef condition - excellent, good, fair, or poor (in the sanctuary area prior to sanctuary establishment and adjacent to the sanctuary area)
- Status of fish stocks at start of program (depleted, about MSY, underfished)
- Size of sanctuary (extent to which target organisms for protection are included and enough of the range is covered), and percent of total reef area
- Extent to which associated reef habitats are incorporated (seagrasses, soft bottoms, mangroves)
- Small island or as part of a longer coastline (environmental features influencing boundary definition)
- Accessibility of the marine sanctuary site (distance from the community)
- Appropriate site selected
- Natural phenomena (coral bleaching, crown-of-thorns outbreaks) and vulnerability to natural disasters (typhoons)
- Water quality and pollution level
- Spawning areas, presence of indicator species and high biodiversity
- Current patterns and circulation
- Connectivity to other ecosystems and protected areas

Threats

- Number and level (severity) of resource threats and conflicts
- Threats primarily internal from the community or external
- Level of potential resource threats and conflicts (future trends)

Supra-Community Level

- Size of watershed and use activities in the watershed (upstream and downstream)
- Regional GDP or GRP (Gross Domestic Product or Gross Regional Product)
- Unemployment rates
- Pollution and other large-scale threat levels (present and future trends)
- Existence of educational systems that are producing field workers with the appropriate skills
- Enabling legislation and extent there are conflicts with existing laws
- Enabling institutions (i.e., university, NGO, government agency, private sector group supporting and carrying our replication initiatives)
- Man-made or natural shocks (riots/war, new fishing gear technology developed, super lights or electronic bomb ignition, elevated sea surface temperature/coral bleaching, typhoon)
- Existence of a broader ICM plan or program ongoing in the area—ICM plan or program at a larger geographic scald than the community (e.g., bay management plan)
- Local resource knowledge
- Proximity to industrial development zones

Table 4: (continued)

- Other conservation and development programs in the area
- Degree of regional and national networks and alliances
- History of political struggle that has set the stage for community organizing in the past
- Existence of educational systems that are producing field workers with the appropriate skills

3.2 Project Intervention Factors

Project intervention factors refer to the activities undertaken to establish and implement a CB-MS. Project interventions may be undertaken either by the community themselves, or by outside individuals or institutions promoting CB-MS in a particular site. Project intervention variables include specific activities undertaken (such as a public education event, community meeting or ordinance drafted) as well as the strategies applied for program implementation (e.g., deployment of a field worker to the community full time or part time; NGO or government project implementation). Project intervention variables help inform us as to the validity of the CB-MS project logic or theory, and whether the process followed and assumptions made lead to the results desired. Unlike most context factors, project interventions are determined by the intervening institution.

In some cases, project intervention variables categorized as implementation at the community level (such as management committee functioning, law enforcement occurring - see Table 5) can also be considered as success measures. In these cases, they can also be referred to as intermediate outcomes, which are assumed will lead to the final desired impacts such as improved reef quality and community benefits.

Table 5: Project Intervention Variables which may Influence the Success of Community-Based Marine Sanctuaries

Program Strategy (by the replicating institution)

- Field staff/worker (community organizer/extension officer, etc.) full-time or part-time in the community and duration of their assignment and timing of the withdrawal of the field worker
- Degree of continued part-time engagement of "outside facilitator/catalyst" after MS established/field worker withdrawn from community
- Marine sanctuary concept indigenous or external idea, or initial willingness to establish a sanctuary external or internally initiated (promotion versus walk in)
- Implementation at the community level conducted by NGO, government, university or private sector
- Facilitation at the community-level conducted by NGO, government, university or private sector
- Nature of partnership arrangements between community and outside replicating institution (i.e. whether the replicating institution takes on the role of a facilitator/catalyst or organizer/advocate or advisor/task manager)
- Degree to which alternative income opportunities promoted/developed, timing of this intervention and nature of the intervention
- Management plan or other products (technical reports, ecological histories) for the sanctuary developed or not, and extent to which the management plan is equitable to local stakeholders
- Non-MS issues (water supply, sanitation, agroforestry development) of concern to community addressed through early actions, including degree to which land-based issues addressed
- Meeting/information center constructed

Table 5: (continued)

- Entry point initially is direct to community or through provincial or municipal government first
- Community organizing and core group formation starting from the beginning or early phases of the project interventions, or, after specific problems identified or purposes for organizing has been determined
- Monitoring and evaluation systems designed into the project which promote adaptive management

Institutional Capacity (of the replicating institution)

Capacity and level of effort applied to a specific site or community by the replicating institution

- Skill and experience level of the field worker assigned on-site/in the community
- Level of outside technical expertise applied on-site
- Total amount of budget spent on sanctuary establishment at the site and distribution
- Overall level of resources provided by the replicating institution and the community
- Sustainability of funding once the sanctuary was established
- Involvement of the private sector
- Qualities of local leadership (include time/availability, concern, mutual respect, commitment, flexibility, teachability/openness in gaining knowledge, confidence, focus, courage, satisfaction over results of the initiative, has external and internal support)
- Presence of formal (e.g., elected) and informal leaders; formal leaders are members of businesses or the political elite who may have official functions with regard to the MS, and may have adopted certain policies in favor of the MS; informal leaders are those who close to the resource (e.g., fishers)

Overall factors which influence successful program replication of community-based marine sanctuaries by an institution (e.g., national or provincial agency, NGO or university)

- Documentation and understanding of proven approaches and key factors affecting successful adaptation and implementation
- Existence of service-oriented regional/local (sub-national/provincial) institutions which can sustain implementation of a coastal management extension program in local communities
- Political will as evidenced by the commitment to and understanding of the program by institutional leaders and widespread support among coastal stakeholders and communities
- Clear organizational vision and strategy of the replicating institution among all members of the organization from the field workers up to the top leadership of the organization
- Adequate human resource capacity in terms of availability of skilled human resources in sufficient number to act as community facilitators and trainers and to provide sustained technical support to local communities
- Sufficient resources/inputs in terms of availability of logistical resources, materials, staff and funding necessary to undertake and sustain field operations
- Adaptive management which balances emphasis between process indicators (outputs such as number of persons trained or ordinance signed) and outcomes (such as community support or socioeconomic benefits) through proper monitoring, evaluation and adjustment of the activities undertaken by the institution providing the process interventions at the replication sites/communities
- Realistic expectations of the time it takes to achieve sustainable successes which requires flexible and sufficiently long timeframes to reach the outcomes desired at each site/community
- Continued engagement with communities by the replicating institution (intervenor) on a part-time basis after initial intensive interventions are completed

Planning Process (at the community level)

Accurate and Valid Model

- Degree to which steps in the project model are followed (see Figure 3) and timing/sequence
- Length of time from start of interventions to formal establishment of the sanctuary by ordinance

Table 5: (continued)

Well-Executed Activities
- Key activities in the conceptual framework/model are carried out and with an adequate level of performance. (See Table 2)
- Communication of clearly defined objectives to participants

Adequate Participation and Supportive Constituency
- Early participation in planning
- Continued participation in planning (i.e., level of community participation in identifying a sanctuary site and establishing rules)
- Structure of participatory methods used (e.g., formal versus informal)
- Coordination and participation of all stakeholder groups involved (i.e. level of stakeholder participation including local government and community resource users affected by sanctuary establishment) such as fishers, disadvantaged groups and resort owners

Sufficient capacity development of the community
- Level of public education to increase community awareness and understanding of coral reef ecology and marine sanctuary concept
- Identification of a core group for leadership development and level of institutional development and capability building carried out for the community/committee tasked to manage the sanctuary
- Amount and adequacy of training programs conducted on various topics for the community
- Adequacy of community organizing undertaken
- Type of capability building strategies used
- Capability of the community sufficient to undertake management functions expected

Adequate site selection
- Degree to which issues and site were identified by the project team versus community
- Degree to which an appropriate site (biologically and socially acceptable) was selected

Clear and legal mandate
- Barangay resolution supporting the sanctuary passed
- Municipal ordinance approved by the municipal council
- Municipal ordinance reviewed by the province
- Municipal ordinance has proper provisions included (e.g. management committee, sanctions)
- A clear vision and mission in the marine sanctuary management plan
- Clear responsibilities among stakeholders
- Clear roles and responsibilities among organizational partners in implementation
- Adequate interagency and multi-sectoral coordination

Implementation (at the community level):

(See Table 1: Success Measures for Community-Based Marine Sanctuaries. These implementation actions can also be considered as intermediate outcomes towards achieving ultimate goals or impacts)

- Effective on-going management by the community (level of community participation in implementation)
- Ability of community to adapt to changing context/conditions based on good monitoring, evaluation and adjustment mechanisms
- Sufficient community control and empowerment

In the case of project intervention variables, there were several that almost all focus group participants felt were critical to success. These included a strong public participation process and intensive community capability building. Some participants felt that an alternative livelihood component is very important given the highly overfished and degraded nature of most coastal localities in the Philippines. In this context, they believe that viable alternatives have to be provided if illegal and destructive use practices

are to be changed. Others felt that while alternative livelihood development is conceptually important, in practice, it has been difficult to achieve.

Important considerations for developing institutional programs for successful replication of CB-MS were discussed by the participants. A list of the overall factors which influence successful program replication of community-based marine sanctuaries by an institution (e.g., national or provincial agency, NGO, or university) is included in Table 5. In addition, specific recommendations were made by the focus groups pertaining to site selection, including factors to be considered such as economic (e.g., whether the candidate site is a prime fishing ground or not), ecological (e.g., whether the site is a larval source or sink), and practical (e.g., accessibility and manageability of the site relative to community capability). Furthermore, the focus group participants emphasized the importance of adequate legal means for implementation of the CB-MS from the lowest to the highest level of governance (i.e., the CB-MS is legally recognized from the barangay to the provincial level).

4. Community-Based Marine Sanctuary Sites in the Philippines

At each of the focus group sessions, participants were asked to brainstorm a list of CB-MS sites that they were familiar with in the regions they represented. Once a list was compiled, they were asked to rank the sites with respect to level or degree of success, not successful, or as having insufficient knowledge to rank the site. The purpose of this exercise was to generate a list of sites, which could be used by the field research team in the site sampling process. The idea was to provide preliminary information to the field research team to ensure that there were sites in the sample that represent a range of levels of success as well as sites considered to be unsuccessful. A summary list of sites and the rank given for each site by all the groups is provided in Annex 6, Table I.

Another list of sites (Annex 6, Table II) was compiled by Maharlina Gorospe to be used in site selection for the field research component of the project. This list of sites was compiled from multiple sources including secondary literature, the Philippines Coastal Resources Management Project electronic database and information provided by focus group participants. It is not to be considered a complete listing of sites in the Philippines and it has not been ground truthed. Therefore, sites listed may or may not meet the general criteria of a CB-MS as defined earlier in this report.

5. The Field Research Design and the Philippines-Indonesia Workshop

5.1 The Field Research Design

A field investigation of a large number of CB-MS sites will be undertaken immediately following the focus group discussions. A stratified random sample will be drawn from an initial list of potential survey sites (Annex 6). By stratified sample, we mean that the initial list may be sub-grouped into categories such as successful versus unsuccessful sites, long-term data rich sites versus newer less well documented sites, or by province. The survey sample will then be randomly selected from these subgroups. Criteria for selecting field research sample sites will include the following:

- An ordinance establishing the sanctuary has been formally approved/signed at the municipal level.
- The marine sanctuary has been in the implementation phase for a period of at least three years since its legal/formal establishment.
- If possible, all or most sites surveyed will be in the Central and Eastern Visayan regions.
- Sites with a longer history of implementation and which are information/data rich or well documented in the literature are preferred.
- A range of sites is preferred including not successful, moderately successful and highly successful.

The research design will make an effort to control for many factors that make cross-site comparisons difficult. For instance, the study takes place in only one country, and an attempt will be made to limit the number of regions within the country that are surveyed (this is also done for logistical reasons). Additionally, we are looking at only one type of CB-MS initiative – a strictly defined CB-MS (see Section 2).

Field research methods will include the development of a survey instrument to be administered at each site, designed to gather information on the context and project factors that make CB-MS successful. Methods for information gathering will include the following:

- Key informant interviews
- Direct observation of the CB-MS site and adjacent community
- Secondary data collection

The data set of CB-MS sites will be analyzed using appropriate parametric and non-parametric statistical techniques to determine which independent variables (context and project interventions, singly or in combination) significantly impact dependent variables of success.

Success can be measured in a variety of ways using biological, socioeconomic, attitudes and beliefs (perceptions) and governance factors. The simplest analysis would be to dichotomize sites into successful and unsuccessful sites and compare them in terms of the independent variables. Depending on the final number of sites surveyed as well as the quality and availability of information obtained on the sites, more sophisticated analysis may be conducted. Sites may be ranked (such as very successful, moderately successful, not successful, etc.) or factor analyzed using a number of dependent and independent variables. Another type of analysis the project hopes to undertake will be to look at how different groups perceive success. For instance, a government official or scientist may view a decrease in the rate of reef degradation as successful, whereas a fisher may only consider it successful if he or she perceives an increase in fish catch.

The purpose of these analyses are to determine which independent factors are more significant than others in determining success, or under what conditions are some factors more important than others. The field research report, where possible, will try to provide short examples of how these factors have played out at actual sites surveyed. It is expected that this study will help verify, or not verify, success factors found in the literature and proposed by the experts in the focus group sessions. The goal is to be able to provide better advice to individuals and institutions engaged in replicating marine sanctuaries in other locations, either in the Philippines and Indonesia, as well as to have a higher level of certainty concerning the advice that is given. Up until recently, most conclusions concerning success factors has been based on a small number of case studies or on the collective wisdom and experiences of coastal management professionals. However, there is a growing body of coastal management literature, which attempts to apply more systematic and quantitative methods over a large number of sites. To our knowledge, this is the first time this approach will be applied specifically to CB-MS.

5.2 The Joint Philippines - Indonesia Workshop

A joint workshop between Philippine and Indonesian coastal management professionals involved with CB-MS will be conducted. The purpose of the workshop is to share Indonesian and Philippines experience as well as discuss ways to improve and promote successful CB-MS replication. It is tentatively scheduled for September 2000, and will be held in Davao, Philippines and Manado, Indonesia, over a period of six days. Due to budget constraints and to maximize interactive discussions, the number of participants will be kept to less than 30 individuals.

Participants will represent government, universities, NGOs, people's organizations, and CRM assistance projects. Indonesian participants will travel to Davao where they will join Philippine participants for the initial part of the workshop. The reports from the focus group sessions and the field research will be presented and discussed, and a visit to a nearby CB-MS arranged as well. The Indonesian participants and as many of the Philippine participants as budget will allow, will go to Manado to visit North Sulawesi CB-MS sites. In Manado, the participants will discuss lessons from Indonesian experience and plans for developing a provincial program whose mission is to replicate marine sanctuaries in coastal villages within the province. During the workshop,

experience between the two countries will be compared and discussed; and an outline for a guidance document on best practices for establishing, implementing and replicating CB-MS will be developed. An Indonesian TV cameraman and reporter will also attend the workshop to gather information and materials for a documentary and public education video on CB-MS directed at Indonesian audiences, which will be developed in the following year of the project.

Outputs of the workshop will be produced and distributed in proceedings. The outputs will also be used for consideration of materials and capacity development strategies in North Sulawesi, Indonesia.

ANNEXES

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ANNEX 1: References and Selected Bibliography

Ablaza-Baluyut, E. 1995. The Philippine Fisheries Sector Program. pp. 156-177. In: Coastal and Marine Environmental Management: Proceedings of a Workshop. Bangkok, Thailand, 27-29, March, 1995. Asian Development Bank. pp. 331.

Alcala, A.C. 1988. Effects of marine reserves on coral fish abundance and yields of Philippine coral reefs. Ambio. Vol. 17, No. 3. pp. 194-199.

BFAR. 1990. Guidelines for the Establishment of Fish Sanctuaries. General Memorandum Order No. 3, Series of 1990. Department of Agriculture, Bureau of Fisheries and Aquatic Resources, Quezon City, Philippines. pp. 6.

BFAR. 1999. Guidelines for the Establishment of Fish Sanctuaries (draft revision to the 1990 guidelines). Department of Agriculture, Bureau of Fisheries and Aquatic Resources, Quezon City, Philippines. pp. 7.

Brooks, A., S. Curran, S. Green, M. Nightingale, J. Purvis, C. Rosario and R. Santos (Eds.) 1997. Marine protected areas workshop. 20-22 March, 1997, Salesian Retreat Center, Dumaguete City, Negros Oriental. Voluntary Service Overseas. Quezon City, Philippines. pp. 97.

Buhat, D. 1994. Community-based coral reef and fisheries management, San Salvador Island, Philippines. pp. 33-49. In: White, A. T., L.Z. Hale, Y Renard and L. Cortesi. (Eds.) 1994. Collaborative and community-based management of coral reefs: lessons from experience. Kumarian Press, West Hartford, Connecticut, USA. pp. 124.

Calumpong, H.P. 1996. The Central Visayas Regional Project: Lessons Learned. Tambuli.- A Newsletter for Coastal Management Practitioners. Philippines Coastal Resources Management Project. pp. 12- 17.

Crawford. 1999. Monitoring and evaluation of a community-based marine sanctuary: the Blongko village example. Proyek Pesisir Working Paper. Coastal Resources Management Project - Indonesia. Coastal Resources Center, University of Rhode Island. pp.7.

CRMP. 1997. Legal and jurisdictional guidebook for coastal resource management in the Philippines. Department of Environment and Natural Resources; Department of Interior and Local Government; Department of Agriculture-Bureau of Fisheries and Aquatic Resources; and Coastal Resources Management Project (CRMP), Philippines.

DENR, DA-BFAR, DILG and CRMP. 2000. Managing Coastal Habitats and Marine Protected Areas. Philippine Coastal Management Guidebook Series No. 5. Coastal Resources Management Project, Cebu City, Philippines. pp. 106.

Ferrer, E. M., L. Polotan-Dela Cruz and M. Agoncillo-Domingo (Eds.). 1996. Seeds of hope: A collection of case studies on community based coastal resources management in the Philippines. College of Social Work and Community Development, University of the Philippines, Diliman, Quezon City, Philippines. pp. 223.

Glee, G.A. 1999. The coastal environment: toward integrated coastal and marine sanctuary management. Chapter 3: marine and coastal protected areas. pp.54-82. Prentice Hall, New Jersey, USA. pp. 281.

Hastings, A. and L.W. Botsford. 1999. Equivalence in yield from marine reserves and traditional fisheries management. Science. Vol. 284. 28 May, 1999. pp. 1537-1538.

Hermes, R. 1998. Establishment, maintenance and monitoring of marine protected areas: a guide book. Philippine Business for Social Progress. Manila, Philippines pp. 63.

Olsen, S.B., J. Tobey and L.Z. Hale. 1998. A learning-based approach to coastal management. Ambio, Vol. 27, No. 8. pp. 611-619.

Olsen, S.B., K. Lowry and J. Toby. 1999. A manual for assessing progress in coastal management. Coastal Management Report # 2211. Coastal Resources Center, University of Rhode Island. Narragansett, RI, USA. pp. 56.

Pajaro, M., F. Olano, B. San Juan. 1999. Documentation and review of marine protected areas in the Philippines: a preliminary report. Haribon Foundation for the Conservation of Natural Resources. Metro Manila, Philippines. pp. 113.

Pangasinan News. 1998. Resolution to declare and promulgate the municipal marine rehabilitation and replenishment area along Barangay Balingasay, providing the implementing rules and guidelines thereto. Notices. Pangasinan News, Philippines. September 13-19, 1998.

Pomeroy, R.S. 1994. Community management and common property of coastal fisheries in Asia and the Pacific: concepts, methods and experiences. ICLARM Conf. Proc. 45. International Center for Living Aquatic Resources Management, Metro Manila Philippines. pp.185.

Pomeroy, R.S. and M.B. Carlos. 1997. Community-based coastal resources management in the Philippines: a review and evaluation of programs and projects, 1984-1994. Marine Policy. Vol. 21. No. 5. pp. 445-464.

Polotan-de la Cruz, L. 1993. Our Life Our Sea. Proceedings of the seminar workshop on community-based coastal resources management. February 7-12, 1993, Silliman University, Dumaguete City, Philippines. Voluntary Services Overseas, Quezon City, Philippines. pp. 95.

Republic Act 7160. 1991. The Local Government Code of 1991. Republic of the Philippines.

Republic Act 8550. 1998. Philippine Fisheries Code of 1998: An Act Providing for the Development, Management and Conservation of the Fisheries and Aquatic Resources, Integrating all Laws Pertinent Thereto and for other Purposes. pp. 59.

Russ, G.R. and A.C. Alcala. 1989. Effects of intense fishing pressure on an assemblage of coral reef fishes. Marine Ecology Progress Series. Vol. 56: 13-27.

Russ, G.R. and A.C. Alcala. 1994. Sumilon Island Reserve: 20 years of hopes and frustrations. Naga: The ICLARM Quarterly. 7(3): 8-12.

Russ, G.R., A.C. Alcala and A.S. Cabanban. 1992. Marine reserves and fisheries management on coral reefs with preliminary modeling of the effects on yield per recruit. Proceedings of the Seventh International Coral Reef Symposium, Guam, 1992, Vol. 2. pp. 978-985.

SUML. 1996. Assessment of the Central Visayas Regional Project-1: Nearshore Fosheries Component, Volumes I and II. Silliman University, Dumaguete City, Philippines.

Uychiaoco, A.J. and S. Schoppe. (in press) Proceedings of the Workshop on Marine Protected Areas in the Philippines. Marine Science Institute, University of the Philippines, Quezon City, Philippines, and, Philippine Council for Aquatic and Marine Research and Development, Los Banos, Laguna, Philippines. pp. 186.

Wantiez, L., P. Thollot and M. Kulbicki. 1997. Effects of marine reserves on coral reef fish communities from five islands in New Caledonia. Coral Reefs. 16: 215-224.

White, A.T. 1988. Marine parks and reserves: management for coastal environments in Southeast Asia. ICLARM Education Series 2, Makati, Metro Manila, Philippines. pp. 36.

White, A.T. 1989a. Two community-based marine reserves: lessons for coastal management. P. 85-96. In T.E. Chua and D. Pauly (eds.) ICLARM Conf. Proc. 19. Ministry of Science, Technology and the Environment, Kuala Lumpur, Johore State Economic Planning Unit, Jahore Bahru, Malaysia, and International Center for Living Aquatic Resources management, Metro Manila, Philippines. pp. 254.

White, A.T. 1989b. The marine conservation and development program of Silliman University as an example for the Lingayen Gulf. P. 119-123. In G. Silvestre, E. Miclat and T-E Chua (eds.) Towards sustainable development of the coastal resources of Lingayen Gulf, Philippines. ICLARM Conf. Proc. 17. Philippine Council for Aquatic and Marine Research and development, Los Banos, Laguna, and, International Center for Living Aquatic Resources management, Metro Manila, Philippines. pp. 200.

White, A.T. and G.C. Savina. 1987. Reef fish yield and nonreef catch of Apo Island, Negros, Philippines. Asian Marine Biology. 4:67-76.

White, A. T., L.Z. Hale, Y Renard and L. Cortesi. (eds.) 1994. Collaborative and community-based management of coral reefs: lessons from experience. Kumarian Press, West Hartford, Connecticut, USA. pp. 124.

White, A.T. and H.P. Vogt. 2000. Philippine Coral Reefs Under Threat: Lessons Learned after 25 Years of Community-Based Reef Conservation. Marine Pollution Bulletin.

White, A.T., A. Salamanca and C.A. Courtney. 2000. Experience with Coastal and Marine Protected Area Planing and Management in the Philippines. CRMP Document No. 10-CRM/2000. Coastal Resources Management Project, Philippines.

Wholey, J.S. 1994. Assessing the feasibility and likely usefulness of evaluation, p. 15-39. In J.S. Wholey, H.P. Hatry and K.E. Newcomer (Eds.) Handbook of Practical Program Evaluation. Jossey-Bass, San Francisco.

World Bank. 1999. Voices from the village: a comparative study of coastal resource management in the Pacific Islands. Pacific Islands Discussion Paper Series Number 9. World Bank, East Asia and Pacific Region, Papua New Guinea and Pacific Islands Country Management Unit. Washington D.C. USA. pp. 98.

ANNEX 2: Focus Group Discussion Agenda

Focus Group Discussions on Community-Based Marine Sanctuaries
(Manila: January 20-21, Cebu: January 26, Dumaguete City: January 28)

Objectives:

1. Provide an overview of the project;
2. Discuss the conceptual framework (program logic) for the process of establishing and implementing community-based marine sanctuaries (CB-MS) in the Philippines;
3. Discuss factors (context factors and intervention factors) or hypotheses influencing success of CB-MS;
4. Develop a list of potential CB-MS sites for the field research component of the project;
5. Review and comment on the field research design and methods;
6. Discuss considerations for developing institutional programs which foster replication/establishment of CB-MS and;
7. Discuss the Davao-Manado workshop tentatively scheduled for August or September 2000.

Facilitators: Miriam Balgos and Brian Crawford

Schedule:

8:00 AM	Registration
9:30 AM	Welcome Overview of the project with special reference to Philippine activities Introduction to the workshop and expectations
10:00 AM	Break
10:15 AM	Discuss the conceptual framework (program logic) for the process of establishing and implementing community based marine sanctuaries in the Philippines
12:00 Noon	Lunch
1:00 PM	Discuss factors or hypotheses influencing success of community-based marine sanctuaries
3:00 PM	Break
3:15 PM	Review and development of a list of potential CB-MS sites for the field research component of the project.
3:45 PM	Review and comment on the field research design and methods as outlined in the background proposal
4:15 PM	Discussion of the proposed Davao – Manado workshop tentatively scheduled for August or September 2000.
4:30 PM	Closing

ANNEX 3: Discussion Questions

FOCUS GROUP DISCUSSIONS ON COMMUNITY-BASED MARINE SANCTUARIES IN THE PHILIPPINES

Discuss the conceptual framework (program logic) for the process of establishing and implementing community-based marine sanctuaries in the Philippines.

What is a CB-MS and what is a successful marine sanctuary?

To what extent is the program logic model or conceptual framework for establishing CB-MS used by projects you are familiar with or work on similar or different to the general model presented?

Are there several models for CB-MS in the Philippines, and if so, how are they different? (Is the "Apo Island" 1980s MCDP model the general approach used by most projects?)

In your opinion, do the different models (if there are differences) generally lead to successful CB-MS, and why?

How long must various interventions or steps (as described in the conceptual framework) be carried out (such as the duration of a full time community organizer/extension officer living in the community) before they are sufficient to achieve success? What are the benchmarks that inform us that these inputs are sufficient?

Discuss factors or hypotheses influencing success of community-based marine sanctuaries

Of the numerous examples of CB-MS in the Philippines, we know that there are many examples of successful ones, but there are also as many if not more that are not functioning successfully. What percentage of CB-MS project sites are successful/unsuccessful. Why do so many projects fail and to what extent is this caused by poor or inadequate implementation, or due to an invalid approach/model used?

To what extent does the community context and supra-community context impact the success of a CB-MS? What community context and supra community context factors do you feel may be most important in influencing success and why, and under what conditions may it be important and when may it not? Which factors do you feel are not important?

What are the critical project interventions, strategies and implementation techniques that are most important for establishing CB-MS? What project interventions factors do you feel may be most important in influencing success and why, and under what conditions may it be important and when may it not? Which factors do you feel are not important?

Specifically, address some of the following issues:

- What level of stakeholder participation is required to achieve success? How do we know when we have achieved a sufficient level of participation (benchmarks)?
- What participation techniques work best and why?
- What type of public participation, education and training strategies work best?
- What is the most important content for public education and community training?

What are important considerations for developing institutional programs which foster successful replication /establishment of CB-MS, such as the FSP, CEP, CRMP, Marine Resources Division Program of Negros Oriental?

Review and development of a list of potential CB-MS sites for the field research component of the project.

Please list CB-MS sites you are familiar with on the flip chart and which could be considered for possible field site surveys (should meet criteria of definition of a CB-MS and duration of implementation about 1 year, but do not have to be "successful" examples). Any information you can provide about these sites, or where we can get information on them, or how we can contact you or others to get additional information about them is greatly appreciated.

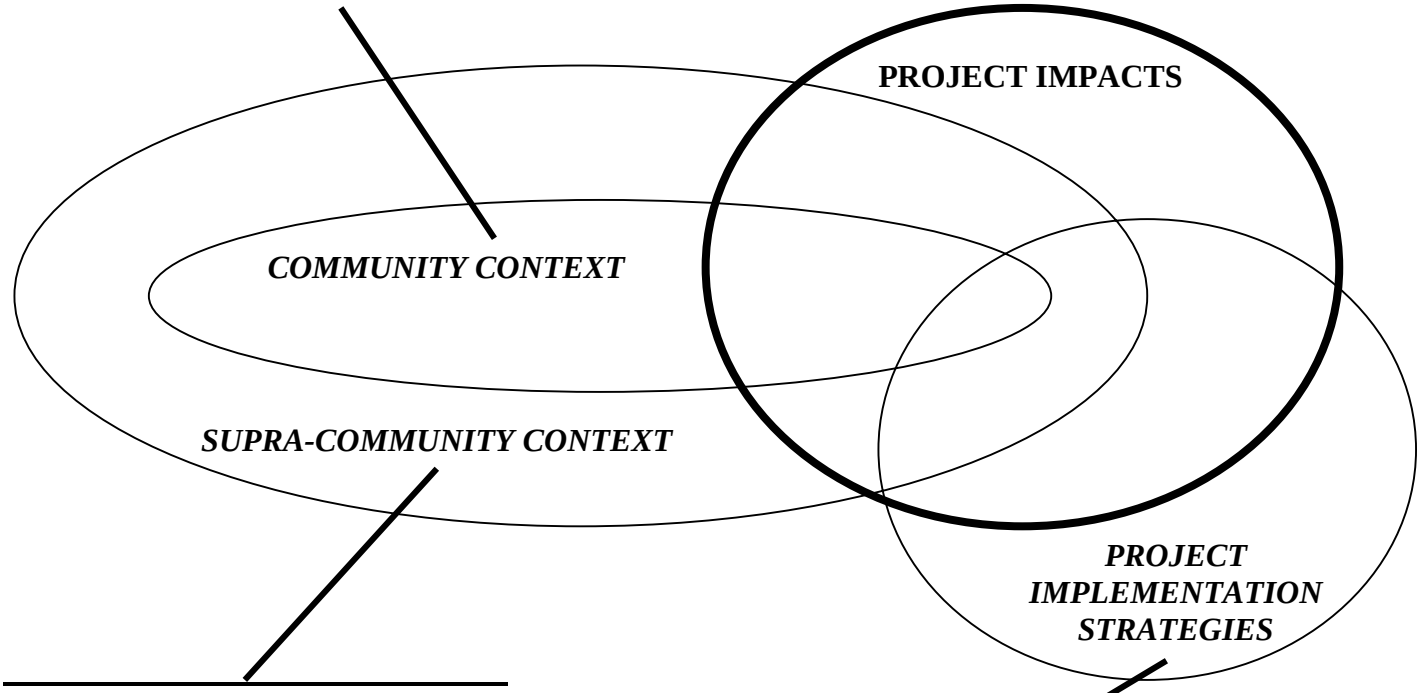
Please list the sites put on the flip chart. Mark next to each the rank you would give each site on a scale of 1-5: highly successful -1, very successful -2, successful -3, somewhat successful -4, not successful -5, don't know or have insufficient knowledge of the site -6.

Review and comment on the field research design and methods as outlined in the background proposal.
Many people believe that quality of local leadership is an important factor determining success. How would you measure this variable in a field survey?

Discussion of the proposed Philippines-Indonesian Workshop
What are the best dates in the Aug.-Sept. period?
Pros and Cons of holding the workshop in Cebu versus Davao?
Are there sites in Davao or Cebu where we could make a field visit?
Comments on structure, content, agenda?

ANNEX 4: Summary of Factors Influencing Success (Impacts) from a Literature Review by R. B. Pollnac

1) Crisis in resource depletion perceived by local leaders (1)
2) Target species composition, distribution, and importance (2,3)
3) Environmental features influencing boundary definition (3)
4) Technology used to extract coastal resource (2,4,5,3,6,7)
5) Level of community development (8,9,10)
6) Degree of socioeconomic and cultural homogeneity (11,1,12,13)
7) Tradition of cooperation and collective action (14,11)
8) Population and population changes (15,16,6)
9) Degree of integration into economic and political system (12)
10) Occupation structure and degree of commercialization and dependence on coastal resources (3,6)
11) Local political organization (1,17)
12) Supportive local leadership (18)
13) Quality of local leadership (19)
14) Coastal resource use rights and management systems, formal and informal (1,20,6,21,13)
15) Local resource knowledge (22)



1) Enabling Legislation (11,23,24,25,26,27)
2) Supra-community institutions (6,23,13,28,29)
3) Supra-community markets (3,30)
4) Other supra-community shocks to system
   -new technology (23,3,4,5)
   -natural or man-made disasters;
   E.g., war, famine, drought, earthquake flood, typhoon, etc. (19)

1) Early participation in project planning (31,32,21)
2) Continued participation in planning and implementation (14,32,18)
3) Flexibility to adapt as project is implemented (33)
4) Full-time staff in project communities (34,35)
5) Identification of core group for leadership development (18)
6) Establishment of community education (18)
7) Coordination of all involved groups (34)
8) Communication of clearly defined objectives to participants (18)

References Cited

1 Pinkerton, E. (1989b) Introduction: Attaining better fisheries management through co-management--prospects, problems, and propositions. in (E. Pinkerton, ed.) Cooperative management of local fisheries: New directions for improved management and community development. Vancouver: University of British Columbia Press.

2 Mahon, R. (1997) Does fisheries science serve the needs of managers of small stocks in developing countries? Canadian Journal of Fisheries and Aquatic Sciences 54:2207-2213.

3 Pollnac, R.B. (1984) Investigating territorial use rights among fishermen. in (K. Ruddle and T. Akimichi, Eds*.) Maritime Institutions in the Western Pacific*. pp285-300. Senri Ethnological Studies 17. Osaka: National Museum of Ethnology.

4 Matsuda, Y. and Y. Kaneda (1984) The seven greatest fisheries incidents in Japan. in (K. Ruddle & T. Akimichi, eds.) Maritime Institutions in the Western Pacific. pp159-182. Senri Ethnological Studies 17. Osaka: National Museum of Ethnology.

5 Ohtsuka, R. and Y. Kuchikura (1984) The comparative ecology of subsistence and commercial fishing in Southwestern Japan, with special reference to maritime institutions. in (K. Ruddle & T. Akimichi, eds.) Maritime Institutions in the Western Pacific. pp121-136. Senri Ethnological Studies 17. Osaka: National Museum of Ethnology.

6 Pollnac, R.B. (1994) Research directed at developing local organizations for people's participation in fisheries management. in (R.S. Pomeroy, Editor) Community Management and Common Property of Coastal Fisheries in Asia and the Pacific: Concepts, Methods and Experiences. pp. 94-106. Manila: International Center for Living Aquatic Resources Management.

7 Miller, D. (1989) The evolution of Mexico's Caribbean spiny lobster fishery. in (F. Berkes, ed.) Common Property Resources: Ecology and Community Based Sustainable Development. London: Belhaven Press.

8 Schwartz, N.B. (1986) Socioeconomic considerations. in (Lovshin, et al., eds.) Cooperatively Managed Panamanian Rural Fish Ponds. International Center for Aquaculture Research and Development Series No. 33. Auburn, Alabama: Auburn University.

9 Pollnac, R.B. (1988) Evaluating the Potential of Fishermen's Organizations in Developing Countries. Kingston, RI: International Center for Marine Resource Development, University of Rhode Island.

10 Poggie, J.J. and R.B. Pollnac (1991) Comunity context and cooperative success in Ecuador. in (Poggie, J.J. and R.B. Pollnac, eds.) Small-Scale Fishery Development: Sociocultural Perspectives. pp106-113. Kingston, RI: International Center for Marine Resource Development, University of Rhode Island.

11 Jentoft, S. (1989) Fisheries co-management: delegating government responsibility to fishermen's organizations. in (Thomas, J.S., et al., eds.) Marine Resource Utilization: Proceedings of a Conference on Social Science Issues. Mobile: Univ. of South Alabama College of Arts and Sciences Publication Vol. I and the Mississippi-Alabama Sea Grant Consortium.

12 Doulman, D.J. (1993) Community-based fishery management: Towards the restoration of traditional practices in the South Pacific. Marine Policy 17(2):108-117.

13 White, A.T., L.Z. Hale, Y. Renard, and L. Cortes (1994a) The need for community based coral reef management. in (White, A.T., L.Z. Hale, Y. Renard, and L. Cortes, Eds.) Collaborative and Community Based Management of Coral Reefs. pp. 1-18. West Hartford, CN: Kumarian Press.

14 Pomeroy, R.S., R.B. Pollnac, B.M. Katon, and C.D. Predo (1997) Evaluating factors contributing to the success of community-based coastal resource management: the Central Visayas regional Project-1, Philippines. Ocean and Coastal Management 36(1-3);97-120.

15 Novaczek, I. and I. Harkes (1998) An Institutional Analysis of Sasi in Maluku, Indonesia. Fishery Co-Management Research Project Working Paper No. 39. Manila: ICLARM.

16 McGoodwin, J.R. (1994) "Nowadays, nobody has any respect": The demise of folk management in a rural Mexican fishery. in (Dyer, C.L. and J.R. McGoodwin, Eds.) Folk Management in the World's Fisheries. pp. 43-54. Niwot, Colorado: University Press of Colorado.

17 Pollnac, R.B. and S. Sihombing 1996 Cages, controversy and conflict: Carp culture in Lake Toba, Indonesia.in *Aquaculture Development: Social Dimensions of an Emerging Industry* (C. Bailey, S. Jentoft, & P. Sinclair, eds.). Boulder: Westview Press.

18 White, A.T., L.Z. Hale, Y. Renard, and L. Cortes, Eds. (1994b) Collaborative and Community Based Management of Coral Reefs. West Hartford, CN: Kumarian Press.

19 World Bank. (1999) *Voices from the Village: A Comparative Study of Coastal Resource Management in the Pacific Islands.* Draft report (not for circulation). Pacific Islands Discussion Paper Series, No. 9, East Asia and Pacific Region, Papua New Guinea and Pacific Islands Country Management Unit. Washington, D.C.: The World Bank.

20 Pinkerton, E. (1994) Summary and conclusions. in (Dyer, C.L. and J.R. McGoodwin, Eds.) Folk Management in the World's Fisheries. pp. 317-337. Niwot, Colorado: University Press of Colorado.

21 Pomeroy, R.S., Ed. (1994b) Community Management and Common Property of Coastal Fisheries in Asia and the Pacific: Concepts, Methods and Experiences. Manila: International Center for Living Aquatic Resources Management.

22 Johannes, R.E. (1981) *Words of the Lagoon: Fishing and Marine Lore in the Palau District of Micronesia*. Berkeley: Univ. of California Press.

23 Ostrom, E. (1994) Institutional analysis, design principles and threats to sustainable community governance and management of commons. in (R.S. Pomeroy, Ed.) Community Management and Common Property of Coastal Fisheries and Asia and the Pacific: Concepts, Methods and Experiences. pp34-50. ICLARM Conference Proceedings 45. Manila: ICLARM.

24 Felt, L.F. (1994) Two tales of a fish: The social construction of indigenous knowledge among Atlantic Canadian salmon fishers. in (Dyer, C.L. and J.R. McGoodwin, Eds.) Folk Management in the World's Fisheries. pp. 251-286. Niwot, Colorado: University Press of Colorado.

25 Felt, L.F. (1990) Barriers to user participation in the management of the Canadian Atlantic salmon fishery: If wishes were fishes. *Marine Policy* 14(4):345-360.

26 Kuperan Viswanathan, K. and N.M.R. Abdullah (1994) Planning and management of small-scale coastal fisheries. in (R.S. Pomeroy, Ed.) Community Management and Common Property of Coastal Fisheries and Asia and the Pacific: Concepts, Methods and Experiences. pp115-123. ICLARM Conference Proceedings 45. Manila: ICLARM.

27 Jentoft, S. and T. Kristoffersen (1989) Fishermen's co-management: The case of the Lofoten fishery. *Human Organization* 48(4):355-365.

28 Pollnac, R.B. and M.L.G. Gorospe. (1998) Aspects of the human ecology of Atulayan Bay. in (Richard B. Pollnac, Ed.) *Rapid Assessment of Management Parameters for Coral Reefs.* Pp 77-139. Coastal Management Report #2205 and ICLARM Contribution #1445. Narragansett, RI and Manila: Coastal Resources Center, University of Rhode Island and the International Center for Living Aquatic Resources Management.

29 Pomeroy, R.S. and M.D. Pido (1995) Initiatives towards fisheries co-management in the Philippines: The case of San Miguel Bay. Marine Policy 19(3): 213-226.

30 Pomeroy, R.S. (1994a) Introduction. in (R.S. Pomeroy, Ed.) *Community Management and Common Property of Coastal Fisheries and Asia and the Pacific: Concepts, Methods and Experiences*. pp1-11. ICLARM Conference Proceedings 45. Manila: ICLARM.

31 Cernea, M.M., Ed. (1991) *Putting People First: Sociological Variables in Rural Development*, 2nd Edition. New York: Oxford University Press.

32 Chambers, R. (1983) Rural Development: Putting the Last First. Essex, UK: Longman Scientific & Technical.

33 Uphoff, N. (1991) Fitting projects to people. in (M.M. Cernea, Ed.) Putting People First: Sociological Variables in Rural Development, 2nd Edition. pp467-511. New York: Oxford University Press.

34 Agbayani, R.F. and S.V. Siar (1994) Problems encountered in the implementation of a community based fishery resource management project. in (R.S. Pomeroy, Ed.) *Community Management and Common Property of Coastal Fisheries and Asia and the Pacific: Concepts, Methods and Experiences*. pp115-123. ICLARM Conference Proceedings 45. Manila: ICLARM.

35 Alcala, A.C. and F.J. Vande Vusse (1994) The role of government in coastal resources management. in (R.S. Pomeroy, Ed.) *Community Management and Common Property of Coastal Fisheries and Asia and the Pacific: Concepts, Methods and Experiences*. pp12-19. ICLARM Conference Proceedings 45. Manila: ICLARM.

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ANNEX 6: Community-Based Marine Sanctuary Sites

The sites listed in Table I were compiled and recommended by focus group participants for possible inclusion in the field site surveys. The number in parentheses is the ranking given by the Focus Groups for each site (1- highly successful; 2 - very successful; 3 – successful; 4 – somewhat successful; 5 – not successful; and 6 – don't know or have insufficient knowledge of the site). In cases where two numbers are indicated, they are rankings provided by different focus groups for that particular site. Very few sites were ranked as either a 1-highly successful, or 5 – not successful. However, when individuals were asked in general, how many community-based marine sanctuary sites are successful and not successful, individuals would give a range of approximately 20-25 % of the sites as being successful. This is similar to the 19 percent success rate reported by Pomeroy and Carlos (1997) for community-based coastal resources management programs and projects in the Philippines. The focus groups tended to be more kind in their ranking, perhaps reflecting a viewpoint that any site established can be considered as some degree of success.

Table I: List of sites compiled and ranked by focus group participants

Pangasinan
Cabungan Marine Reserve, Anda (4/4)
Carot Marine Reserve, Anda (4/4)
Balingasay Marine Sanctuary, Bolinao (2-3/3)

Zambales
San Salvador Island, Masinloc (2/3)

Batangas
San Teodoro Marine Reserve, Mabini (2/4)
Bagalangit Marine Reserve, Mabini (3/3)

Palawan
Aborlan (5/6)
San Vicente (3/3-4)

Quezon
Ragay Fish Sanctuary, Tagcauayan (6/4)
Ragay Marine Reserve (6)

Marinduque
Gasan (4/4)
Tres Reyes Island (4)

Aurora
Baler (6)

Albay
San Miguel Island, Tabaco (2)

Sorsogon
Marilag, Prieto Diaz (2)

Catanduanes
Agojo (4)

Camarines
Atulayan Island, Sagnay, Camarines Sur (4)
Calabanga, Camarines Sur (3)
Pasacao, Camarines Sur (2)
Mercedes, Camarines Norte (3)

Cebu
Alegria (three sanctuaries) (3)
Bantayan Island: Tamiao, Sillon, Atop-atop (3)
Doong, Bantayan (3)
Barile Municipal Sanctuary, Barile (3)
Gilutongan Island, Cordova (3)
Barangay Bitoon, Dumanjug (3)
Sto. Niño, Malabuyoc (3)
Pescador Island, Moalboal (4/2)
Saavedra, Moalboal (4)
Sumilon Island, Oslob (3/5)
Badjan Island (3)
Ronda (3)
Saavedra (3)
Colasi, Samboan (3)
Barangay Maño, San Remegio (2)
Zaragoza Island, Badjan (4)

Table I (continued)

Negros Island
Ayungon (3)
Bongalonan, Basay (3)
Apo Island, Dauin (1)
Masaplod Norte, Dauin (2/3)
Bolisong, Manjuyod (2)
Campuyo, Manjuyod (5)
Cangmating, Sibulan (3/2)
Sagay Protected Seascape, Sagay (2)
Caliling, Cauayan (4)
Danjugan Island, Bulata (6)
Malaga, Bindoy (4)
Malusay, Guihulngan (3)
Amduloy, Siaton (4)
Tambobo, Siaton (3)
Tandayag, Amlan (4)
Polo Offshore, Tantay (4)
Poblacion, San Jose (5)
San Jose, Lalibertad (4)
Cabulutan, Tayasan (4)
Calagcalag, Ayungon (3)

Bohol
Pamilacan Island, Baclayon (1/2)
Cabilao, Loon, Cabangan (2
Cabilao, Loon, Pantudlan (3)
Balicasag Island, Panglao (2/4)
Panglao Island (Four sanctuaries - 5)
Doljo, Panglao (4)
Balod, Panglao (4)
Lomboy-Kahayag, Panggangan Island, Calape (2)
Magtongtong, Panggangan Island, Calape (3)
Sandingan Island, Loon (Calayugan (2); Sundol (3)
Candijay Fish Sanctuary (Candijay) (3)
Pitogo Island (3)
Handumon, Getafe) (2)
Taguliao, Getafe (4)

Siquijor
Talayong, Lasi (4)
San Jose (5)
Tulapos Marine Sanctuary, E. Villanueva (2)

Eastern Samar
Bagonbanua, Guiuan (4)

Leyte
Balud, Capoocan (4)
Cuatro Islas, Himokilan Inopacan (2)
Cuatro Islas , Apid Inopacan (2)
Cuatro Islas, Mahaba Inopacan (2)
Cuatro Islas, Didjo Inopacan (2)
Palompon (6)

South Cotabato
Saranggani Bay, General Santos: 4 sanctuaries (3)

Misamis Occidental
Baliangao wetland park, Baliangao (1)
Sinacaban Sanctuary, Sinacaban (6)
Villa Consuelo, Ozamis City (4)

Davao
Malalag, Davao (3)
Samal Island (6)

The list of sites provided in Table II was compiled by Maharlina Gorospe as part of the preliminary preparations for selection of sites for the field research component of the project. This preliminary compilation of community-based marine sanctuary, fish sanctuary, and marine reserve sites (generally considered to be no-take zones) was taken from multiple sources including secondary literature, an electronic database and lists provided by focus group participants. It is not to be considered a complete listing of sites in the Philippines and it has not been ground truthed. Therefore, sites listed may or may not meet the general criteria of a community-based marine sanctuary as defined in this report, which included being established by a municipal ordinance, primarily consisting of coral reef habitat, and a permanently closed "no-take" area.

Table II: A Preliminary Compilation of Community-Based Marine Sanctuary, Fish Sanctuary, and Marine Reserve Sites in the Philippines

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
1	Brgy 19, Masintoc FS	1	Ilocos Norte	Paoay	Masintoc	1980
2	Fishery Reservation & Fish/Bird/Animal Sanctuary	1	Ilocos Sur	Caoayan	Davila	1998
3	Sabangan FS	1	Ilocos Sur	Sinait	Sabangan	1973
4	Payao	1	Ilocos Sur	Sta. Lucia	Nagalisan, Bao-as	
5	Aringay River Delta	1	La Union	Aringay	Aringay	1998
6	Pagdalagan Sur-Urayong FS	1	La Union	Bauang	Pagdalagan Sur and Urayong	1995
7	Eastern Coast Sabtang Island	2	Batanes	Sabtang	Eastern Coast	1993
8	Tallo-Ulo FS	2	Cagayan	Sta. Praxedes	San Juan	1998
9	FS	3	Bataan	Abucay		
10	Salaman FS	3	Bataan	Bagas	Salaman	1998
11	FS	3	Bataan	Mariveles		
12	Binoclutan FS	3	Zambales	Botolan	Binoclutan	1996
13	Felmida Diaz, San Isidro, Arew FS	3	Zambales	Cabangan	Felmida Diaz, San Isidro, Arew	1997
14	Cabangan FS	3	Zambales	Cabangan		
15	Uacon FS	3	Zambales	Candelaria	Uacon	
16	Malimanga FS	3	Zambales	Candelaria	Malimanga	
17	San Salvador Marine Conservation Project	3	Zambales	Masinloc	San Salvador	1989
18	Disoksip Point	4	Aurora	San Luis	Dibut	
19	Susong Dalaga Point	4	Aurora	San Luis	Dibut	
20	Taal Lake at Large Marine Sanctuary	4	Batangas	Agoncillo	Subic	
21	San Pablo FS	4	Batangas	Bauan	San Pablo	1994
22	Calatagan MR	4	Batangas	Calatagan		>1992
23	Mabini Marine Conservation Project (MR/S)	4	Batangas	Mabini	San Teodoro	1991
24	Twin Rocks FS	4	Batangas	Mabini	Sitio Balanoy, San Teodoro	1991
25	Arthur's Rock FS	4	Batangas	Mabini	San Teodoro	1991
26	Cathedral Rock FS	4	Batangas	Mabini	Bagalangit	1991
27	White Sand's Rock MS	4	Batangas	Mabini		1991
28	Subukin MS	4	Batangas	San Juan Bais	Subukin	
29	Calubcub MS	4	Batangas	San Juan Bais	Calubcub	1995
30	Danubo MS	4	Laguna	Pangil	Danubo	1995
31	Balian MS	4	Laguna	Pangil	Balian	1995
32	San Jose MS	4	Laguna	Pangil	San Jose	1995

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
33	Sulib MS	4	Laguna	Pangil	Sulib	1995
34	Agufar MS	4	Laguna	Pangil	Agufar	1995
35	Fish Sanctuary Zone	4	Marinduque	Boac	Caganhao	
36	Tres Reyes Island MS	4	Marinduque	Gasan	Tres Reyes Island	1997
37	Gasan Community MR	4	Marinduque	Gasan	Bacong Bacong, Tres Reyes Island {Pinggan?}	
38	FS Cagpo/Poctoy	4	Marinduque	Torrijos	Cagpo/Poctoy	
39	FS Kay Duke	4	Marinduque	Torrijos	Kay Duke	
40	Habitat Zone	4	Marinduque	Torrijos	Suha to Bonliw	
41	Bugger Zone {Buffer?}	4	Marinduque	Torrijos	Salamague Pt. To Marlangga	
42	Torrijos Community MR	4	Marinduque	Torrijos	Kay Duke	
43	Calintaan FS	4	Occ. Mindoro	Calintaan	Concepcion	
44	Apo Marine Natural Park	4	Occ. Mindoro	Sablayan	Apo	1992
45	Sablayan MS	4	Occ. Mindoro	Sablayan	Sablayan	1994
46	Tinuto FS	4	Oriental Mindoro	Naujan	Tinuto	
47	Malbang FS	4	Oriental Mindoro	Naujan	Malbang	
48	Poblacion FS	4	Oriental Mindoro	Naujan	Poblacion	
49	Sitio Siguel FS	4	Oriental Mindoro	Naujan	Tinuto	
50	Colon FS	4	Oriental Mindoro	Naujan	Colon	
51	Malunao Island Protected Area	4	Palawan	Aborlan	San Juan	
52	Rasa Island Coral Reefs	4	Palawan	Narra	Rasa Island	1997
53	Albiguen Reef	4	Palawan	San Vicente	Port Barton	1997
54	Port Barton Marine Park	4	Palawan	San Vicente	Port Barton	1997
55	Nagolon and Linabagan Point	4	Palawan	San Vicente	Caruray	1997
56	Port Barton MS	4	Palawan	San Vicente	Port Barton	
57	FS	4	Quezon	Calauag	Pinagsakayan	
58	Ajos FS	4	Quezon	Catanauan	Ajos	1994
59	Cabong Norte MPA Project	4	Quezon	Guinayangan	Cabong Norte	
60	FS	4	Quezon	Guinayangan	[Pinagbayanan]	
61		4	Quezon	Patnanungan	(Katakian Island)	
62	Pulong Epil FS	4	Quezon	Polillo	Sto. Daet, Bislian	
63	Maibat FS	4	Quezon	Polillo	Libio	
64	Pulong Pilion FS	4	Quezon	Polillo	Pilion	
65	Pulong Agta FS	4	Quezon	Polillo	Kalubakis	
66	Pulong Bigyan FS	4	Quezon	Polillo	Sto. Bigyan, Sibulan	
67	FS	4	Quezon	Quezon		
68	FS	4	Quezon	San Andres	[Camflora]	
69	FS	4	Quezon	San Francisco		
70	FS	4	Quezon	San Narciso	[Punta and Abuyon]	
71	Guisguis Batohan	4	Quezon	Sariaya	Guisguis	
72	Talaan Batohan	4	Quezon	Sariaya	Talaan	
73	Bignay FS	4	Quezon	Sariaya	Bignay 2	
74	Acha Reef	4	Quezon	Tagkawayan	Candalapdap	
75	FS	4	Quezon	Tagkawayan	[Rizal]	
76	FS	4	Quezon	Unisan		
77	FS	4	Quezon	[Perez]	(Gerardo Point)	

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
78	Capt. Jawar Gold Sand-Lindayon Reef FS	4	Romblon	Magdiwang	Poblacion-Tampayan Area	
79	Municipal Bay Management Project	5	Albay	Rapu-Rapu	Hamorawon, Villahermosa, Gaba and Buhatan	
80	FS	5	Albay	Rapu-Rapu	(Batan Island)	
81	San Miguel Island MFR/S	5	Albay	Tabaco	Sitio Sagurong, San Miguel	> 2 yrs
82	Bagasbas MS	5	Camarines Norte	Daet	Bagasbas	1998
83	Mercedes FS and MR	5	Camarines Norte	Mercedes	(Malasugi Island)	1994
84	FS	5	Camarines Norte	Mercedes	[Quinapaguian]	
85	FS	5	Camarines Sur	Bato	[Pagatpatan]	
86	FS	5	Camarines Sur	Bato	[Payak]	
87	Calabanga FS	5	Camarines Sur	Calabanga	Sibobo and Cagsao	1997
88	Calabanga MR	5	Camarines Sur	Calabanga	Cagsao and Belen	1997
89	FS	5	Camarines Sur	Del Gallego	[Sabang]	
90	Minalabac FS	5	Camarines Sur	Minalabac	Salingogon & San Antonio	
91	Pasacao FS and MR	5	Camarines Sur	Pasacao	[Caranan]	> 5 yrs
92	FS	5	Camarines Sur	Presentacion	[Buenavista]	
93	Ragay FS	5	Camarines Sur	Ragay	Buenasuerte [Ogtog]	1995
94	Ragay MR	5	Camarines Sur	Ragay	Buenasuerte	1995
95	Atulayan FS and MR	5	Camarines Sur	Sagn~ay	Atulayan, Atulayan Island	1993
96	FS	5	Camarines Sur	San Andres	Cabcab	
97	FS	5	Camarines Sur	San Fernando	[Cotmo and Pinamasagan]	
98	FS	5	Camarines Sur	Siruma	(Sapinitan Bay)	
99	Agojo Point FS	5	Catanduanes	San Andres	Agojo	1993
100	Balo Andang Bay	5	Masbate	Claveria	San Ramon	
101	Looc FS	5	Masbate	Claveria	Calpi	
102	Nonoc Bay	5	Masbate	Claveria	Nonoc	
103	Binaryohan Bay	5	Masbate	Claveria	Boca Engan~o	
104	Labangtaytay	5	Masbate	Esperanza	Labangtaytay	
105	Rizal FS	5	Masbate	Esperanza	Rizal	
106	Libertad FS	5	Masbate	Esperanza	Libertad	
107	Animasola Island	5	Masbate	San Pascual	Laurente	1997
108	Halabangbaybay	5	Masbate		Busing	
109	San Juan FS	5	Sorsogon	Bacon	San Juan	
110	Poblacion Norte FS	5	Sorsogon	Barcelona	Poblacion Norte	1993
111	Marilag MR	5	Sorsogon	Prieto Diaz		> 3 yrs
112	FS	5	Sorsogon		(Malumawan Island)	
113	FS	5	(Lagonoy Gulf)		(Aguirangan Island)	
114	Tinagong Dagat MS	6	Aklan	Altavas	Banga Bay	1993
115	Kapispisan Sanctuary	6	Aklan	New Washington	Pinamuc-an	
116	CRM	6	Aklan	Tangalin	(Agfa Point)	1993
117	Batonan Sur Coral Reef MS	6	Antique	Culasi	Batonan Sur	
118	Indiacacan MS	6	Antique	Pandan	Indiacacan	1998
119	Mag-aba MS	6	Antique	Pandan	Mag-aba	1997

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
120	Tingib MS	6	Antique	Pandan	Tingib	1997
121	Patria MS	6	Antique	Pandan	Patria	1997
122	Punta Haldan FS	6	Antique	Tobias Fornier	Punta Haldan	
123	San Roque MS	6	Antique	Libertad, Pandan, Sebaste, Culasi	San Roque	1998
124	Tinigbas MS	6	Antique	Libertad, Pandan, Sebaste, Culasi	Tinigbas	1998
125	Tucat Reef	6	Capiz	Pilar	Pilar Bay	1997
126	Lusay-Lawi MS	6	Guimaras	Jordan	Lusay-Lawi	1997
127	FS	6	Iloilo	Ajuy	Nasidman	
128	Hibitkan Rock	6	Iloilo	Banate		
129	Artificial Reef, Fish Reservoir and Reforestation	6	Iloilo	Batad	Tunao, Alinsolong, Binon-on, Huisdong and Bonbon	
130	Loon MPA	6	Iloilo	Estancia	Loon	1998
131		6	Iloilo	[Culasi]	(Malalison Island)	1990
132	Sagay MR	6	Negros Occidental	Sagay		
133	San Roque FS	7	Bohol	Baclayon	San Roque	1994
134	Pamilocan FS	7	Bohol	Baclayon	Pamilocan	1986
135	Sagasa FS	7	Bohol	Bien Unido	Sagasa	1996
136	FS	7	Bohol	Bien Unido	Puerto San Pedro	1995
137	AWO	7	Bohol	Calape	Talisay	1995
138	Talisay Offshore	7	Bohol	Calape	Talisay	1991
139	Babag FS	7	Bohol	Calape	Talisay	1991
140	Tawnganan FS	7	Bohol	Calape	Mantatao	1991
141	Magtongtong FS (AWO)	7	Bohol	Calape	Magtongtong, Pangangan Island	1996
142	San Isidro	7	Bohol	Calape		
143	Liboron	7	Bohol	Calape		
144	Cahayag-Lomboy (AWO) FS	7	Bohol	Calape	Cahayag-Lomboy, Pangangan Island	1995
145	Sanktuaryo	7	Bohol	Calape	[Sitio Pontod Dagotdot] San Isidro	
146	Municipal Fish Sanctuaries	7	Bohol	Candijay	Cogtong, Catiil Island and Tabong Dio Island	
147	Candijay FS	7	Bohol	Candijay	Candijay	1996
148	FS	7	Bohol	Clarin	(Loculan Shoal)	
149	Replenishment Area	7	Bohol	Dauis	Catarman	
150	Handumon MS	7	Bohol	Getafe	Handumon, Jandayan Island	
151	Handumon MFS	7	Bohol	Getafe	Handumon, Jandayan Island	
152	Jagolian Sanctuary	7	Bohol	Getafe	Jagoliao	
153	Canlauson Municipal Fisheries Nursery	7	Bohol	Getafe	Alumar and Mahanay	
154	Getafe Sanctuary	7	Bohol	Getafe	Poblacion	
155	Pandanon Sanctuary	7	Bohol	Getafe	Pandanon	
156	Jandayan Sanctuary	7	Bohol	Getafe	Jandayan	
157	Jandayan Norte, Handumon	7	Bohol	Getafe	Jandayan Norte, Handumon	

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
158	Cabacungan FS	7	Bohol	Loon	Cabacungan, Cabilao Island	1997
159	Calayugan Sur FS	7	Bohol	Loon	Calayugan Sur, Sandingan Island	1997
160	Lumislis Island FS	7	Bohol	Mabini	Concepcion	1997
161	Lumayag Islet FS	7	Bohol	Mabini	Baybayon	1995
162		7	Bohol	Malingin		1995
163	Fish Reservation Area	7	Bohol	Maomwan		1994
164	Lincod FS	7	Bohol	Maribojoc		1994
165	Punta Cruz FS	7	Bohol	Maribojoc	Punta Cruz	1995
166	Punta Cruz No Fishing Zone Area	7	Bohol	Maribojoc	Punta Cruz	
167	Balicasag Island MS	7	Bohol	Panglao		1986
168	Lapinig FS	7	Bohol	Pres. C.P. Garcia	[Sitio Poong Gamay] Lapinig	1993
169	Campamanog MS	7	Bohol	Pres. C.P. Garcia	Campamanog	1993
170	Kabangkalan MS	7	Bohol	Pres. C.P. Garcia	Kabangkalan	1993
171	Sto. Rosario MS	7	Bohol	Pres. C.P. Garcia	Sto. Rosario	1993
172	Butan MS	7	Bohol	Pres. C.P. Garcia	Butan	1993
173	Villa Milagrosa MS	7	Bohol	Pres. C.P. Garcia	Villa Milagrosa	1993
174	Gaus MS	7	Bohol	Pres. C.P. Garcia	Gaus	1993
175	Aguining FS	7	Bohol	Pres. C.P. Garcia	Aguining	1993
176	Guindacpan FS	7	Bohol	Talibon	Guindacpan	
177	Sag FS	7	Bohol	Talibon	Sag	
178	Cataban FS	7	Bohol	Talibon	Cataban	
179	Nocnocan FS	7	Bohol	Talibon	Nocnocan	
180	Calituban FS	7	Bohol	Talibon	Calituban	
181	Mahanay FS	7	Bohol	Talibon	Mahanay	
182	Ipil/Soom River Marine Life Sanctuary	7	Bohol	Trinidad	Soom	1996
183	Pangapasan Island FS	7	Bohol	Tubigon	(Pangapasan Island)	1998
184	Batasan MS	7	Bohol	Tubigon	Batasan	
185	Fish Park Enforcement Zone	7	Bohol	[Hingotonan East]		
186	FS	7	Bohol	[Hingotonan West]		1995
187	MS	7	Cebu	Alegria	Madridejos [Balhaan]	
188	Madridejos Catholic Parish Church MS	7	Cebu	Alegria	Madridejos	1994
189	Villanueva's Beach Resort MS	7	Cebu	Alegria	Madridejos	1994
190	Legaspi MS	7	Cebu	Alegria	Legaspi	1994
191	Sta. Filomena MS	7	Cebu	Alegria	Sta. Filomena	1994
192	Zaragosa, Badian MR and FS	7	Cebu	Badian	Zaragosa Island	1987
193	Panitogan Islet FS	7	Cebu	Bantayan	[Sitio Panitogan] Sulangan	
194	Barili Municipal MS	7	Cebu	Barili	Japitan and Candugay	1995
195	Cansaga Bay	7	Cebu	Consolacion		
196	Gilutongan MS	7	Cebu	Cordova	Gilutongan	1991
197	Bitoon MS	7	Cebu	Dumanjug	Bitoon	1997
198	Camboang MS	7	Cebu	Dumanjug	Camboang	1997
199	Talangnan MS	7	Cebu	Madridejos	Talangnan	1995
200	Tarong MS	7	Cebu	Madridejos	Tarong	1992

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
201	Kaongkod MS	7	Cebu	Madridejos	Kaongkod	1995
202	Malabuyoc Municipal MS	7	Cebu	Malabuyoc	Sto. Nin~o and Looc	1998
203	Pescador MS	7	Cebu	Moalboal	Pescador Island	1996
204	Saavedra FS	7	Cebu	Moalboal	Saavedra	1994
205	Basdiot FS	7	Cebu	Moalboal	Basdiot	1986
206	Sumilon Island FS	7	Cebu	Oslob	Mainit, Sumilon Island	1980
207	Samboan Municipal MS	7	Cebu	Samboan	Colase	1993
208	FS	7	Cebu	San Remigio	Biasong, Mano	1996
209	Poblacion MS	7	Cebu	Santander	Poblacion	
210	Hilantaga-an FS	7	Cebu	Sta. Fe	Hilantaga-an	
211	Pooc FS	7	Cebu	Sta. Fe	Pooc	
212		7	Cebu	[7 Ayud (facing Mactan Island)]		
213	Tandayag MR	7	Negros Oriental	Amlan	Tandayag	1996
214	Calagcalag	7	Negros Oriental	Ayungon		
215	Iniban	7	Negros Oriental	Ayungon		
216	Calagcalag FS	7	Negros Oriental	Ayungon	Calagcalag	1989
217	Iniban FS	7	Negros Oriental	Ayungon	Iniban	1996
218	Calagcalag MR	7	Negros Oriental	Ayungon	Calagcalag	
219	Sanlangan MR	7	Negros Oriental	Bais City	Okiot	1994
220	Capin~ahan FS	7	Negros Oriental	Bais City	Capin~ahan	1995
221	Bongalonan	7	Negros Oriental	Basay	Bongalonan	
222	Cabugan	7	Negros Oriental	Bindoy		
223	Malaga	7	Negros Oriental	Bindoy		
224	Tinaogan	7	Negros Oriental	Bindoy		
225	Apo Island	7	Negros Oriental	Dauin		
226	Masaplod Norte MR	7	Negros Oriental	Dauin	Masaplod Norte	1997
227	Apo Island MR	7	Negros Oriental	Dauin	Apo Island	1986
228	Apo Island MS	7	Negros Oriental	Dauin	Apo Island	
229	Apo Island MS	7	Negros Oriental	Dauin	Apo Island	
230	Hilaitan FS	7	Negros Oriental	Guihulngan	Hilaitan	1996
231	Malusay FS	7	Negros Oriental	Guihulngan	Malusay	1996
232	San Jose	7	Negros Oriental	La Libertad	San Jose	
233	San Jose MS	7	Negros Oriental	La Libertad	San Jose	1991
234	Campuyo	7	Negros Oriental	Manjuyod	Campuyo	
235	Campuyo MS	7	Negros Oriental	Manjuyod	Campuyo	1994
236	Bolisong Sanctuary	7	Negros Oriental	Manjuyod	Bolisong	1995
237	Poblacion MR	7	Negros Oriental	San Jose	Poblacion	1994
238	Andulay FS	7	Negros Oriental	Siaton	Si-it	1993
239	Tambobo FS	7	Negros Oriental	Siaton	Bonbonon	1995
240	Agan-an MR	7	Negros Oriental	Sibulan	Agan-an	1998
241	Cangmating MR	7	Negros Oriental	Sibulan	Cangmating	1997
242	Sibulan MR	7	Negros Oriental	Sibulan	Cangmating	
243	Polo Offshore MR	7	Negros Oriental	Tanjay	Polo	1995
244	Cabulotan	7	Negros Oriental	Tayasan		
245	Lutoban	7	Negros Oriental	Zamboanguita		
246	Tulapos FS	7	Siquijor	Enrique Villanueva [Talingting]	Tulapos	
247	Taculing MS	7	Siquijor	Larena	Taculing	1986

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
248	Sandugan MS	7	Siquijor	Larena	Sandugan	1994
249	Nonoc MS	7	Siquijor	Larena	Nonoc	1994
250	Lo-ok FS	8	Biliran	Almeria	Lo-ok	1994
251	Talibong FS	8	Biliran	Cabucgayan	Talibong	1997
252	Balaquid FS	8	Biliran	Cabucgayan	Balaquid	1996
253	Kinaba FS	8	Biliran	Cabucgayan	Kinaba	1997
254	Fish Sanctuary	8	Biliran	Maripipi	Ol-og, Trabuga	
255	Paglalangnan MRS	8	Eastern Samar	Balangiga		1995
256	Paglalangnan Point to Locso-on Point	8	Eastern Samar	Balangiga	Brgy 5, 4, 6, Bacjao, Cansumangkay, San Miguel	
257	Cancapulan MRS	8	Eastern Samar	Giporlos		1995
258	Cantumangpad MRS	8	Eastern Samar	Giporlos		1995
259	Mandaloton Pasig	8	Eastern Samar	Giporlos	Coticot	
260	Bagonbanua MRS	8	Eastern Samar	Guiuan		1992
261	Manicani MRS	8	Eastern Samar	Guiuan		1995
262	Monbon MPA	8	Eastern Samar	Lawaan	[Taguite and Maslong]	1994
263	Guinoban MPA	8	Eastern Samar	Lawaan		1995
264	Canigaran MRS	8	Eastern Samar	Mercedes	(Canigaran Island)	1995
265	Caniganan FS	8	Eastern Samar	Mercedes	Caniganan	1996
266	Panaloytoyon MRS	8	Eastern Samar	Quinapondan		1995
267	Mantampok MRS	8	Eastern Samar	Quinapondan		1995
268	Minonbonan MRS	8	Eastern Samar	Salcedo	Camanga	1995
269	Anajao Island MS	8	Eastern Samar	Sulat	Anajao Island	1994
270	Boholho FS	8	Leyte	Albuera	Boholho	1993
171	Tinag-an FS	8	Leyte	Albuera	Tinag-an	1993
272	Babatngon FS/R	8	Leyte	Babatngon	(Calangawan Island)	
273	Barugo FS and FR	8	Leyte	Barugo	Buntay, Balud	1991
274	Barugo FS	8	Leyte	Barugo	Jalaba Point, Balud	1991
275	Plaridel MS	8	Leyte	Baybay	Plaridel	
276	Punta MS	8	Leyte	Baybay	Punta	
277	Jaena MS/AR	8	Leyte	Baybay	Jaena	
278	Calubian FS	8	Leyte	Calubian	Caruyucan	
279	Culasi-an MS	8	Leyte	Capoocan	Culasi-an	
280	Barugo MPA	8	Leyte	Capoocan		
281	Capoocan MPA	8	Leyte	Capoocan	Culasi-an	
282	Nauguisan FS	8	Leyte	Carigara	Nauguisan	1993
283	Guindapunan East FS	8	Leyte	Carigara	Guindapunan	1993
284	San Jose FS	8	Leyte	Dulag	San Jose	
285	Rizal FS	8	Leyte	Dulag	Rizal	
286	Maljo-Esperanza FS	8	Leyte	Inopacan	Maljo-Esperanza	1996
287	Conalum FS	8	Leyte	Inopacan	Conalum	1996
288	Tahud FS	8	Leyte	Inopacan	Tahud	1996
289	Apid MS, Cuatro Islas	8	Leyte	Inopacan	Apid	1994
290	Mahaba Island MS, Cuatro Islas	8	Leyte	Inopacan	Apid	1994
291	Digjo MS, Cuatro Islas	8	Leyte	Inopacan	Apid	1995

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
292	Fish Sanctuary and Marine Park	8	Leyte	Isabel	Apale and Tolingon	1998
293	CRM and MR	8	Leyte	Matalom	{11 Coastal Barangays}	1991
294	Canigao Island FS/MR	8	Leyte	Matalom	Canigao Island	1990
295	Union MS	8	Leyte	Mayorga	Union	
296	Merida FS	8	Leyte	Merida	Libas	
297	Ormoc FS	8	Leyte	Ormoc City	Macabug-Danhug	
298	Palo FS	8	Leyte	Palo	Baras [Binanglan]	1994
299	Tabuc Island Marine & Fish & Bird Sanctuary	8	Leyte	Palompon	(Tabuc Island)	1995
300	Buenavista Coral Reef Sanctuary	8	Leyte	Palompon	Buenavista	1998
301	Cangcosme FS	8	Leyte	Palompon	Cangcosme	1998
302	Matungao FS	8	Leyte	San Isidro	Matungao	1995
304	Taglawigan FS	8	Leyte	San Isidro	Taglawigan	1995
305	San Miguel FS	8	Leyte	San Miguel	Mawodpawod	
306	Sta. Rosa FS	8	Leyte	Tabango	Sta. Rosa	
307	San Roque FS	8	Leyte	Tanauan	San Roque	1995
308	Sta. Cruz FS	8	Leyte	Tanauan	Sta. Cruz	1994
309	FS	8	Leyte	Tanauan	[Sta. Cruz]	
310	Libagong MS	8	Leyte	Villaba	Libagong	1997
311	Leyte FS	8	Leyte		Basud and Maanda	
312	Pinantao FS	8	Leyte		Pinantao	
313	Poblacion FS	8	Northern Samar	Biri	Poblacion	
314	San Antonio FS	8	Northern Samar	Biri	San Antonio	
315	Kauswagan FS	8	Northern Samar	Biri	Kauswagan	
316	San Pedro FS	8	Northern Samar	Biri	San Pedro	
317	Sto. Nin~o FS	8	Northern Samar	Biri	Sto. Nin~o	
318	Napaawan Islet	8	Northern Samar	Gamay	Baybay	
319	Palapag Sanctuary	8	Northern Samar	Palapag	(Mapno-Palihon Island)	1993
320	Fishing Free Zone	8	Northern Samar	San Isidro	San Juan	
321	Fishing Free Zone	8	Northern Samar	San Isidro	(Looc Bay)	
322	Jiabong FS	8	Samar	Jiabong	Maligaya	
323	FS	8	Southern Leyte	Bontoc	[Casao]	
324	FS	8	Southern Leyte	Bontoc	[Poblacion]	
325	FS	8	Southern Leyte	Libagon	Biasong	
326	FS	8	Southern Leyte	Libagon	Otikon	
327	Otikon FS	8	Southern Leyte	Libagon	Otikon	1994
328	Biasong FS	8	Southern Leyte	Libagon	Biasong	1993
339	FS	8	Southern Leyte	Liloan	[Tabugon]	
330	Maujo/Juangon FS	8	Southern Leyte	Malitbog	Maujo/Juangon	
331	FS	8	Southern Leyte	Malitbog	[Sabang]	
232	FS	8	Southern Leyte	Malitbog	[Sto. Nin~o-Timba]	
333	Cabul-anonan Sanctuary	8	Southern Leyte	Malitbog	Cabul-anonan	
334	Sabang Sanctuary	8	Southern Leyte	Malitbog	Sabang	
335	Sto. Nin~o Sanctuary	8	Southern Leyte	Malitbog	Sto. Nin~o	
336	FS/FR	8	Southern Leyte	Padre Burgos	Buenavista	
337	Benit FS	8	Southern Leyte	San Ricardo	Benit and Timba	1994

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
338	Lawigan FS	8	Southern Leyte	St. Bernard	Lawigan	
339	Himbangan FS	8	Southern Leyte	St. Bernard	Himbangan	
340	Lepanto FS	8	Southern Leyte	St. Bernard	Lepanto	
341	FS	8	Southern Leyte	Tomas Oppus	[Canlupao]	
342	FS	8	Southern Leyte	Tomas Oppus	[San Antonio]	
343	FS	8	Southern Leyte		[Sun-ok, Pintuyan]	
344	FS	8	Southern Leyte		[Lugsongon, Limasawa]	
345	FS	8	Southern Leyte		[San Agustin, Limasawa]	
346	Lutao Reef MSR and Laboratory	8	Western Samar	Catbalogan	Cabugawan	1996
347	Brgy Cabugawan MS/R	8	Western Samar	Catbalogan	Cabugawan	1996
348	MS Project	8	Western Samar	Daram	Burgos	
349	MS and Reserve Development	8	Western Samar	Daram	Cabac	
350	MS Project	8	Western Samar	Daram	Malingon	
351	Real MS Development Project	8	Western Samar	Daram	Real	
352	Brgy Talib MR and PA	8	Western Samar	Zumarraga	Talib	
353	FS	8	Western Samar		[Badung-Badung Island, Marabut]	
354	Jose Dalman MS	9	Zamb. del Norte	Jose Dalman	Poblacion	
355	Gil Sanchez FS	9	Zamb. del Norte	Labason	Gil Sanchez	
356	Bayungan Island MS	9	Zamb. del Norte	Labason	Bayungan Island	
357	Punta MS	9	Zamb. del Norte	Liloy	Punta	1996
358	Rizal FS	9	Zamb. del Norte	Rizal	Selaca	1995
359	Salug FS	9	Zamb. del Norte	Salug	Caracol	
360	Nian FS	9	Zamb. del Sur	Dinas	Nian	1997
361	Dumanquillas Bay	9	Zamb. del Sur	Margosatubig	{Municipalwide}	1998
362	FS	9	Zamb. del Sur	Tambulig	[Sumalig]	
363	Triton Island FS	9	Zamb. del Sur	Vicenzo O. Sagun	Danan	1996
364	Liangan FS	9	Zamb. del Sur	Vicenzo O. Sagun	Liangan	1993
365	Baliangao Wetland Park	10	Misamis Occ.	Baliangao, Danao Bay	Misom	1991
366	Migpangin FS	10	Misamis Occ.	Bonifacio	Migpangin	1998
367	Clarin MS	10	Misamis Occ.	Clarin	Poblacion	1991
368	Municipal FS	10	Misamis Occ.	Jimenez	Palilan	
369	Bajo MS	10	Misamis Occ.	Lopez Jaena	Bajo	1996
370	Fish/Shellfish Sanctuary	10	Misamis Occ.	Oroquieta City	Mobod	
371	Usocan Shoal MS	10	Misamis Occ.	Plaridel	Usocan	
372	FS	10	Misamis Occ.	Tangub	(Dimalooc Cove)	
373	Molocboloc Bay	10	Misamis Oriental	Alubijib	Molocboloc	
374	Lapinig MS	10	Misamis Oriental	Balingoan	Lapinig	
375	Mantangale MS	10	Misamis Oriental	Balingoan		
376	Damayuhan FS	10	Misamis Oriental	Magsaysay	Damayuhan	1998
377	Villa Felipa FS	10	Misamis Oriental	Magsaysay	Villa Felipa	1998
378	Poblacion FS	10	Misamis Oriental	Magsaysay	Poblacion	1998
379	Sta. Cruz FS	10	Misamis Oriental	Magsaysay	Sta. Cruz	1998
380	Tagnanan-Pindasan Marine Reservation Area	11	Compostela Val.	Mabini	Pindasan and Tagnanan	
381	Mabini FS	11	Compostela Val.	Mabini	Tagnanan	
382	La Paz FS	11	Davao del Norte	Carmen	La Paz	

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
383	Hagonoy FS	11	Davao del Sur	Hagonoy	Aplaya and Paligue	1998
384	Leling FS	11	Davao del Sur	Hagonoy	Leling	1983
385	Malalag Bay	11	Davao del Sur	Malalag	Baybay and Bulacan	1993
386	Tubalan Point	11	Davao del Sur	Malita	Lacaron	1996
387	Bulanting Reef	11	Davao del Sur	Padada	Piape	1993
388	Padada FS	11	Davao del Sur	Padada	Piape and Punta Piape	1993
389	Balasinon FS	11	Davao del Sur	Sulop	Balasinon	1997
390	Burias Reef MR	11	Davao Oriental	San Isidro	Burias	1996
391	Tinaytay Reef FS	11	Davao Oriental	San Isidro	Tinaytay	1996
392	Kawas MS	11	Sarangani	Alabel	Baybay Kawas	1993
393	Bawing FS	11	Sarangani	General Santos City	Siguel	1998
394	Batulaki FS	11	Sarangani	Glan	Batulaki	
395	Batulaki FS	11	Sarangani	Glan	Batulaki	1993
396	Dongon and Tamparan FS	11	Sarangani	Glan	Pangyan	
397	Pangyan FS	11	Sarangani	Glan	Pangyan	1995
398	Kabug FS	11	Sarangani	Glan	Kapatan	1998
399	Glan Padidu FS	11	Sarangani	Glan	Glan Padidu	
400	Tuka MS	11	Sarangani	Kiamba	Tuka (Poblacion)	
401	Maasim FS	11	Sarangani	Maasim	Malbang, Poblacion, Colon	1998
402	Tinoto FS	11	Sarangani	Maasim	Tinoto	1998
403	Maguling FS	11	Sarangani	Maitum	Maguling	
404	Mabay FS	11	Sarangani	Maitum	Mabay	
405	Pinol FS	11	Sarangani	Maitum	Pinol	
406	Lower Lasang FS	11	Sarangani	Malapatan	Lower Lasang	1998
407	Lot FS	11	Sarangani	Malapatan	Lot, Poblacion	1998
408	Lun FS	11	Sarangani	Malapatan	Lun Padidu	1998
409	Marayat Reef	11	Sultan Kudarat	Kalamansig	Poblacion	
410	Paril-Sangay Marine Protected Seascape	11	Sultan Kudarat	Paril Kalamansig	Paril-Sangay	
411	Marine Sanctuary (Sea Garden)	12	Lanao del Norte	Kauswagan		
412	FS	12	Lanao del Norte	Maigo	(Pontoron Reef)	
413	Tagueguiro Protected Areas	12	Lanao del Norte	Tubod	Tagueguiro	1997
414	Poblacion Protected Araes	12	Lanao del Norte	Tubod	Poblacion	1997
415	Sugod Point MS	12	Lanao del Norte	__ Dimaporo	Sugod, SND	1997
416	Manapa FS	13	Agusan del Norte	Buenavista	Manapa	1996
417	FS	13	Agusan del Norte	Butuan City	Kapigtaan Masao	1996
418	FS	13	Agusan del Norte	Butuan City, Tubay	La Fraternidad	
419	Cabadbaran FS	13	Agusan del Norte	Cabadbaran	Calibunan	
420	Tubay FS	13	Agusan del Norte	Tubay		
421	Cagban Island MR	13	Surigao del Norte	Gigaquit	Ipil	1996
422	Sohotan Bay FS	13	Surigao del Norte	Socorro	Sudlon	1997
423	Municipal FS	13	Surigao del Norte	Tagana-an	Fabio	
424	Bucto FS	13	Surigao del Sur	Bislig	Bucto	
425	Tumanan FS	13	Surigao del Sur	Bislig	Tumanan	
426	Caguyao Fish Sanctuaries	13	Surigao del Sur	Bislig	Caguyao	
427	Sibaroy FS	13	Surigao del Sur	Bislig	Sibaroy	

Table II (continued)

NO.	SITE	REG	PROVINCE	MUNICIPALITY	BARANGAY	YR EST
428	Arangasa-Aras-asan MS	13	Surigao del Sur	Cagwait	Arangasa-Aras-asan	1998
429	Fish Sanctuary	13	Surigao del Sur	Cantilan	Gen. Island	
430	Tiwi MS	13	Surigao del Sur	Hinatuan	Tiwi	1998
431	Lanuza FS	13	Surigao del Sur	Lanuza	Sibahay	

FS=Fish Sanctuary; MS=Marine Sanctuary; MR=Marine Reserve

Sources:

1. Environment and Natural Resources Management Division, Office of the Governor, Province of Negros Oriental. Marine reserve status (as of December 31, 1999). Taken from ENRMD files (/mrstatus.xls); Prepared by Joaquin E dela Pena (Technical Section Chief-Designate); Noted by Mercy S Teves (ENRMD Chief).
2. GDFI. MPA brief. Compiled by Cathy, 21 Jan 2000.
3. GDFI. 1999. Change of surface composition at the marine protected areas of the municipalities collaborating with GDFI in Eastern Samar. {Attached to Ref 2. 1998 % c/o manta tow technique; 1999 % c/o LIT.}
4. CRMP. Municipal Coastal Database 2000.
5. Uychiaoco, AJ, et al. Monitoring the effects of marine sanctuaries in Cabacongan, Loon (Bohol); Lomboy, Calape (Bohol); Cangmating, Sibulan (Negros Oriental); Gilutongan, Cordova (Cebu); Tuka (Poblacion), Kiamba, (Sarangani); and Port Barton, San Vicente (Palawan): 1997-1998. *In* S Green (CRMP Provincial Coordinator) File.
6. Socio-economic profile: municipality of Calape. Handout. *In* S Green (CRMP Provincial Coordinator) File.
7. Recommended project MPA sites for inclusion in MPA studies. Notes. *In* S Green (CRMP Provincial Coordinator) File.
8. Office of the Sangguniang Bayan, Municipality of Loon. Municipal ordinance nos. 01 and 07, series of 1997. *In* S Green (CRMP Provincial Coordinator) File.
9. Tanggapan ng Sangguniang Bayan, Municipality of Calape. Municipal ordinance no. 95-11, series of 1995. *In* S Green (CRMP Provincial Coordinator) File.
10. Tanggapan ng Sangguniang Bayan, Municipality of Calape. Municipal ordinance no. 96-05{?}, series of 1996. *In* S Green (CRMP Provincial Coordinator) File.
11. Unang Pambansang Pagtitipon at Asembliya ng mga Komunidad na Namamahala ng Sanktuaryo sa Karagatan ng Pilipinas, March 1999. Directory of participants.
12. DLSU and KKP Project Final Report (May 1998-Feb 1999). An evaluation of the conservation and environmental management measures implemented on the coastal resources around Maricaban Strait: how are these measures best enhanced and sustained
13. Mendoza, AB Jr, et al. Assessment of marine fishery reserves in Bicol for local government action planning.
14. BFAR.. List of fish sanctuaries in FSP sites
15. Marine protected areas workshop (20-22 March 1997).
16. Ferrer, EM, et al (Eds). 1996. Seeds of hope: A collection of case studies on community based coastal resources management in the Philippines.
17. Haribon Foundation. 1999. Documentation and review of marine protected areas in the Philippines: a preliminary report.
18. List of Cebu MS/FS from Evelyn Deguit, CRMP. Computer print out.

ANNEX 7: Examples of Municipal Ordinances for a Community-Based Marine Sanctuary and Marine Reserve

1. Bolinao, Pangisinan:

Pangasinan News NOTICES September 13-19, 1998

Republic of the Philippines
Province of Pangasinan
Municipality of Bolinao
Office of the Sanggunian Bayan

EXCERPTS FROM THE MINUTES OF THE REGULAR SESSION OF THE SANGGUNIANG BAYAN HELD ON SEPTEMBER 7, 1998 AT THE SB SESSION HALL, BOLINAO, PANGASINAN.

PRESENT:	Hon.George F.Celeste	SB Kagawad/Presiding Officer Pro-tempore
	Hon. Joel N.Molina	SB Kagawad
	Hon. Elias C.Quisay, Jr.	-do-
	Hon. Larry C.Quebada	-do-
	Hon. Ernesto C. Tugade	-do-
	Hon. Prospero C.Onia	-do-
	Hon. Genaro C. Caasi	-do-
	Hon Abnil I. Caasi	-do-
	Hon. Teofilo C. Dollaga, Jr.	-do-
ABSENT:		
	Hon.Dempsey C.Abogado	-do-
	Hon.Cipriano C.Fernandez	-do-

The honorable Presiding Officer Pro-Tempore called the session to order at 9:30 A.M. The minutes of the previous session was read and approved.

RESOLUTION NO.32-S-1998

TO DECLARE AND PROMULGATE THE MINICIPAL MARINE: REHABILITATION AND REPLENISHMENT AREA ALONG BARANGAY BALINGASAY, PROVIDING THE IMPLEMENTING RULES AND REGULATIONS THERETO.

WHEREAS, Resolution No. 52. 81997 was enacted by this Sangguniang Bayan declaring an area of the sea along Barangay Balingasay as a Municipal Marine Rehabilitation and Replenishment Area, that is wanting of the appropriate implementing Rules and Regulation:

NOW THEREFORE: on motion made by SB Kgd. Larry C. QUEBADA and duly seconded by SB Kgd. JOEL N. MOLINA be it.

RESOLVED AS IT IS HEREBY RESOLVED to adopt and enact the foregoing Ordinance to wit:

ORDINANCE NO.2-S-1998

ADOPTING THE IMPLEMENTING RULES AND REGULATIONS, AND PROVIDING PENALTY CLAUSE THERETO, FOR EFFECTIVE; AND EFFICIENT OPERATION AND MANAGEMENT OF THE MUNICIPAL MARINE; REHABILATION AND REPLENISHMENT AREA AT BARANGAY BALINGASAY BOLINAO PANGASINAN.

Section 1 Definition of Terms:

A) Marine Rehabilitation and Replenishment Area—an area in the municipal waters that is established by an ordinance intended for rehabilitation and replenishment of fishery and coastal resources because of its ecological function as a spawning and/or feeding grounds for one or a group of marine species and is characterized by high productivity and/or high biodiversity.

B) Marine Sanctuary—a designated area within the MRRA where fishing is prohibited and human access may be restricted and which is characterized by high productivity and/or high biodiversity.

C) Marine Reserve—a designated area which serves as buffer within the MRRA where fishing activities are allowed subject to regulation and which is characterized by high productivity and/or high biodiversity.

Section 2 The marine shoreline and reef flat fronting Barangay Balingasay with the total distance from the shoreline (Coastal land of Balingasay) of 1.45 Kms. and with the total distance from the shoreline northeastern corner of Balingasay of (Yukeb Point) 1.0 Km. And with the total distance from the shoreline along its boundary. (Southwestern boundary with the Barangay Estanza) of 1.0 Km. shall be declared as a Barangay Marine Reserve (or 200.86 hectares).

Section 3 Marine Sanctuary—The entire reef lagoon within the Marine Rehabilitation and Replenishment Area with the area of 14.77 hectares shall be established as a declared Fish Sanctuary.

Section 4 Use of Marine Sanctuary—It shall be unlawful to catch or gather in any manner whatsoever all forms of Marine Life as well as sand, rocks and other components of the Marine Habitat or engage in any activities for whatsoever commercial or consumption purposes within the Sanctuary. Likewise, all anchorings as well as prolonged swimming

or diving for unspecified purposes shall be prohibited. However, breeding, re-breeding, transplantation and other enhancement measures may be undertaken therein for rehabilitation and scientific purposes. Organized ecological and exposure activities shall likewise be permitted.

Section 5 Use of Marine Reserve—The Marine Reserve area outside of the Marine Sanctuary may be used for non-destructive purposes, such as traditional fishing, recreation, anchorage, marine culture and the like.

Section 6 Lawful Acts and Practices—Only the following traditional, artisanal and non-destructive fishing practices shall be allowed in the Marine Reserve.

A. Hook and line fishing, multiple hooks and long line.
B. Bamboo traps and holes over three (3) centimeters in diameter.
C. Gill nets with holes over three (3) centimeters in diameter.
D. Other legal types of netting.
E. Spear – fishing without compressor or scuba.
F. Traditional gleaning/gathering of shells and sea weeds.
G. All other practices allowed by existing environmental regulations and fishing ordinances and laws.

Section 7 Prohibition—It shall be unlawful for any person, association, corporation to conduct fishing practices such as:

A. Dynamite or blast fishing.
B. Use of sodium cyanide and other poisons.
C. Muroiami type of fishing or related methods using poles or weighted scarelines.
D. Spear fishing using compressor or scuba.
E. Use of very small mesh gill nets below three (3) centimeters in diameter.
F. Kunay type of fishing.
G. Catching of endangered species.
H. Gathering tortoise eggs
I. All other practices prohibited by existing environmental regulations and fishing ordinances and laws.

Section 8 Citizen's Implementing Arms—The local environmental organization. Samahan ng mga Mangingisda at Mamamayan sa Balingasay (SAMMABAL, Inc.) having been duly registered people's organization at Securities and Exchange Commission and accredited by the Municipal Government and after its members have undergone education and training in environmental laws and fishing regulations, is hereby appointed as the citizen's implementing arm in the management of the Marine Rehabilitation and Replenishment Area and is granted the duties and powers:

A. Protect and manage the Marine Rehabilitation and Replenishment Area.

B. Collaborate with authorities (i.e. PNP, CVO, Brgy. Council) for the effective enforcement of fishery laws (national, administrative regulations and local ordinances)
C. File complaints with administrative and/or judicial authorities against those who commit violations of fishery laws, local fishery ordinances and rules and regulations.
D. Promote sustainable use of fishery ordinances and rules and regulations.
E. Conduct regular consultations with various community groups to come up with specific measures, policies, and programs needed for the enhancement of marine resources.
F. Participate in the conduct of fisheries studies or researches that needed to be taken in the Marine Rehabilitation and Replenishment Area.
G. Monitor and gather data as basis for the formulation of management plans and policies.
H. Formulate and submit policy or management measures to the Barangay Resource Management Council (BRMC).

Section 9 Overall Monitoring Body—There shall be a Multi-Sectoral Overall Monitoring Body to be called the Barangay Resource Management Council or BRMC with powers derived from the Sangguniang Bayan of Bolinao whose members number not more than eleven (11). The Council will be composed of one representative from the women sector, youth sector, religious, committee on environment of the barangay council, resort owner transport group, SAMMABAL professional farmers, NGO and other fisherfolk organization. The BRMC shall have the following powers:

A. Perform an oversight function in connection with this ordinance.
B. Formulate and recommend resolutions/policies to the Barangay Development Council concerning fishery management and conservation measures.
C. Advocate relevant and applicable barangay level environment policies and programs to the Sangguniang Bayan.
D. Provide assistance and support to SAMMABAL in the filing of complaints for those who violate this ordinance.
E. Assist in the establishment of demarcated areas and providing education program for the community.
F. Coordinate any development initiative undertaken by various Government institutions, Non-Government Organizations and civic groups in connection with the barangays marine resources.
G. Serve as inquiry and arbitration board in connection with the problem arising from community-based management of marine resources.
H. Grant permit in conduction researches and exposures to GO'S, NGO's, private groups and People's Organization with the purpose of making scientific study or inventory of rescues, and/or replicating the management initiative.
I. Coordinate with the municipal government for regular updating of this ordinance.

Section 10 PENALTY CLAUSE:

A Violations and/or engaging in any of the above-mentioned prohibited fishery activities shall be penalized with a FINE; of from TWO THOUSAND (2,000.00) PESOS to TWENTY THOUSAND (20,000.00)PESOS or imprisonment of from SIX (6) Months to TWO (2) YEARS of both fine and imprisonment at the discretion of the competent court.

B. All fishing gears, paraphelinalias, equipment and all other accessories involved in the act shall be confiscated and forfeited, including the catch and/or other fishery resources affected by illegal activity.

C. All fines collected shall be shared by and between the Municipal and Barangay government. From these funds shall the related expenses in the management, operation, monitoring and safeguarding the Sanctuary and Reservation, shall be appropriated subject to standard accounting and auditing procedures.

Section 11 REPEALING AND SEPARABILITY CLAUSE—Any and/all Barangay Resolutions Ordinances Rules and Regulations which are found inconsistent to this Ordinance when declared unconstitutional or invalid, the other portions hereof, which are not affected thereby, shall continue to be in force and effective.

Section 12 EFFECTIVITY—This Ordinance shall take effect (15) days after publication in a newspaper of general circulation in Pangasinan and Dagupan City.

APPROVED: September 7, 1998 at Bolinao, Pangasinan

Approved

I HERBY CERIFY to the correction of the foregoing ordinance.

(**SGD.) ALEJANDRO C. CAALIM, JR**
S B Secretary

ATTESTED; **(SGD) GEORGE F.CELESTE**
SB Kagawad/Presiding
Officer Pro-Tempore

APPROVED: **(SGD.) JESUS F.CELESTE**
Municipal Mayor

Pangasinan News Sept. 12, 20 & 27, 1998

2. Apo Island, Dauin, Negros Oriental

EXCERPTS FROM THE MINUTES OF THE SANGGUNIANG BAYAN'S REGULAR SESSION HELD AT THE OFFICE OF THE MUNICIPAL MAYOR ON MONDAY NOVEMBER 3, 1986.

WHEREAS, The rationale for the marine reserve and fish sanctuary is as follows:
a) The coral reef serves as habitat for fish and once physically disturbed supports fewer and fewer fish;
b) A fish sanctuary is necessary to allow coral reef fish to breed and grow to maturity without fishing so that reproduction rates may increase potential fish catch to local fishermen;
c) A fish sanctuary where increased numbers of tame fish reside will attract SCUBA diving and snorkeling tourists and non-tourists to Apo who will give a small amount in the form of donation that will go to the community development project e.g. toilet facility, beach cottages, etc.
d) The entire marine habitat surrounding Apo be declared a marine reserve to help prevent illegal and destructive fishing activities done by out-siders to Apo;
e) The area extending at least 300 m. on the southeast corner to be chosen as a fish sanctuary because this topographically diverse drop-off area with strong currents provides good breeding habitat for fishes which will circulate around the island, and the minimum 300 meters area is necessary to insure breeding and protection for sufficient number of species.

NOW THEREFORE, to fully protect the reserve area, particularly Apo Island fish sanctuary, Dauin, Negros Oriental the body RESOLVE, as it is HEREBY RESOLVED, to adopt an ORDINANCE protecting the reserve area from all fishing methods or other ways destructive to the coral reef habitat, viz:

ORDINANCE NO. I

"AN ORDINANCE PROTECTING THE MARINE RESERVE AND FISH SANCTUARY
OF APO ISLAND, DAUIN, NEGROS ORIENTAL"

Be it ordained by the Sangguninang Bayan that:

Section 1. The entire marine habitat around Apo Island, from the high tide mark to a distance of 300 m. offshore be protected from all fishing methods or other ways destructive to the coral reef habitat including:

a) Dynamite fishing
b) Muro-ami type of fishing or related methods using weighted scare lines or poles
c) Spear fishing using SCUBA
d) Cyanide or other strong poisons and
e) Every small mesh gill net.

Section II. A.coral reef fish sanctuary and breeding area be located on the southeast corner of the island where the following rules apply:

a) No fishing or collecting is permitted
b) Anchoring of boats is allowed but destruction of corals be avoided

Section III. The marine habitat outside of the fish sanctuary but within the marine reserve be called a traditional fishing area where all destructive fishing methods are prohibited and where the
following traditional fishing methods are permitted:

a) Hook and line
b) Bamboo traps
c) Gill nets
d) Spear fishing without SCUBA
e) Other types of netting and
F) Traditional gleaning

Section IV. The Apo Marine Reserve area be protected by municipal resolution and managed by the Apo Barangay Marine Management Committee in conjunction with the Dauin Municipal Council with logistic and legal support from the BFAR and PC-INP in Negros Oriental and management advice from the Marine Conservation and Development Program of Silliman University.

Section V. This Ordinance shall take effect immediately upon approval.

PROTECTED AREA MANAGEMENT BOARD (PAMB)
APO ISLAND PROTECTED LANDSCAPE/SEASCAPE
Municipality of Dauin
Province of Negros Oriental

BOARD RESOLUTION NO. I
Series of 1999

A RESOLUTION PROHIBITING, REGULATING AND PRESCRIBING FEES FOR ACCESS TO AND SUSTAINABLE USE OF RESOURCES IN APO ISLAND PROTECTED LANDSCAPE/SEASCAPE.

Pursuant to Republic Act No. 7586 known as National Integrated Protected Areas System (NIPAS) Act and Presidential Proclamation No. 438, dated August 9, 1994 that declared the Apo Island and its surrounding waters as Protected Landscape/Seascape situated within the Municipality of Dauin, Province of Negros Oriental, containing an area of 681.45 hectares is established and reserved for the purpose of protecting and conserving the ecological, scientific, educational, economic and recreational values of the area. Sustainable development of the area shall be pursued to address the social and economic needs of the local communities without causing adverse impact on the environment.

Section 1. Basic Policy—The Protected Area Management Board (PAMB) hereby adopt the following policies on the sustainable use of resources within Apo Island Protected Landscape/Seascape:

1.1 The use of resources and facilities in the protected area shall be regulated.
1.2 Fees and charges shall be collected for every access to and sustainable use of resources and facilities located in the protected area for recreational, commercial, educational, subsistence and all other purposes.

Section 2. Registration Requirement—All tourists/visitors including their carrier or boat are required to register at the Apo Protected Landscape and Seascape (APLS) Visitor Assistance Center, to give the following information: name, age, status, sex, address, occupation, purpose of visit, the proposed duration of stay and activities, number of logged dives/certification level for scuba divers and such other information of a similar nature.

Section 3. Anchoring/Mooring Area—Anchoring/Mooring shall be allowed at the following designated areas only as shown in the map below which are marked bouys. For purposes of this resolution, anchoring is distinguished from mooring. Anchoring is understood, as the throwing of the anchors overboard while mooring shall mean the act of tying the boat in to the mooring buoy.

3.1 For boats weighing less than 1.5 tons

a. From Baluarte Point to Point Pook at Sitio Baybay on the westside *of* the island, provided that the anchor is within 40 meters from the beach at the mean lowest tide level.
b. In front of the beach at Sitio Cogon on the eastside of the island in the vicinity of the canal, provided that the anchor is within 40 meters from the beach at the mean lowest tide level.
c. On the eastern boundary of the marine sanctuary at Sitio Ubos on the southside of the island in the vicinity of the canal, provided that the anchor is within 40 meters from the beach

3.2 For boats weighing 1.5 tons or more but not to reach 5.0 tons:

a. From Baluarte Point 200 meters southward at Sitio Baybay on the westside of the island, provided that: the anchor is within 40 meters from the beach.

3.3 Boats weighing 5.0 tons or more are prohibited to anchor in the whole-protected seascape. However these boats are allowed to moor at designated mooring buoys.

Section 4. Diving Regulation - The number of divers and snorkelers inside the marine sanctuary shall be regulated.

4.1 Only fifteen (15) scuba divers including 3 dive guides shall be allowed to dive in the marine sanctuary area (Strict Protected Zone) per day, provided that they have registered in accordance with Section 2 thereof. A guide or watcher shall be required for every four (4) scuba divers in order to monitor the activities of the divers.

4.2 Only eight (8) snorkelers shall be allowed to swim in the marine sanctuary at any one time. Swimming and bathing in the marine sanctuary is strictly prohibited. The term "snorkelers" does not include swimmers and bathers.

4.3 Entry and Exit Area - Scuba divers and snorkelers shall use the designated entry and exit points in the marine sanctuary area (Strict Protected Zone).

4.3.1 Diving Gear - Scuba diving with spear guns is strictly prohibited in the Apo Island Protected Landscape and Seascape (APLS). Spear guns carried around the APLS except those carried by Apo Island residents is disallowed, hence it shall be deposited in the APLS Center.

4.3.2 Scuba divers and snorkelers shall not wear gloves, except for research purposes and with prior approval by PAMB thru PASU

4.3.3 Divers are not allowed to dive or approach within 100 meters from fishers conducting fishing activities in the APLS.

Section 5. Fees and Charges - It shall be collected from every tourist/visitor at the APLS Visitor Assistance Center or at other designated areas.

5.1 Visitor Entrance Fee:

a. Adults (local)	p 10.00
b. Students (local)	5.00
c. Foreign Nationals	20.00

5.2 Additional Charges/Fees:

5.2.1 Scuba Diving per day/per diver or fraction thereof:

a. Within Marine Sanctuary p150.00

b. Outside Marine Sanctuary 75.00
c. With Camera (Still picture) 50.00

5.2.2 Snorkeling per day or fraction thereof:
a. Within Marine Sanctuary p 25.00
b. Outside p 10.00

5.2.3 Camping-per day or fraction thereof:
a. Adults p 20.00
b. Students 10.00

5.2.4 Filming for movie production, TV and commercials per day or fraction thereof:
a. Landscape area p 500.00
b. Seascape (within marine sanctuary 1,000.00
b. Seascape (our-side marine sanctuary 750.00
Acknowledgement of the area shall be included in the film production for promotion.

5.2. Lodging at cottages
Per person/per day or fraction thereof: p 50.00

5.2.6 Per picnic shed per unit/day or fraction thereof: 50.00

5.2.7 Mooring per boat/day or fraction thereof: (I day=24 hrs.)
a. Less than 1.5 tons p 50.00
b. 1.5 tons or more but not to reach 5.0 tons 100.00
c. 5.0 tons or more 500.00

5.2.8 Anchoring per boat/day or fraction thereof at designated areas: (1 day=24 hrs.)
a. Less than 1.5 tons P 50.00
b. 1.5 tons or more but not to reach 5.0 tons 100.00

Section 6. Mode of Collection. The following procedure shall be observed in the collection of fees and charges:

6.1 Entrance fee shall be collected from tourists/visitors at the APLS's Visitor Assistance Center after Filling-up the registration form. Corresponding tickets or official receipts shall be issued for such Fees.

6.2 Charges for resource/facility use and services shall be collected upon reservation and corresponding official receipts shall be issued for such payments.

6.3 Payment of fees and charges shall be made on cash basis only. Personal checks or credit cards shall not be honored.

Section 7. Collection Responsibilities: The following shall be responsible for the collection and account of pertinent fees, charges and donations.

a. The Protected Area Superintendent (PASU)
b. PASU duly appointed representative concurred by PAMB. All collecting officers shall be bonded.

(***The remainder of the Resolution describes penalties and is not included here.)***

(Source: DENR et.al., 2000)

3. San Salvador Island, Masinloc, Zambales

Important Provisions in the Ordinance Creating the Marine Sanctuary & Reserve in San Salvador Island, Masinloc, Zambales

Section 2. That it shall be unlawful for fishermen to catch fish in any form or to gather seaweeds, sand, rocks, coral or anything within the habitat for breeding and culture of marine resources (Marine Sanctuary). However, culturing and catching of marine resources for purposes of scientific research/study shall be allowed.

Section 4. That the marine habitat outside of the "Marine Sanctuary" but within the Reserve Area is called a traditional fishing area where all destructive fishing methods and uses are prohibited such as:

a) Dynamite fishing
b) Muro-ami type fishing or related methods using weighted scare-lines or poles
c) Spearfishing using compressor or SCUBA
d) Cyanide or other strong poisons
e) Very small mesh gill nets (below 3 centimeters)
f) Catching of aquarium fishes
g) Gathering of tortoise eggs
h) Kunay type of fishing (a type of scare-in net)

But where the following traditional fishing methods are permitted:

a) Hook and line
b) Bamboo traps (3 cm)
c) Gill nets (3cm)
d) Spearing without SCUBA
e) Traditional gleaning and gathering of seaweeds, shells, etc.
f) Catching of "padas" (small rabbit fish) during the month of September only

Section 5. Violation of this ordinance shall be penalized as follows:

RESERVE AREA:

First Offense: Fine of 50 pesos or one (1) week imprisonment at the discretion of the court.

Second Offence: Fine of 750 pesos or two (2) weeks imprisonment at the discretion of the court.

Third Offense: Fine of 1000 pesos or three (3) weeks imprisonment or both fine and imprisonment at the discretion of the court.

SANCTUARY:

First Offence: Fine of 750 pesos or two (2) weeks imprisonment or both fine and imprisonment at the discretion of the court.

(Source: White, et.al., 2000b)

ANNEX 8: Summary of Participant Evaluations of the Focus Group Discussions

The participants of the focus group discussions (FGD) were asked to give their feedback on the activity by answering the following questions at the end of the discussions:

1. What do you think of the focus discussion on community-based marine sanctuaries? Was it (please check one): very useful; useful; not so useful; not useful at all?
2. How or why was it very useful/useful/not so useful/not useful at all?
3. Do you have recommendations on how we could improve the conduct of this activity?
4. What type of follow-up activity would you like to happen after this focus group discussion?

Thirty-five (35) out of fifty-four (54) participants provided feedback. Eighty percent of those who responded (28 persons) thought the activity was very useful, while twenty percent (seven persons) thought it was useful, and none stated that it was not useful.

Reasons respondents cited for the utility of the exercise were consolidated into the following:

- Open sharing of ideas and experiences
- Everybody had the chance to share his/her experiences
- Validation of one's own experiences and others'
- Comparison of site-based experiences/strategies/conceptual frameworks
- Gaining new knowledge and exposure to new perspectives
- New ideas were discussed and put into the context of a community-based approach to establishing marine sanctuaries
- Useful in organizing analytical and framework formulation process
- Useful in the planning and conduct of the study
- Discussion and clarification of issues
- The giving out of handouts, the free-wheeling discussion and proper facilitation were useful
- Knowledge gained as well as challenges presented in various sites will be helpful in implementing community-based marine sanctuaries (CB-MS) in North Sulawesi
- Information generated maybe useful in the establishment of other sanctuaries
- Learned many aspects of establishing community-based marine sanctuaries while looking at successful and unsuccessful ones
- Gained fresh inputs out of the discussion with people from various disciplines who are actively involved in marine protected areas (MPA)
- The discussions were guided to relevant topics concerning MPA
- Good opportunity to establish contacts
- It was very good to hear the highlights of successful/good results
- Clear framework/model in establishing marine sanctuaries
- It was an opportunity to learn the status of/experiences gained from other MPA
- Opportunity to review best/bad practices in establishment marine sanctuaries

Suggestions for improvement of the conduct of focus groups included:

- More time for discussion of important details
- Extend the duration of the activity to two days
- Smaller group discussions by expertise (some topics were boring)
- Hold small group discussions in separate rooms to avoid disturbances between groups
- Encourage participants to bring written materials about their sites for sharing with other participants
- Improve the process of coming up with a list of sites for field evaluation
- Send invitations earlier to get the participation of all invitees
- Add more inputs to the information gathered in the focus group discussions by surveying experts not present in the groups
- Bring in/invite more participants/experts/key players from government agencies, NGOs, POs/communities, academic, private and other organizations involved in establishing MPA
- Refer to available data on selected sites as a result of CRMP's search for best CRM practices
- Include discussions on how having a framework can improve the management of MPAs in the Philippines
- Participation of PO representatives who can validate/confirm the hypotheses presented in the FGD
- Someone from the project team should moderate the small group discussions to free the participants to participate more actively in the discussions; taping the discussions may be helpful in putting together the proceedings of the FGD
- Slide/video presentation of CB-MS examples
- Prepare format of outputs to facilitate discussion and presentation of results
- Presentation of the background paper should have been clearer
- Solicit case studies on successful/failed MPA programs
- Terminology used was not understood by everyone

Recommended follow-up activities included:

- Make the focus group discussion on CB-MS a regular activity
- Correspondence among participants to see how the sanctuaries are doing over time
- Put up a web site on CB-MS
- Put up an MPA listserve to link practitioners in the Philippines, Indonesia, and other ASEAN countries
- Dissemination of FGD and field investigation data/results to participants and other groups
- Include representatives from CEP and other MPA practitioners in the FGD
- Include sharing of monitoring and evaluation methods used by different groups to improve feedback and response system

- Publication of a manual on how sanctuaries should be designed to be used by coastal villages and municipalities, including technical and social guidelines
- National workshop on CB-MS
- Conduct another FGD or meeting to refine/discuss the results of the four FGD
- Field visits to selected sites to get actual information in addition to secondary data
- Transfer of lessons learned to Indonesia to avoid making the same mistakes incurred in the Philippines
- Davao-Manado workshop
- Field trips or cross/site visits to some CB-MS sites
- Hold another meeting to discuss field results
- Highlight common factors among "good" and "bad" models
- Providing feedback [on the project/FGD results?] after two years

The above comments were edited as little as possible to provide accurate feedback on the conduct of the focus group discussions. This evaluation did not include the determination of whether the objectives set for the FGD were met or not. Some of the recommendations gathered from the evaluation of FGD earlier conducted in Luzon were taken into consideration in the Cebu and Dumaguete FGD. It may be noted that there were recommendations about making this type of discussion into a regular activity, using the FGD as a tool to improve participation and management of MPA, and reconvening of the groups to discuss the overall FGD results and those of the forthcoming field investigation. These indicate a strong enthusiasm among participants for more opportunities for focused sharing and learning from one another's experiences in establishing and implementing community-based marine sanctuaries.

This report was produced as part of the Coastal Resources Center's Marine Sanctuaries Project with funding provided by The David and Lucile Packard Foundation, Conservation Program: Western Pacific. The views expressed herein are those of the authors and do not necessarily reflect the views of the Coastal Resources Center, University of Rhode Island or the Philippine Council for Aquatic and Marine Research and Development.

Citation: Crawford, B., M. Balgos and C. R. Pagdilao. 2000. *Community-Based Marine Sanctuaries in the Philippines: A Report on Focus Group Discussions*. Coastal Management Report # 2224. PCAMRD Book Series No. 30. Coastal Resources Center, University of Rhode Island, Narragansett, RI, USA, and Philippine Council for Aquatic and Marine Research and Development, Los Banos, Laguna, Philippines.

ISBN 1-885454-37-6

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