

**INSTITUTE OF APPLIED SCIENCES
THE UNIVERSITY OF THE SOUTH PACIFIC**

**The Locally-Managed Marine Area (LMMA)
(Improving the Practice of Marine Conservation
2004 Annual Report**

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The Locally-Managed Marine Area (LMMA) Network

Improving the practice of marine conservation



2004 Annual Report



Table of Contents



- I. **Introduction**
- II. **The LMMA Network** – what's it all about?
- III. **The Backdrop** – a little bit of history
- IV. **Vision, Goal, Objectives**
- V. **Members** – who they are
- VI. **Progress and Lessons** – what we've accomplished and what we've learned
- VII. **Country Reports** – where we work and what's happening there
- VIII. **Challenges Ahead** – where we're going
- IX. **Financials** – how much does our conservation work cost?

II. The LMMA Network

– what's it all about?

What is the LMMA Network?

The Locally-Managed Marine Area (LMMA) Network is a group of practitioners involved in various community-based marine conservation projects around the globe who have joined together to learn how to improve their results. The LMMA Network is a 'learning network,' meaning that participating project teams use a common strategy and evaluation process to learn about the conditions under which using an LMMA approach works, doesn't work, and why. We believe that working together will allow us to learn collectively, improve our marine management activities, and increase the impact of our conservation efforts.



What is an LMMA?

An LMMA is an area of nearshore waters actively being managed by local communities or resource-owning groups, or being collaboratively managed by resident communities with local government and/or partner organizations. An LMMA differs from what is commonly known as a Marine Protected Area (MPA) in that LMMAs are characterized by local ownership and/or control, whereas MPAs are typically designated by levels of management via a top-down approach. One or more MPAs or other management

techniques or 'tools' may be employed within an LMMA. This term was agreed upon by conservation practitioners working throughout Asia and the Pacific during meetings held in August 2000 to introduce the idea of forming a learning network. The phrase "locally-managed" was preferred over "community-based" because participants felt it better represented the work they were doing, which usually involved co-management by the community together with traditional leaders, local or state government agencies, and/or some other body (e.g., non-government organization or university). Communities typically set aside at least part of an LMMA as a no-take reserve or MPA, or impose certain gear or seasonal restrictions to allow habitat and resources to recover from fishing pressure, or to sustain or increase fish catch.

Who is in the Network?

The Network is made up of individuals, communities, resource-owning groups, traditional leaders, government representatives, conservation organization staff, elected decision makers, university scientists and researchers and donors interested in learning how to improve the conservation, management and sustainable use of marine resources. Members of the Network are typically those who are involved in the establishment or management of LMMA sites in the Indo-Pacific Region.



What Does the Network Do?

The Network provides help with:

- Raising awareness in communities
- Habitat and resource mapping
- Developing management plans
- Sharing resources and information
- Capacity building and skills development
- Biological and socio-economic monitoring
- Managing and analyzing site data
- Cross-site visits



"The LMMA Network helps communities build the skills to see what they want to do; it helps them express their community vision." – Mike Guilbeaux, Community Conservation Network

The LMMA Network provides training to members in project design, management, monitoring, analysis and communication, and links groups working in the same region so that they can share resources and skills. Project teams in the Network use a common monitoring guide called the "Learning Framework," which outlines specific factors and methods to measure biological, socio-economic and governance conditions that may influence the success of their work. Members use this framework to collect and analyze data that will go toward learning about what works, what doesn't work, and why, thus advancing our understanding and practice of marine conservation.



Adaptive Management

Adaptive Management is the cyclical process of planning, implementation, monitoring, learning from the monitoring, modifying work based on that learning to improve results, and then repeating the cycle. Many projects are already using this process intuitively but do not necessarily call it Adaptive Management.

"Adaptive Management is already being practiced here but we are not conscious that it's Adaptive Management. We do planning, implementation, monitoring and then planning again on how to improve or adapt to the situation on a case-to-case basis." – Mary Ann Tercero, Bohol Marine Triangle Project Coordinator, Philippines



I. Introduction



This report covers the activities of the Locally-Managed Marine Area (LMMA) Network for 2004. Although the LMMA Network was established in 2000, this is our first-ever annual report. It includes introductory information about who we are and what we do, as well as a brief background on the forming of the Network. It also gives information on country-level progress and discusses our accomplishments, lessons learned, and challenges as we continue our work.

This report is aimed at the people and organizations with whom we currently work, as well as external audiences interested in marine conservation and community-based management.

*"More from the community for the community."
(from the Enipein community vision statement, Pohnpei)*



The Network does not initiate nor fund projects directly, but rather works with groups that have an existing community-managed marine area project to introduce or enhance methods for monitoring sites and collecting and analyzing data. The Network also aims to increase a project's capacity for success by sharing knowledge and experiences with others in the field, and encourages cross-site visits among sites to observe and learn first-hand.

Where does the Network Work?

The LMMA Network focuses on project work in Southeast Asia and the Pacific. Currently we are active in Fiji, Indonesia, Palau, Papua New Guinea, the Philippines, Pohnpei (Federated States of Micronesia), and the Solomon Islands, and are exploring other areas.



See the **Country Reports** section for information on individual countries.

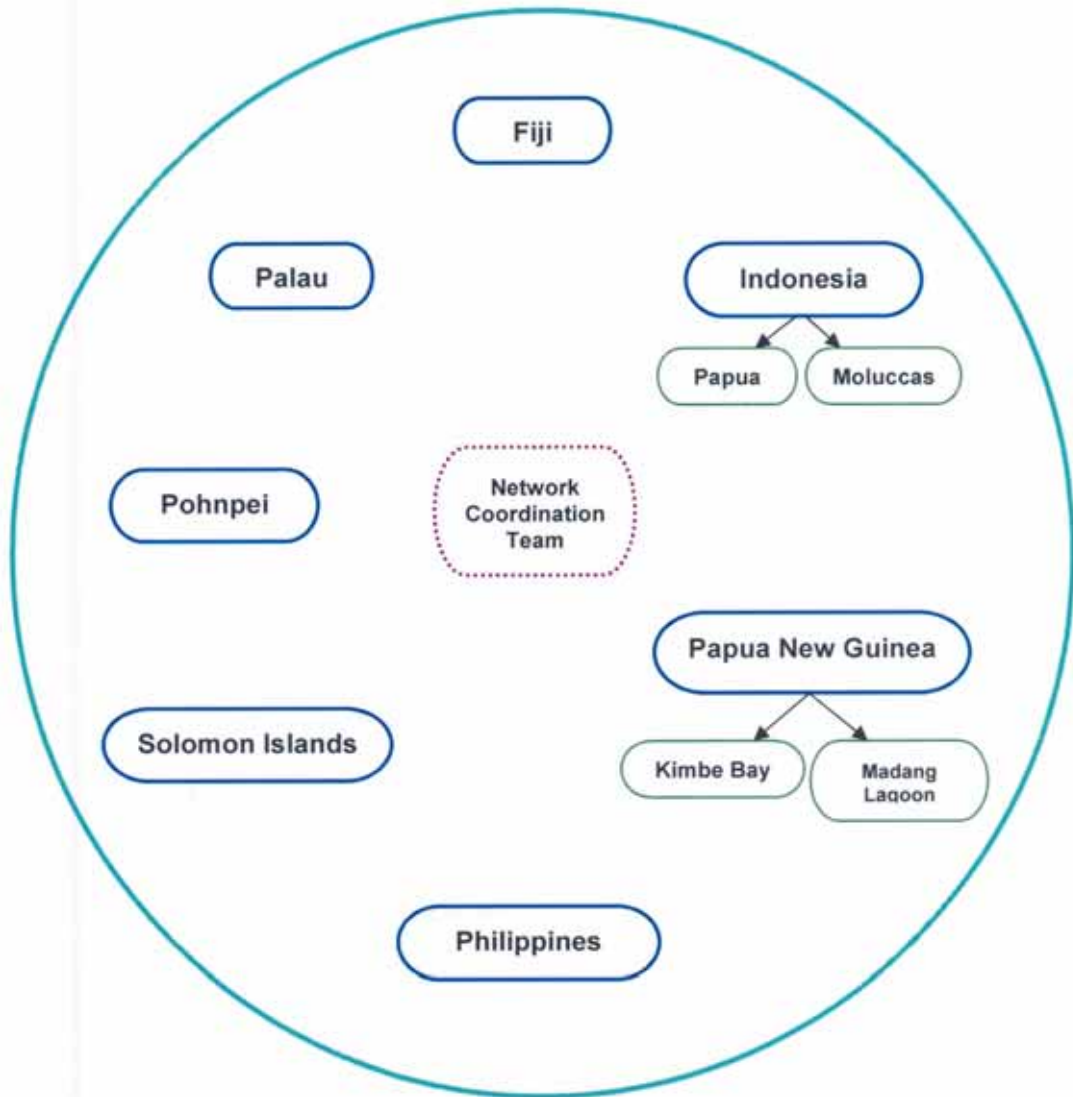
The map below outlines in yellow the countries where we have active membership.



How is the Network Organized/Structured?

The '**Overall Network**' is the term we use to describe all of our members combined. As there are several LMMA projects in most of the countries where we work, and as we have found that the most frequent learning takes place among members at the country level, some countries have formed their own '**country network**,' where members share skills and experiences and form joint teams to implement their work. In those countries where project sites are more geographically separated, '**local networks**' have been formed to carry out project work within that country.

The diagram on the following page gives a graphic representation of the overall Network, which encompasses all country and local level networks.



Key:



The '**Network Coordination Team**' (NCT) is made up of members who are conservation practitioners with experience in the areas we work. The NCT oversees the day-to-day functioning, coordination and administration of the overall Network. The NCT consists of four committees that focus on: 1) Project Support, 2) our Learning Framework & Data Management, 3) Communication, and 4) Coordination & Finance.

For each country where we work, there is a 'Country Coordinator,' who is a member of the NCT and who acts as a link between the overall Network and the country-level network by bringing skills, decisions and information to and from the NCT and cross-country meetings. A 'Project Liaison' works directly with an LMMA site on the ground, acts as a link between the project team and the local or country network where the project is located, and represents their team at Network-wide meetings. Last, but certainly not least, are the people who carry out work on the ground.



How does a potential member get involved with the Network?



The Network does not actively solicit members, but responds to requests for more information from those who are currently using or considering using an LMMA approach. The process differs among countries, but typically project representatives (from either the community, government, non-profit organization, university or other related group) who have heard about the Network write a letter of interest expressing their desire to get more involved.

The following example outlines how the process of Network involvement takes place in Fiji.

Example from Fiji

Once interest has been formally established, the Fiji LMMA (FLMMA) Network offers assistance in the form of three main types of workshops:

- 1) management and action planning
- 2) biological monitoring
- 3) socio-economic monitoring

The action planning workshops are adapted from Participatory Learning and Action (PLA) methods, and include sessions on village mapping, historical trends, daily/seasonal calendars and stakeholder analyses. These sessions serve the dual purpose of exploring resource management issues and instilling community members with the confidence that they have the resources to solve their own problems. The workshops then become more focused on biological and socio-economic factors such as identification of resource use, threats and the root causes of those threats. Finally, a community management and action plan – the who, how and when – is developed.

The current model for LMMA development in Fiji is as follows:

- Community discussions on goals, expectations
- Two-day action planning workshop
- Community/district adoption of management plan
- Three-day biological monitoring workshop for projects with newly-adopted management plan
- Monitoring in each community within three months of management plan adoption
- Socio-economic monitoring training (usually once biological monitoring is well in place)
- Actual Socio-economic monitoring in sites where training has taken place
- Support visits to each site at least every six months
- Country- or region-wide project meetings to discuss how project teams can work together and how Adaptive Management can be done at the national level

*"The LMMA Network transformed the way NGOs, universities and government work together."
 – Alifereti Tawake, University of the South Pacific - Institute of Applied Sciences (USP-IAS), Fiji*

III. The Backdrop

– a little bit of history



In the mid 1990s, various community-based projects were underway throughout Southeast Asia and the Pacific. Meanwhile, the Biodiversity Conservation Network (BCN), a program of the Biodiversity Support Program (BSP) initiated in the early 1990s, was carrying out an assessment of economic incentives for natural resource conservation at 39 sites worldwide. Three of these BCN-supported sites focused on community involvement in monitoring and evaluating marine resources: one in Ucuivanua Village in Verata district in Fiji, one at Dauwi Island in the Padaido Islands, West Papua, Indonesia, and one in Arnavon Islands in the Solomon Islands. The Verata and Padaido projects would later become pilot sites in the LMMA Network, which embraced BCN's idea of collective learning.

In the late 1990s, staff from the World Resources Institute (WRI), the David and Lucile Packard Foundation, and the John D. and Catherine T. MacArthur Foundation recognized that although there were many initiatives involving community-based marine conservation taking place throughout Southeast Asia and the Pacific, and that many of them overlapped, they were not necessarily sharing resources nor information and thus not learning as much as they could from each others' successes and shortcomings. Ultimately, these projects were not reaching their fullest potential and conservation impact. These staff members began devising a proposal for bringing such isolated projects together in order to learn collectively and improve their outcomes.

"We are promoting the move from mere lip service about involving communities to making them central to resource management."

– Hugh Govan, Foundation for the Peoples of the South Pacific International (FSPI)

A timeline illustrating the inception of the LMMA Network is given on the following page.

- Mid-1990s Various community-based (or locally-managed) marine projects underway throughout Southeast Asia and the Pacific.
- June 1999 Representatives from the three BCN-supported projects, along with other practitioners from the region, attended a workshop held in Fiji, the goal of which was to provide guidance on the principles of community-based management. Participants identified the need for improved teamwork and networking and recommended the formation of a Network to improve marine conservation work in the region.
- May 2000 Staff from the World Resources Institute releases the *"Fish for the Future?"* research concept paper.
- Aug. 2000 World Resources Institute, MacArthur Foundation and Packard Foundation jointly host the three-day workshops, *"Fish for the Future? Testing Shared Assumptions Regarding Community Participation in Nearshore Marine Protection,"* in Suva, Fiji and in Iloilo, Philippines to introduce the idea of creating a learning network in the region. During these workshops, participants began drafting what would eventually become the LMMA Network's Learning Framework and Social Contract.
- Oct. 2000 Reconvening of participants in Bali, Indonesia during the International Coral Reef Symposium to officially form and launch the LMMA Network and nominate initial Network Coordination Team (NCT) members.
- 2001 Development and training of the NCT; development of an LMMA country network model and the LMMA Network's Learning Framework; outreach in Fiji, Solomon Islands, Papua New Guinea to introduce the LMMA Network; gathering of project representatives at the Pacific Science Congress in Guam to share LMMA experiences and lessons.
- 2002 Completion of the first draft of the Learning Framework, training in its use and testing in Fiji and Indonesia; new NCT members brought on board; completion of the LMMA Network website; recognition of the LMMA approach by resolution of the South Pacific Regional Environmental Programme during the 7th Pacific Island Conference on Nature Conservation and Protected Areas in the Cook Islands; Fiji LMMA country network is acknowledged for its work by receiving a United Nations Equator Initiative Award.
- 2003 Network-wide meeting of project representatives in Fiji to review project progress, revise the Learning Framework, hold training in biological and socio-economic monitoring, and share experiences and lessons. Here, the Social Contract and Intellectual Property Rights statement were finalized and ratified; new sites, country networks, and NCT members were initiated; and the first full members were nominated and accepted.



IV. Vision, Goals, Objectives

Our Vision



- Healthy ecosystems and communities, abundant fish and other marine resource stocks, and sustainable fisheries utilization
- Protected marine biodiversity
- Sustainable development in coastal communities
- Understanding of what communities are doing in managing marine areas
- Understanding of ecological and socio-economic responses to LMMA implementation
- Global awareness of the biological and social science related to LMMAs coming out of Asia-Pacific

Our Goal

We seek to reach our vision by networking practitioners (both individuals and organizations) and researchers who are committed to sharing experiences and information on determining the conditions under which locally-managed marine areas can contribute to conservation.



Our Objectives



- 1) Protect Biodiversity at Specific Sites
- 2) Develop Resource Management Policies in the Places Where these Projects are Working
- 3) Promote Learning Locally and Globally About the LMMA Tools
- 4) Enhance Capacity of Institutions in the Region

V. Members

– Who they are

The Network's membership consists largely of site-based conservation projects that are using (or planning on using) an LMMA approach. A **project**, in the context of the LMMA Network, may consist of individuals, communities, resource-owning groups, traditional leaders, government representatives, conservation organization staff, decision makers, university scientists and/or researchers who are working together to implement or enhance an LMMA strategy at one or more specific sites.

The term 'member' refers to those carrying out an LMMA project and participating in the Network at the **full** or **provisional** membership level, or a group or individual involved with the Network at the **associate** level. These three levels of membership are described below:

Full Members – projects with sites that have completed full membership obligations, which include:

- Obtaining commitment and support from local partners
- Completing an initial site description
- Developing a community-based management and monitoring plan
- Collecting and sharing an agreed-upon set of monitoring data according to the LMMA Learning Framework
- Appointing one or more persons to represent the project to the country and/or overall Network
- Expressing a desire to practice Adaptive Management

To reach full membership, project sites should be collecting data on a large majority (80-90%) of the 37 LMMA Learning Framework factors. Full members vote on broad Network policies and on the acceptance of other full members into the Network.

Provisional Members – projects with sites that are committed to pursuing full membership and are working toward fulfilling the necessary obligations. Often these are projects that already have a well-established community management plan in place and have been doing some monitoring but want to improve their efforts to learn more about what affects the success of their work. Provisional members may be collecting data on only a few Learning Framework factors, yet intend to collect more in the future.

Associate Members – projects, organizations, agencies or individuals that are interested in the function of LMMAs and community-driven resource management, but are not necessarily involved with a participating project. Associate members are not necessarily seeking full membership in the LMMA Network, but want to be part of a broader network of practitioners and researchers in order to enhance their understanding and practice of marine conservation.

Full and Provisional members have officially signed the LMMA Network "Social Contract" (available at www.LMMANetwork.org), also known as the Network's *Agreement of Our Promises to Each Other*, which outlines how members will work together. Associate members are also asked to abide by the principles set forth in the agreement.

The following is a brief summary of terms that we use to help describe our work. Please bear in mind that these definitions are used to help illustrate our work across the overall Network, although some countries may use these terms differently to describe project work within their country.

Locally-Managed Marine Area (LMMA)

An LMMA is the **overall marine area** being managed by the local community or resource-owning groups (or co-managed with outside assistance) and may include coral reefs, seagrass beds, mudflats, mangrove and other nearshore areas. The term "locally-managed" was agreed to by conservation practitioners working throughout Asia and the Pacific and was preferred over "community-based" because practitioners felt it better represented the work they were doing. Within an LMMA, different management 'tools' may be used to counter threats, such as gear or seasonal restrictions, or a total no-take area. Note an LMMA is *not* equivalent to a marine protected area (MPA); the term LMMA simply indicates that the area is under local management, whereas an MPA is a management tool that can be used within it. Communities, with advice from their partner organization(s), usually set aside a portion of their LMMA as an MPA, while ensuring they have enough fishing area available to meet their subsistence needs.

Management Tool used within LMMAs

A management tool, within the context of the LMMA Network, is a specific strategy or action used to counter threats within the LMMA. One or more tools may be used over time and/or spatial scales. Examples of tools include:

- **Full Reserve** ('sanctuary,' 'no-take zone,' or other form of Marine Protected Area)
- **Species-Specific Harvest Refugia** (or other form of species-specific MPA)
- **Effort, Gear or Behavioral Restrictions**
- **Seasonal Restrictions**

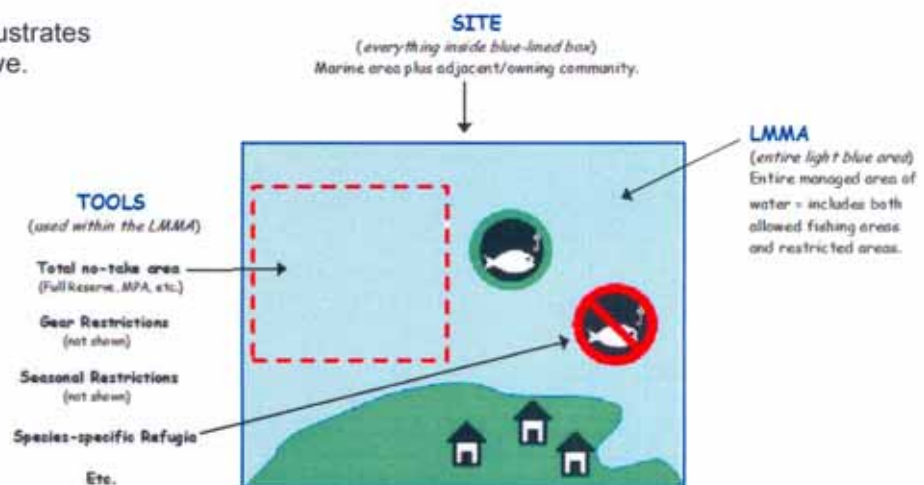
Site

A site is the area where an LMMA is physically located and includes the habitats and resources present in the area and the community or communities that own and manage its resources. A site may also include any adjacent or nearby communities that use the resources, but do not have any ownership or management rights. A project may involve just one site or multiple sites. Some LMMA sites may use more than one management tool.

Partner

A partner is an individual or group (such as non-profit organizations, government agencies, universities, etc.) that is assisting a community with the implementation of an LMMA project at either the full and/or provisional membership level.

The diagram at right illustrates the terms defined above.



The following is a listing of the full and provisional LMMA Network members active in 2004, along with their corresponding partner organizations.

Country	Project name or site locations	Partner Organizations	LMMA Network membership status
Fiji	Veratavou	University of South Pacific - Institute of Applied Science (IAS)	Full
	UluniKoro Marine Reserve	WWF	Provisional
	Vueti Navakavu; Tikina Wai Project; Coral Coast	IAS	Provisional
	Gau/Koro	IAS, WWF	Provisional
	Kadavu Province	Kadavu Qoliqoli Mangement Support Team, FLMMA Network, IAS and MSP	Provisional
	Serua Province	Fisheries department of Fiji, Coral cay Conservation	Provisional
	Ba Province	IAS, Coral Cay Conservation, Department of Fisheries, Mamanuca Environment Society	Provisional
	Taveuni Island	Resort Support, Department of Tourism	Provisional
Indonesia	Padaido Project (Saba Village, Auki Island, Meos Mangguandi Island), East Biak, Papua	SekPro PLKL Biak, Faculty of Mathematics & Science of Cenderawasih University (FMIPA), Community Conservation Groups	Full
	Tablasupa Village, Depapre Bay, Jayapura, Papua	Lembaga Adat Kampung (Village Custom Institution), SekPro PLKL, FMIPA	Provisional
	Tablanusa Village, Depapre Bay, Jayapura, Papua	Lembaga Adat Kampung (Village Custom Institution), SekPro PLKL, FMIPA	Provisional
	Rutong Village, Ambon Islands, Mollucas	Paparisa, Faculty of Fisheries & Marine Science of Pattimura University (FPIK)	Provisional
Palau	Helen Reef	Helen Reef Resource Management Project, Hatohobei State Government	Provisional
Papua New Guinea	Kimbe Bay	Mahonia na Dari, The Nature Conservancy, Walindi Dive Resort	Provisional
	Madang Lagoon	WWF-SP, Wetlands International - Oceania	Provisional
Philippines	Candelaria	Center for the Promotion of Indigenous Technology (SIKAT)	Full
	Hinatuan Bay	Center for Empowerment & Resource Development, Inc. (CERD)	Full
	Bohol Marine Triangle Project (BMTP)	UNDP-Global Environment Facility, Foundation for Philippine Environment	Provisional
	Lobo	Earth Restoration Trust (ERT), Local Gov't Unit	Provisional
	Cagayancillo	Cagayancillo Local Gov't Unit	Provisional

continued

Pohnpei (FSM)	Pohnpei MPA Network	Conservation Society of Pohnpei (CSP), Pohnpei State Marine Resource & Development (PSMRD), U.S. Peace Corps, College of Micronesia (COM-FSM), Local Municipal Government	Provisional
Solomon Islands	Tetepare Descendants Association	WWF-SI, European Union, Tetepare Descendants Association	Provisional
	Gizo Marine Conservation Area	WWF-SI, World Fish Center (WFC), Gizo Community	Provisional
	The Roviana -Vonavona Marine Resource Management and Rural Development Project	University of California Santa Barbara, Roviana and Vonavona Marine Resource Management and Development Program (local NGO)	Provisional
	FSPi/SIDT Communities & Coasts Programme	SI Govt, South Pacific Regional Environment Programme (SPREP), Foundation of the Peoples of the South Pacific International (FSPI), Solomon Islands Development Trust (SIDT), ECANSI, Langa Langa Lagoon, Gela and Marau communities	Provisional

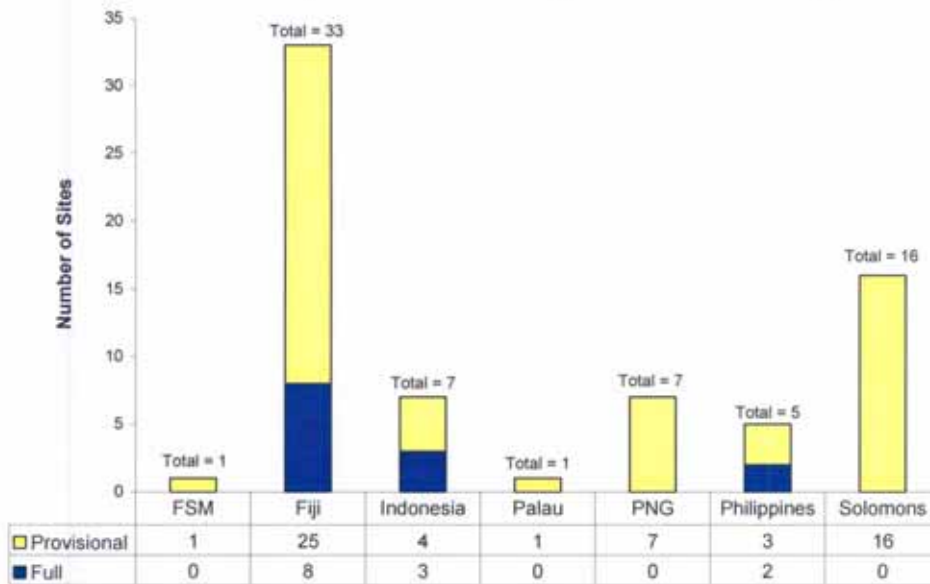
The number of sites, villages, LMMAs and Management Tools/MPAs active in the Network in 2004 are summarized in the table below.

Country	Total No. of LMMAs	LMMA Sites - Full	LMMA Sites - Provisional	No. of Villages	LMMA Area* (sq. km)	No. of Management Tools/MPAs	Tool/MPA Area (sq. km)
FSM	1	0	1	4	64	2	15
Fiji	33	8	25	37	2080	39	n/a
Indonesia	7	3	4	11	477	10	18
Palau	1	0	1	3	266	1	263
PNG	7	0	7	7	503	28	503
Philippines	5	2	3	13	7	12	7
Solomons	16	0	16	27	410	16	n/a
Totals	70	13	57	102	3807	108	806

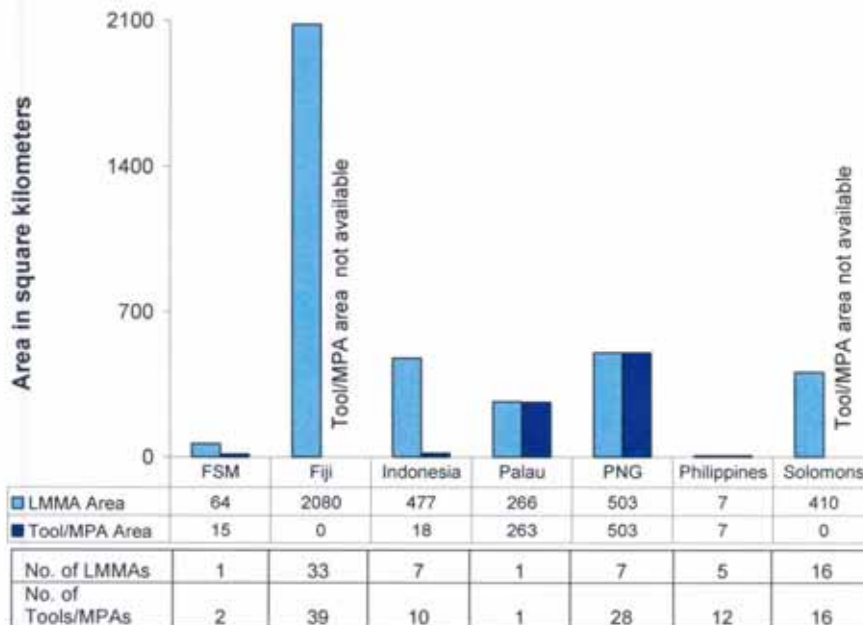
*Note: at the time of printing, not all LMMA sizes were available; for some sites, only the MPA or tool area was available. Therefore, actual size of LMMAs is greater than stated here.

The graphs on the following page illustrate the number of participating sites by country, and the area of LMMAs and management tools/MPAs within those LMMAs.

**Number of Sites per country
participating in the LMMA Network in 2004**
(Total of 70 sites reaching Full or Provisional levels)



**Area of LMMAs and Management Tools/MPAs
in the LMMA Network per country in 2004**



VI. Progress and Lessons

– what we've accomplished and what we've learned



2004 Highlights of the Overall LMMA Network

This year saw several strides toward addressing some long-standing Network-wide issues, guided by key staff and consultants brought in to address specific needs.

The Network hired a full-time Network Coordinator to provide management and administrative support to the overall Network, the NCT and its committees, liaise with donors, assist with training and budgeting, and attend to other needs. We expect that having a primary point person to facilitate NCT activities will enhance the NCT's ability to meet its objectives and carry out its work.

The Network also hired a communications specialist, who conducted a review and prioritization of communication needs and developed a communication strategy for the Network based on input from the Network Coordination Team (NCT). Communication tasks accomplished in 2004 include: completion of the revised Learning Framework (version 2), redesign of the LMMA website, training in basic storytelling, producing stories from various project sites, newsletter production and distribution, production of an LMMA informational CD, compiling a video/DVD resource of various marine conservation programs, and leading the NCT through a critical clarification process on terms and delineations for recording and conveying membership and project status.

Finally, the Network obtained the services of a Data Management & Analysis (DMA) specialist, who helped lead the development of the Learning Framework trial database for storing and analyzing monitoring data from project sites. The DMA specialist conducted several community-level workshops to present and test the database and introduce methods for analyzing data, including site-level analysis (e.g., comparisons of resource/habitat status before and after LMMA interventions, inside and outside MPAs/Management Tool areas, income and food security ramifications), as well as meta-analysis to compare results across the Network. A similar workshop was held at the Network-level for NCT members to trial the database and provide feedback and recommendations for improvement. The DMA specialist is currently revising the database and developing a users' guide to accompany it. Data analysis is a critical step toward fulfilling one of the Network's overall purposes of determining the effectiveness of LMMA strategies.

Below is a summary of Network-wide activities in 2004 (highlights for individual country networks are given in the **County Reports** section to follow).

- February – Annual LMMA Network Coordination Team (NCT) meeting in Honolulu, Hawaii
- April – Second version of the Learning Framework is finalized; website is re-designed
- June – Network members attended the 10th International Coral Reef Symposium (ICRS) held in Okinawa, Japan. Presentations given on LMMA-related work included:
 - *"Evaluating the Effectiveness of and Building Capacity for Locally-Managed Marine Areas within a Learning Network"* by Michael D. Guilbeaux, Pamela Seeto, Bill Aalbersberg, Daisy Flores and Wayne Andrew
 - *"Networking Locally-Managed Marine Areas (LMMAs) as a Strategy to Address Coastal Conservation Through Socio-Political Connectivity"* by Pamela Seeto and Michael Guilbeaux
 - *"Managing Highly Diverse Coral Reefs in North Coast Papua New Guinea through Locally-Managed Networks: Socio-Cultural Context and Trends in Changing Biodiversity"* by Aaron Jenkins
 - *"Evaluating the Effectiveness of Community-Managed Refuge Areas in Fiji"* and *"Marrying Traditional Resource Management Practices and Science in an Effort to Effectively Conserve and Sustain Local Fisheries at Village Level in Fiji"* by Alifereti TawakeThe Network attendees also hosted a Kava Side-Chat to introduce ICRS participants to the LMMA Network.
- August – Presentation of *"Networking Locally-Managed Marine Areas (LMMAs) as a Strategy to Address Coastal Conservation through Socio-Political Connectivity"* by Pamela Seeto, Michael Guilbeaux, Alifereti Tawake and Manuel Mejia on behalf of the LMMA Network at the 18th Annual Meeting of the Society for Conservation Biology in New York City
 - LMMA Data Management Workshop to test the trial version of the Learning Framework database; NCT Project Support committee meeting, Madang, Papua New Guinea
- August- December – ongoing work to develop Data Management & Analysis protocols and the NCT Operations Manual.



In the following sub-sections, we describe the progress we made toward each of our objectives over the past year, and give examples from project sites to illustrate both accomplishments and lessons learned.



Objective 1: Protect Biodiversity at Specific Sites. By 2004, to reverse the rapid overexploitation and degradation of coastal and marine resources and ecosystems and to preserve aquatic biodiversity in at least ten sites across the Indo-Pacific region.

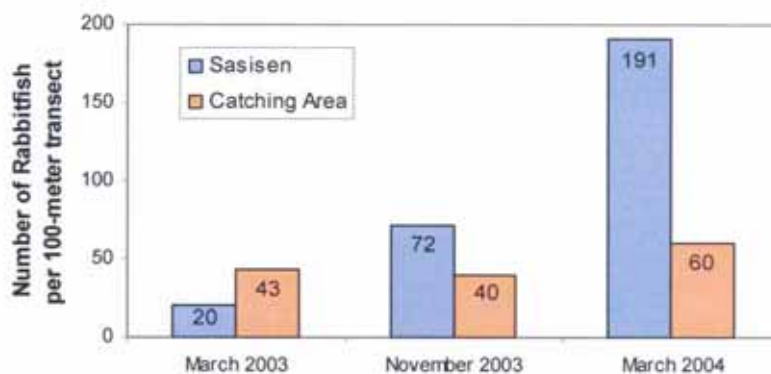
The LMMA Network's Learning Framework plays a crucial role in assessing our progress at protecting biodiversity. Although some project sites had their own monitoring methods in place prior to Network involvement, they are in the process of "retro-fitting" their data to match the Learning Framework factors as much as possible in order to contribute to Network learning. While achievement of this objective is currently tentative, a number of projects within the overall Network have established monitoring systems at sites that will be able to provide comprehensive information regarding progress toward this objective.

The following results from Indonesia and Fiji illustrate achievements gained in protecting important marine resources and habitats at two sites. We expect to have more results on our website later this year.

Rabbitfish in Saba-Marao Village, East Biak, Indonesia

The Saba-Marao community established a traditional seasonal marine protected area, called a *sasisen*, at the mouth of the Wairusi River along the western tip of Saba Village. The *sasisen* is nearly one square kilometer in size with a depth ranging from five to seven meters and a substrate of sand, seagrass and corals. The indicator species for this *sasisen* is the *samandar* fish (or rabbitfish, *Siganus* species), chosen for its high economic value and recent decline in numbers and size. Monitoring of the *samandar* since March 2003 has been conducted both inside and outside the protected area. Results are shown below.

Rabbitfish distribution in protected (Sasisen) and open (catching) areas



Sources: Data primer, Tim PLKL Biak Timur-Padaido, 2004

The graph indicates a clear increase in the number of rabbitfish inside the protected area, and only nominal change in the catching area. The highest increase of *samandar* occurs in the area dominated by seagrass, the preferred habitat of this fish, both inside and outside the *sasisen* area. Monitoring will continue here to better assess the implications of the protected area.

Through continued monitoring, the capacity of the Saba community to monitor other species will gradually improve. Such skill will be useful in the monitoring and ecological study of other living marine resources from the perspective of biodiversity conservation.

Rabbitfish in Nacamaki village, Mudu district, Koro Island, Fiji

In addition to community members from existing FLMMMA sites, stakeholders at new project sites are motivated by initial monitoring survey results, which are confirming anecdotal evidence of increased fish and invertebrates in *tabu* (protected) areas of their *qoliqolis* (traditional fishing grounds). In Nacamaki village, the local team reported that after one year of creating a *tabu* area, they harvested approximately eight tons of their food totem (community symbolic animal) - the rabbitfish - in one week. This bounty was enough to feed the entire island - 30 villages in two districts, totaling roughly 6,000 people. Such sharing of one's totem with others is a key aspect of the *tabu* tradition. Experiencing this plentiful catch has made the people of Koro Island more invested in their LMMA work.

While this catch coincided with the high season for rabbitfish, the village has not seen such abundance in a long time. A 68-year-old woman recalled the last time she saw so many rabbitfish - it was when she gave birth to her second son 47 years ago! This is just one example of many similar events.

"The LMMA work that these young guys from USP are doing has changed the attitude of my people to conserve and sustainably manage our resources for our kids. In recognizing this change, our ancestors have released the blessing to us by reviving this tradition."
- Nacamaki village chief, reporting to the Lomaiviti Provincial Council

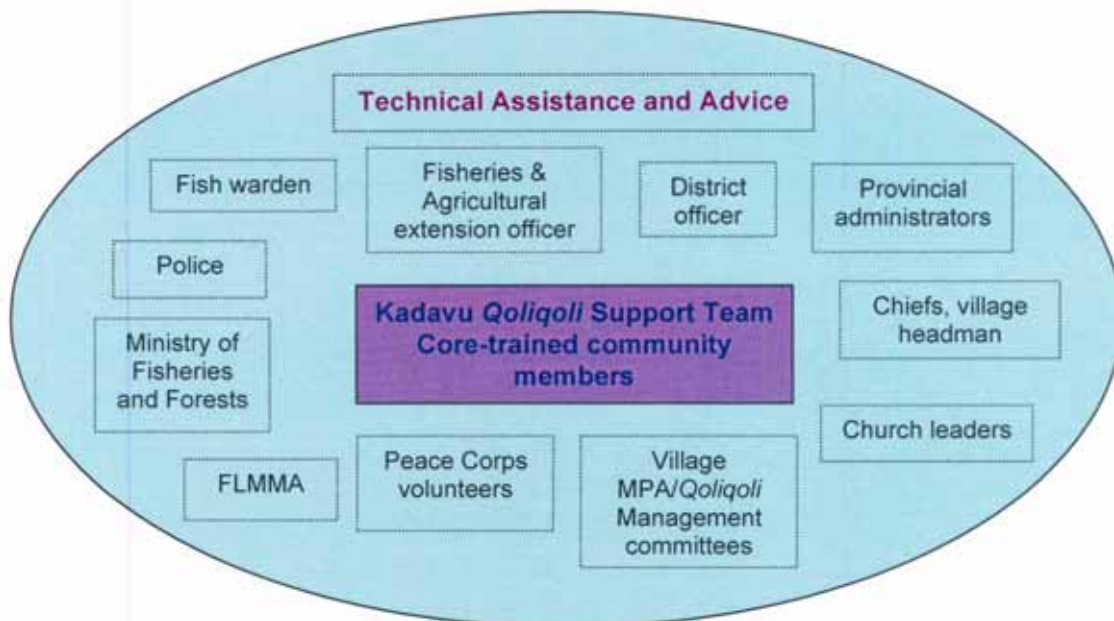
While thousands of kilometers separate the scenes of these two rabbitfish population increases, both communities share the excitement of their success when their lessons are spread.

Objective 2: Develop Resource Management Policies in the Places where these Projects are Working. To innovate and disseminate appropriate practical policies and strategies for management and conservation of coastal and marine resources and ecosystems and to work with appropriate partners to get them adopted and implemented in selected villages, provinces, and countries by 2004.



Again, Fiji provides a good example of progress towards this objective. The LMMA approach has been so successful in Fiji that the national government has formally adopted it and has created a new division in the Fisheries Department to work with it and look after marine conservation in general. In 2004, the effort to decentralize operations was initiated to extend the LMMA Network throughout Fiji. This is being done through the establishment of "Qoliqoli Management Support Teams," composed of provincial government workers, overseas volunteers and community members trained in LMMA techniques. Community workshops are conducted

jointly with experienced LMMA practitioners until the local team is confident and able to work on their own. Below is a diagram illustrating the tested provincial implementation model that has emerged as an effective way of extending LMMA systems in Fiji.



This approach has worked spectacularly well in Kadavu, Fiji's third largest island with 33 *qoliqolis* (traditionally managed marine areas, equivalent to an LMMA). The Fisheries Department has indicated a keen interest in formalizing this model for all provinces in Fiji.

The LMMA approach is also in the process of being officially adopted by local governments in the Padaido Islands, Indonesia.

Objective 3: Promote Learning Locally and Globally About the LMMA Tools. *To determine the conditions under which locally-managed marine areas can be most effectively employed to meet both coastal biodiversity conservation and fisheries food security needs in developing countries in the Indo-Pacific region, and once these conditions have been determined, to help practitioners understand and use this knowledge.*



This year saw much progress toward this objective. The trial database for storing and analyzing monitoring data was rolled out this year, and tested by several local communities as well as the NCT. Several trainings were held to test and hone the database and introduce methods for analyzing site data. Preliminary cross-site analyses were also made.

Currently we are concentrating on promoting local learning through these data analysis activities. Creating a database to record information from multiple sites was more challenging than anticipated, especially when attempting to compare data and project success systematically across different habitats and with different organisms. A statistical method called meta-analysis,

which allows this to be done, has been applied to site biological monitoring data in analysis trials. With input from members on how to make it more user-friendly, the biological database is currently being revised. A complementary database for socio-economic information is nearing completion, and the entire system should be available by June 2005.

As successful LMMA implementation varies from country to country and even site to site, we found a useful approach to promote learning is through the sharing of stories from various project sites working in different areas. Practitioners, decision makers and communities are eager and able to learn from the experiences of others with whom they can identify. In addition, stakeholders feel a sense of pride and validation by conveying their success (and even difficulties) with others. Cross-site exchange visits, which help project teams learn directly from one another, as well as our new *Stories from the Field*, sought to aid in this dual purpose.

*"Having communities tell their own stories is a very powerful tool."
– Alifereti Tawake, University of the South Pacific - Institute of Applied Sciences (USP-IAS), Fiji*

The various presentations, side chat and handouts by Network members at ICRS, as well as the revised website, newsletters and informational package produced this year served to share LMMA lessons at an international level. While technology makes it relatively easy to share knowledge with those who have access to it, promoting learning on the ground requires a different approach. Communities with little or no internet access must be provided information in person or through printed materials translated into the local language. Radio is also a widely accessible and popular mode of sharing information in many areas.

In Fiji, a weekly radio show on marine conservation initiated this year has proved quite popular and has stirred interest in LMMAs across the country. Local radio broadcasts have also been successful at spreading awareness in Papua New Guinea and Pohnpei. A communications training workshop in Papua New Guinea hosted by the organization SeaWeb allowed local practitioners to interact with radio and print journalists to create LMMA awareness at provincial and national levels. Radio shows conveying stories and lessons from other project sites are in high demand, as are simple printed materials such as brochures and educational resources. The compilation of marine conservation videos put together this year has proved effective at promoting awareness, however a video more specific to LMMA approaches is needed.



Objective 4: Enhance Capacity of Institutions in the Region. *To strengthen the capacity of our partners in key skills (project or program design, management, monitoring, analysis, and communications) required to undertake effective adaptive management of marine resources.*

Virtually all of the country networks have seen progress toward this objective, some more than others; yet all have had some degree of success in improving the capacity of our partners.

In Fiji, one key lesson learned is that building the capacities of government, non-government organization (NGO) staff and community partners needs to become a way of life. While much progress has been made in Fiji to this end, it involves continuous effort to ensure the sustainability of projects.

This year, the Indonesia network held capacity building workshops for community, university and NGO partners in-country, as well as facilitating training for partners in Papua New Guinea.

The Philippines and Pohnpei both held enlightening cross-site visits, which served the dual purpose of learning from other site experiences and providing capacity building training for both institutions and individuals.

In Papua New Guinea, several meetings/workshops were conducted that trained members from regional and local NGOs, government representatives and community members.

In the Solomon Islands, where LMMA Network activities are struggling to get off the ground, several baseline monitoring surveys were conducted under joint efforts by the country network and partner organizations.

We continue capacity building training as one of the key components of our LMMA work.



2004 Highlights

- January-December – consultations, presentations and trainings for government officials and community members
- March, April, May – Began training provincial teams in three regions (ongoing)
- April – Alifereti Tawake and FLMMA won the Whitely Award for People and the Environment
- May – Translation of the Learning Framework (LF) to Fijian
- June – Biological Monitoring workshop, Daku Village
- September – Support Fiji Government in applying for Global Environment Facility funding
- December – FLMMA was registered as a Charitable Trust under the Charitable Trusts Act of Fiji, making it the first country network to obtain official NGO status. FLMMA is working on setting up Trust Funds and exploring investment options for award money to make FLMMA work self-sustainable in five to ten years time.

Major Challenges

As the FLMMA Network grows, a key challenge is managing the network at the community and institutional levels. Strong working group leadership is needed to achieve the network's objectives and obtain commitment from additional communities. A special challenge has been to keep work relevant to communities and their adaptive management needs. In addition, vigilance is needed when integrating FLMMA activities with other initiatives to ensure that FLMMA processes and standards are maintained and that FLMMA is not taken advantage of by outside organizations solely as means of soliciting funds without recognizing FLMMA contributions.

Meeting the demands for training in communities is also a challenge, which the University of the South Pacific's Institute of Applied Science (IAS) is addressing by building the capacity for local partners and communities to carry it out themselves.

Other challenges include:

- The ability of FLMMA project staff to communicate the requirements of Learning Framework implementation while ensuring that communities are free to decide whether to pursue it
- Sharing lessons at the country network level
- Data management and analysis
- How to accommodate new interests and extend the LMMA approach to new sites
- Decentralizing the implementation of FLMMA activities to provincial levels
- Building capacity for community facilitators
- Clarification of full membership status and privileges
- Sustaining operating expenses for established LMMA sites and FLMMA
- Ensuring that community interest and momentum in established LMMA sites continues after NGO partner have withdrawn

Finally, as the LMMA approach is based on "adaptive management," one of the main goals is learning. As such, FLMMA continues to evaluate the effectiveness of how we work with communities. For all aspects of our work, we have identified the following needs:

- a) the need for careful planning of all sessions including rehearsals
- b) the need to review progress regularly and consider program changes during workshops
- c) the need for a formal debrief after the workshop
- d) the need for processing, documenting, and preserving all outcomes and information

These are not earth shattering conclusions but at the hectic pace of implementing projects, proper attention to these matters is often neglected.

2005 Plans

- January – FLMMA representatives to attend SIDS Mauritius 2005 meeting to update on Equator Initiative Award
- Train project managers and staff in Learning Framework factor data collection
- Complete revised database
- National workshop
- March, April, May – Train additional provincial teams using the Kadavu Qoliqoli Management Support Team model
- Set up FLMMA Trust Fund

Indonesia

Introduction

LMMA Network activities in Indonesia are primarily taking place in two areas of Eastern Indonesia: 1) Padaido Islands, Biak, West Papua, and 2) southern Ambon Island in the Moluccas Islands.

Padaido Islands

LMMA activities in the Padaido Islands covers 11 small islands and seven villages on the east coast of Biak. In the late 1990s, a local NGO, Yayasan Rumsram, in collaboration with BCN and later the Indonesian Biodiversity Foundation (Yayasan KEHATI), worked intensively to promote community-based coastal zone management here. Since 2003, the Secretariat for the Program on Coastal Resources Management (SekPro PLKL), a local NGO in Biak, has continued with these activities.



The LMMA program was introduced in the Padaido Islands in March 2002. Stakeholders began using LMMA concepts and officially joined the Network in September 2002. Data collection training took place in October 2002 and actual data collection started in November of that year. Since then, local communities have carried out participatory mapping and zoning activities and set up local institutions and rules for the management of the Padaido Islands and East Biak coastal area. Currently, this community-based management scheme is being officially adopted by the local government. Due to the experiences and local expertise developed here, Padaido Islands-Biak is a potential site for a Community-Based Small Island and Coastal Zone Management 'Learning Center' in West Papua and the Southeast Moluccas Islands.

Southern Ambon, Moluccas Islands

Programs in the Moluccas are concentrated in Rutong Village in the Ambon Bay sub-district of Baquala, Ambon City. The LMMA program in this region was jointly developed between the community, Faculty of Fishery & Marine Science of Pattimura University (UNPATTI), and Yayasan (Foundation) Paporisa early this year. In April 2004, Yayasan Paporisa and LMMA Indonesia conducted two workshops facilitated by Dr. M.K.J Norimarna (Rector of Christian University of Maluku), Dr. J.J. Wenno (Faculty of Fishery & Marine Science of UNPATTI) and Cliff Marlessy (LMMA Indonesia/KEHATI). The workshops covered project planning and introductions to Adaptive Management and the Learning Framework. The Moluccas 2004 program proposal was developed based on the outputs from these workshops.

As funding for the LMMA Moluccas program has not yet been disbursed, activities during most of 2004 were carried out independently by project stakeholders. More details on the Moluccas program will be presented in 2005 on the LMMA website and in next year's annual report.

Related 2004 Activities

- January-December – Developed the Environmental Education Program in three primary and two high schools in Padaido Islands and East Biak, and four primary schools in Depapre, Jayapura
- October-December – Sites in Central and East Indonesia began participation in the research project "Fish Wars," which is also taking place in Vietnam, Thailand and the Philippines
- July-December – Provided technical support in Mapping, Development of Local Natural Resource Management, and Local Institution Strengthening to Tablasupa Village in Depapre, Jayapura
- July-October – Facilitated joint research between students from the Biology Department of the Faculty of Mathematics & Science of Cenderawasih University of Jayapura (FMIPA-UNCEN) and the community of Auki Island, an LMMA site in lower Padaido Islands
- November – Presentation of the paper *"Inggo Faduru Kayan Meos Ine Faro Romawa Ma Up Inggobesi: Case Study on Map Use in the Local Management of Locally-Managed Marine Area of Meos Mangguandi, Upper Padaido Islands, Biak, Papua"* by Simon Morin, SekPro PLKL of Biak, at the Workshop on Resource Tenure and People's Initiatives, which addressed the inequality of land ownership and access to/control over natural resources.

Major Challenges

After the Indonesia LMMA Workshop held in Saba in June 2004, the demand for training in communities increased. The Faculty of Mathematics and Science of Cenderawasih University is helping to address this by building the capacity of local partners and communities so that they can carry out trainings themselves.

As the Indonesia LMMA Network grows through forging a community movement in conservation by using the Learning Framework as a tool, a key challenge is managing the network at the community and institutional levels. Strong working group leadership is needed to achieve the network's objectives and obtain commitment from additional communities.

Other challenges include:

- Capacity building for village facilitators
- Sharing lessons with other villages and islands
- Networking with the university for developing applied research on sustainable use of marine resources at LMMA sites
- Decentralizing the implementation of Indonesia LMMA Network activities at the site level to the local institution
- Data management and analysis
- Sustaining operating expenses for established LMMA sites and the Indonesia LMMA Network

2005 Plans

Plans for 2005 are aimed at achieving the overall goal of strengthening the growing regional network of community-based projects in Eastern Indonesia. Specifically, continuing the work on small island and coastal zone management in Padaido Islands, East Biak, and further developing the LMMA program in Southern Ambon, Moluccas (Central and Southeast) and Depapre Bay, Jayapura.

Activities planned for 2005 include:

- January-March
 - Introduction to Adaptive Management, the Learning Framework in Tablasupa and Demoy village at Depapre, Jayapura
 - Data management training in Padaido

- Management planning for Saba-Marao Village, East Biak
- April-June
 - Data collection in Tablasupa and Demoy village at Depapre, Jayapura
 - Data management training in Tablasupa and Demoy, Depapre, Jayapura
 - Re-Introduction to Adaptive Management, the Learning Framework and
 - Data collection in Rutong, Ambon, Moluccas
 - Management Planning for Auki Island, Lower Padaido
 - Participate in the 7th New Guinea Biological Conference at the University of Cenderawasih, Jayapura
- July-September
 - Introduction to Adaptive Management and the Learning Framework in Kei, Southeast Moluccas
 - Data collection in Kei, South East Moluccas
 - Data management training for Rutong, Ambon, Moluccas
 - Facilitated joint research between students from the Biology Department of the Faculty of Mathematics and Science of Cenderawasih University of Jayapura (FMIPA-UNCEN) and the community at LMMA site in Padaido Islands
 - Facilitated joint research between students from the Fishery and Marine Science Faculty of Pattimura University of Ambon, Moluccas and the community at LMMA site in Rutong Village, Ambon Island
 - Publishing of the Learning Framework second version in Indonesian; Adaptive Management in Indonesian; Site Profiles of Padaido and Rutong
 - National Workshop
- October-December
 - Introduction to Adaptive Management and the Learning Framework in Bali, Manado and Lampung
 - Data management training for Kei, Southeast Moluccas
 - Publishing of Site Profiles of Padaido and Rutong

Palau



Introduction

Many marine conservation and management efforts throughout the Republic of Palau involve communities that are working with LMMA projects. Most of these projects integrate traditional tenure and knowledge with contemporary strategies for management and monitoring. LMMA Network activities in Palau have been focused in the capital of Koror and in Hatohobei State in the Southwest Islands.

Since 2002, the Helen Reef Resource Management Project, a provisional member, has been active in Network activities, sharing experiences at Network-wide events and locally with other practitioners and community members in Palau. Being the only active LMMA Network site in Palau, the Helen Reef Project has operated largely on its own. The Palau Conservation Society, an associate member of the Network, stays informed of Network activities and approaches. There are hopes that more Palauan communities and projects will become involved in the LMMA Network as well as other supporting networks so that sharing and learning will increase.

The map at right shows areas of LMMA activity in Palau.

2004 Highlights – Helen Reef

- Ongoing – Continued presence and surveillance at the remote Helen Reef Atoll to guard against poaching within the Helen Reef Conservation Area
- October-November – The second annual Learning Framework data collection and monitoring at Helen Reef conducted entirely by community members
- Qualified for the International Bird Life's Important Bird Area (IBA) designation
- Further training in the Learning Framework and preparation for monitoring activities

Major Challenges

While 2004 was a very successful year for the Helen Reef Project, there were also considerable difficulties. Field-based project implementation and monitoring are going quite well. However, reporting and administrative skills, which are needed to keep the project operational and efficient in coming years, need to be enhanced; the Helen Reef project team and their partners are continuing to work on this. The project has also struggled with aspects of data management, data analysis and socio-economic monitoring, all of which will be addressed in the coming year.

In addition, the Helen Reef Project is facing a reduction of external funding, which will challenge the project team to seek matching funds, cost-sharing, and sustainable income generation to maintain operations. This is a major component of the project's focus for 2005.

Finally, existing Palauan project members would like to improve the way they share experiences about their work and the LMMA Network so that potential partners and members can better understand what the Network is about and what it has to offer.

2005 Plans

- A hosted exchange between Ngarchelong and Kayangel communities to share lessons learned and ways to improve their work
- A full test of the Learning Framework and communication of results with the Hatohobei community
- Focus on developing sustainable financing mechanisms for future years
- Present learning results from the Helen Reef Project to others
- Identify a potential Network Country Coordinator for Palau
- Training workshops on the Learning Framework and Data Management
- Cross-site visits with Pohnpei and Indonesia
- Training in socio-economic monitoring



Papua New Guinea

Introduction

LMMA activities in PNG are taking place primarily in Kimbe Bay and Madang Lagoon in the northern part of the country, with growing interest in Manus, Kavieng, Milne Bay and Hiri-East in the south.



Involvement with the LMMA Network began in August 2000, when project representatives from Kimbe Bay and Madang Lagoon attended the *Fish for Future?* workshop in Fiji and the follow-up workshop at ICRS in Bali. At these meetings, project representatives expressed initial interest in joining the Network. In late 2001, site visits to PNG by members of the Network Coordination Team (NCT) renewed interest in and increased awareness of the LMMA Network.

In August 2002, Pamela Seeto was recruited as the interim Country Coordinator for the PNG country LMMA Network, and Aaron Jenkins was hired to serve as Project Liaison for the local Madang Lagoon LMMA network. There was a growing need during this time to continue dialogue with interested projects in Madang Lagoon and Kimbe Bay, and to increase awareness of the overall LMMA Network in PNG.

This was achieved through an LMMA Network introduction session at the PNG Marine Conservation Workshop in late 2002, followed by a workshop on Adaptive Management and the Learning Framework (LF) in May 2003. At the May workshop, project partners from Kimbe Bay (Mahonia na Dari and TNC) and Madang Lagoon (WWF and WIO) formally requested provisional membership, and revised the social contract to accommodate their needs. Project representatives from Manus, Kavieng, Milne Bay and Hiri-East requested associate membership, and LMMA point people at these sites were identified.

In October 2003, Rebecca Samuel was hired as the new assistant coordinator for the PNG country Network to help project teams work toward full membership and begin implementing the LF. In 2004, several cross-site visits, trainings and workshops were held to assist Madang and Kimbe project teams carry out activities to satisfy the criteria for full membership.



The map at left indicates areas of LMMA activity in Papua New Guinea.

2004 Highlights

- January – Visit to Kimbe Bay to meet with project staff from the local NGO Mahonia Na Dari and help them develop an LMMA workplan
- May – Participatory Learning & Action (PLA) training conducted in collaboration with WWF in Madang
- June – Attendance at the Community Training Workshop organized by the Indonesian LMMA Network in Biak, Papua, Indonesia
- August – PNG LMMA hosted the NCT's Data Management & Analysis workshop in Madang to test and improve the newly-developed LF database
- September – Community Workshop in Madang to map out a vision and plan for villages interested in managing their resources better, facilitated by Cliff Marlessy (Indonesia LMMA Network) and Rebecca Samuel
- October – Presentation by Rebecca Samuel on LMMA activities in PNG at the 16th New Guinea Biological Conference in Manokwari, Papua, Indonesia
- November-December – Preparations for the National LMMA Meeting, scheduled for February-March 2005. This meeting will bring together LMMA projects and interested individuals to review progress to date, share lessons and experiences, and charter the way forward for the PNG LMMA Network in 2005 and beyond.

Major Challenges

PNG LMMA Network projects need improvement in the area of community participation. Getting community members more involved with the management and monitoring of their LMMAs is a priority for the PNG Network and is critical to project success. Community members need more opportunities to take responsibility for their resources, and more information so that they can make better decisions regarding resource management.

Complimentary to this, project staff need more technical support and guidance in collecting Learning Framework factors and analyzing data. Focus in past years has been on training in biological monitoring; however, there is now a need to balance that with socio-economic monitoring and data management and analysis training. Project teams need to practice adaptive management in a more structured way.

Activities for 2005 aim to address these challenges.

2005 Plans

- Community Adaptive Management and Biological Monitoring training, Madang
- National LMMA meeting in Kimbe Bay
- Training in PLA/community empowerment, conflict resolution, facilitation, Kimbe
- Follow-up Biological Monitoring training, Madang Lagoon
- Data Management & Analysis training for project staff, location TBD
- Data Management & Analysis training for community members, Madang
- Papua Cross-site visit, Papua, Indonesia
- Community Adaptive Management and Biological Monitoring training, Kimbe Bay
- Community mapping, tenure, socio-economic monitoring workshop and Solomons cross-site visit, Solomon Islands
- Biological Monitoring training follow-up, Kimbe Bay
- Socio-economic training workshop, location TBD
- Community Data Management & Analysis training workshop, Kimbe
- Community-based Resource Management course at the University of South Pacific, Fiji
- Develop communications plan, including technical report and proposal writing, location TBD

Philippines



Introduction

The Philippines has a long history of Community-Based Coastal Resource Management (CBCRM) initiatives that have been carried out with varying degrees of success. The framework for CBCRM emerged from the early efforts of NGOs and academic and research institutions implementing programs either independently or in cooperation with each other. From the mid-1970s through the early 1990s, many programs in the Philippines and Southeast Asia adopted participatory approaches toward resource management, emphasizing the need to empower fishers and other stakeholders to protect and enhance their resources.

In August 2000, one of the initial meetings to introduce the idea of forming the LMMA Network was held in Iloilo, Philippines. During the two years that followed, activity toward building an LMMA Network in the Philippines was stalled. In early 2003, a survey was conducted by NCT member Manuel Mejia to see if there was still interest. After an LMMA Orientation workshop held in April 2003 in Dumaguete, and several site visits and one-on-one meetings with key People's Organizations and NGOs, the Philippine Network got off the ground.

Two partner organizations that helped revitalize the idea of an LMMA network in the Philippines were the Center for the Promotion of Indigenous Technology (SIKAT) and the Center for Empowerment and Resource Development (CERD), through their participation and pioneering project work in Candelaria and Hinatuan Bay, respectively.

During the network-wide meeting held in Suva, Fiji in August 2003, an initial workplan for the Philippines LMMA Network (PLMMA) was drawn up by Ruperto Apilado, Gemma Gades, Jovy Cleofe, Executive Director of CERD, Chito Dugan, Project Officer of SIKAT, Ava Sharon Batay-an of Tanggol Kalikasan, and Daisy Flores of Earth Restoration Trust.

In November 2003, PLMMA held its first Biological Monitoring workshop in Bohol Island. Ruperto Apilado and Gemma Gades also shared their experiences in Fiji with the LMMA Network and presented the workplan that was drafted there, which was discussed and revised based on the input of Bohol workshop participants.



The map above right shows areas of LMMA activity in the Philippines.

2004 Highlights

- January – Youth Camp in Lobo Batangas, sponsored by ERT in collaboration with Biga Elementary School and the Local Government Unit (LGU) of Barangay Biga in Lobo
- April – Meeting in Hinatuan Bay, Surigao del Sur, to prepare for the PLMMA cross-site visit. During this trip, there was a sighting of a dugong in Hinatuan Bay trapped in a fish pen. CERD project staff helped in the rescue and release effort, and video footage was given to the local media to assist in the information campaign to save this endangered species.
- May – Hinatuan Training Workshop and Cross-Site Visit, hosted by CERD in collaboration with NAMAHERIN fisherfolks association and Gemma Gades, and attended by seven partner organizations, including SIKAT, CERD, ERT, Bohol Marine Triangle Project (BMTP), Coastal Community Conservation Education Foundation (CCEF), Philippine Reefs and Rainforest Conservation Foundation, Inc. (PRRCFI) and Lanao Aquatic Fisheries (LAFCCOD). Alifereti Tawake of FLMMA helped facilitate the workshop, and Bradley Phillip of Pohnpei LMMA Network also attended. Sessions included Adaptive Management, Learning Framework, monitoring and data analysis.
- October – Annual Coastal Resource Assessment of Candelaria Marine Sanctuary

Some minor activities planned for 2004 were not carried out, such as the Governance Workshop, PLMMA website and e-groups development, which will be rescheduled for 2005.

Major Challenges

During the Hinatuan workshop in May, several concerns surfaced. First, it was recognized that a more organized structure for PLMMA was needed to represent the three different regions in the Philippines: Luzon in the north, the central Visayas, and Mindanao to the south. Members feel that formalization of this new structure will help address current communications and planning issues. Regional representatives for these areas will need capacity building and strengthening to help them implement the PLMMA workplan in 2005 and beyond.

Second, a review of the Learning Framework (LF) presented some problems. It is generally agreed that the development of a simple guidebook - preferably in the local dialect - would help in the testing of LF factors. As many Philippine projects collected data using different methods prior to introduction of the LF, the question now is, how - if at all - can this data be retro-fitted into the LF structure? Also, it is still unclear how PLMMA is to store, analyze and submit data to the overall Network for cross-country and network-wide analysis. As such, capacity building, training and technical support in data management and analysis remains to be an area of need.

2005 Plans

- Formalization and induction of regional representatives (pending new PLMMA structure approval)
- Annual NCT Meeting, hosted by PLMMA, location TBD
- PLMMA members involved with the Asia Pacific Regional Proposal will host the NOAA Regional Capacity Building workshop in collaboration with Indonesia and Vietnam partners
- Advanced workshop on biophysical training
- Governance Workshop, location TBD
- Data collection and management training, location TBD
- "Write Shop Workshop" to help project members document indigenous knowledge of managing marine resources.

Pohnpei, Federated States of Micronesia

Introduction

Early efforts at marine conservation in Pohnpei were centered on marine protected areas (MPAs) established by state government. However, communities – who were most affected by such sanctions – were not involved in the process, so the effectiveness of these MPAs was lacking. In 1995, four villages – Enipein Pah and Enipein Powe, Soumwai and Mwoakot – joined together to write a management plan for the shared lands and waters of Woun Ko pwin Soumwai. In 2001, the coral reef surrounding the nearby small island of Nahtik was officially designated an MPA. However, it was still evident that community members themselves, in addition to the village chiefs, needed to be directly involved in order for rules to be respected.



The Conservation Society of Pohnpei (CSP), which has been a major force in creating a local MPA Network in Pohnpei, was founded in 1998 with the aim of increasing community involvement in the conservation and management of Pohnpei's natural resources. Since 2002, CSP, together with Pohnpei State Marine Resources (PMR) and municipal governments, has been working to build the capacity of Community Conservation Officers (CCO), who serve an important role in the management and monitoring of MPAs. CCOs are individuals chosen by their village chief to work voluntarily in implementing local and state laws regarding natural resources in their communities. Training of CCOs strives to bring community members in closer touch with the management and preservation of their resources.

The LMMA Network was first introduced in Pohnpei in 2002, when LMMA Network representatives presented the Learning Framework (LF) to CSP. As the LMMA Network shared CSP's ideology of working with local communities in conserving marine resources, CSP decided to join the Network. In 2003, LMMA representatives Mike Guilbeaux from Hawaii and Pio Radidedike from Fiji visited the Enipein project site and helped the community develop a Community Action Plan. In December 2003, Nahtik became the LMMA Network's pilot site for Pohnpei. Since then, Bradley Phillip, CSP MPA Network Coordinator and LMMA project liaison, has been assisting the community with their conceptual model, monitoring plan, and skills training.

Other important players in Pohnpei's LMMA Network include the Enipein Mangrove Committee, Peace Corps Micronesia, the College of Micronesia, and local municipal governments, which better understand the particular needs of each community than state authorities and are closer to the paramount chiefs who ultimately give the final blessing of his village before a project starts. Pohnpei's LMMA Network also works closely with the Pohnpei MPA Network, whose partners include local governments, College of Micronesia-Federated States of Micronesia, Peace Corps, Pohnpei State Marine Resources and Department of Land and Natural Resources.

The map for Pohnpei on the following page is slightly different from the other country maps. While it is true in many countries that member projects encompass more than one site, they are usually adjacent to each other, no matter how big or small. In Pohnpei's case, the sites within the project are spread out over the country. While there is only one LMMA Network member in Pohnpei - the Pohnpei MPA Network - it is represented on the map as Nahtik Marine Protected Area, since it is the only site at which Learning Framework data is currently being collected. The

blue circles signify existing MPAs declared by the state government that are engaged in some LMMA Network activities as part of the larger project.



2004 Highlights

- Initiation of community action plan
- Selection of Community Conservation Officers at Chief's meeting
- Fish monitoring training workshops
- Creation of Nahtik fish monitoring team
- Data collection, analysis and presentation
- Socio-economic questionnaire created
- Cross-site visit and training in Hinatuan Bay, Philippines
- Five CCOs meetings (April, June, August, October, December)
- Giant clam assessment, restocking and monitoring activities
- LMMA MPA awareness and Marine Area Network Through Awareness (MANTA) summer program for youths kick off
- Enipein community cleanup of Ross island
- Black Coral Cross-Site Visit with Nahtik MPA, Mwahnd MPA, Sapwitik MPA, Dehpehk MPA, Namwen Na and Nahnningi MPA
- Mike Guilbeaux one year follow-up visit to Enipein village

Major Challenges

Pohnpei's biggest concern at the moment is funding. CSP is a non-government organization supported solely by outside donors, and all of its grants are linked to specific projects with line items and budgets. CSP has no reserve of unrestricted funds for the LMMA-related project work, which requires money upfront to purchase supplies and administer community workshops. However, CSP recognizes the benefits of this work and is currently writing grant proposals with help from LMMA representatives to cover some of these essential project activities.

2005 Plans

Plans for 2005 will focus on training the core project team in LMMA approaches for socio-economic monitoring, developing a community approach 'template,' data analysis, etc. as follows:

- Socio-economic training workshop and survey
- Team building/collaboration
- Adaptive Management & Learning Framework introduction with all of Pohnpei's MPAs
- Adaptive Management & community biological monitoring
- Data Management & Analysis Training - community level
- Complete Pohnpei template
- Summer cross-site visits
- USP training course in Fiji
- Complete the requirements for full membership by December 2005

Solomon Islands



Introduction

In November 2003, the first LMMA workshop was held in Honiara, Solomon Islands, coordinated by the Foundation of the Peoples of the South Pacific International (FSPI) Fiji, World Wildlife Fund (WWF) Papua New Guinea, and facilitated by LMMA Network representatives Hugh Govan and Rebecca Samuel. Members from various NGOs, government and the private sector attended, including Tetepare Descendants Association, WWF Solomon Islands (WWF-SI), The Nature Conservancy (TNC), Roviana & Vonavona Marine Resource Management Program, FSPI-SI, Solomon Islands Development Trust (SIDT), Environmental Concerns Action Network of the Solomon Islands (ECANSI), Dive Gizo, International Waters Programme (IWP), World Fish Center (WFC), and SI Government Fisheries Department and Department of Environment & Forest Conservation. At the workshop, participants agreed to form a Solomon Islands LMMA Network (SILMMA) and elected a coordinator and assistant to begin work in 2004.

Some partners, such as Shankar Aswani from the Department of Anthropology at the University of California at Santa Barbara, WWF-SI, Tetepari Descendants Association and TNC, had existing background monitoring information on their projects prior to joining the Network that they could use as baseline data; others were introduced to the concept of monitoring.

Initially, the SILMMA coordinator was housed in Gizo, Western Province, under WWF-SI, which provided a computer, communications access to members, and general administrative support. Now, the new SILMMA coordinator, Silverio Wale, is working on Network activities under the administrative support of the FSPI-SI Coastal Programme.

The map at right indicates areas of LMMA activity in the Solomon Islands.

2004 Highlights

While this year has seen a lot of activity in the Solomon Islands regarding its marine resources, much of this was carried out by outside parties, and as such, is not covered in this report.

However, a few associate member partner organizations conducted baseline surveys for communities that expressed interest in setting up *Tabu* - or protected - areas for their



marine resources. Included were Marau and Gela, project sites of the FSPI/SIDT Communities and Coasts Programme, and IWP project sites in Marovo lagoon, Western Province. The surveys were carried out by TNC, FSPI-SI, IWP and WWF-SI.

In addition, FSPISI/SIDT, Solomon Islands Fisheries Department, and ECANSI staff conducted a series of awareness-raising and Participatory Learning & Action (PLA) trainings in Marau, Gela and Langa Langa Lagoon to help communities think about and develop a clear management/action plan for their identified Tabu areas.

Major Challenges

Although SILMMA has been set up for a year now, progress has been slow. One of the main setbacks was the changeover in SILMMA coordinators mid-year, which stalled the progress of activities and member reporting. An important issue that needs to be addressed early in 2005 is the current SILMMA structure and the roles and responsibilities of the new coordinator.

In addition, there is a great need to strengthen communication and capacity building within SILMMA in order to improve the efficiency of meetings, trainings and information-sharing between members. In-country, new committees have been set up, many with the same members and goals, so there is a need to examine these committees and see how SILMMA can fit in and make the most contribution.

There is also a great need to collect raw data from all sites and incorporate it into Learning Framework (LF) format. As each organization has their own system for recording data, these must be adjusted to LF factors so that existing valuable information can contribute to Network learning.

Most communities that were visited have expressed their interest in having more tabu areas throughout the country to reduce the rapid over-harvesting of marine resources. However, many SILMMA members still do not have a clear understanding of the function of either an LMMA in particular or the LMMA Network in general.

2005 Plans

Plans for 2005 will focus on developing an ideal structure for SILMMA, roles and responsibilities for the coordinator, and clear guidelines for members to follow in carrying out activities. Trainings that are suitable for community-level and project-level are also being planned.

Other Areas

– Hawaii

Summary

Although there are no official Hawaii LMMA Network members, practitioners in Hawaii have long been involved in Network activities. Hawaii is home to a key Network partner, the Community Conservation Network (CCN), based out of Honolulu, as well as several NCT members. Due to its convenient location in the Pacific, Hawaii has been the site of three previous NCT meetings, hosted by our partners there.



This year, things started moving in a more formal direction. The overall Network Coordinator has been working closely with our Hawaiian partners to help project teams prepare for membership in 2005. In November, Hawaiian partners submitted their proposal for joining the Network, which was approved in principle by the NCT Finance and Coordination Committees. An introductory workshop on adaptive management and conceptual modeling conducted in December 2004 was warmly received by the community

members of Miloli'i and Ho'okena on the big island of Hawaii.

With continued hard work on the ground, we expect Hawaii to make significant progress towards formalizing their LMMA Network membership in 2005.

VIII. Challenges Ahead



While each country network faces its own challenges as summarized previously in the **Country Reports** section, the overall LMMA Network recognizes the following as the biggest hurdles to overcome in 2005:

Data Management and Analysis

The development of the Learning Framework database notwithstanding, Data Management and Analysis remains to be a challenge for the Network at all levels. At the site level, community monitoring teams and project staff need training in database use, methods of analysis, and interpretation and presentation of results to stakeholders and decision makers. At the country level, a system for storing, accessing and sharing data needs to be agreed upon and developed, and personnel designated to oversee and manage it. At the Network level, all of these needs exist in addition the added challenge of systematically comparing results across countries in order to determine if and how LMMAs are contributing to conservation. One setback for many local project teams was the lack of standardized data collection forms to use in the field. By the end of 2004, significant progress had been made in developing sample forms, which will be ready for field testing in early 2005.

Communications

Network identity has been a pressing issue at the local, country and overall Network levels. Practitioners, project staff, decision makers, communities, and members – both potential and even some existing – are unclear as to what exactly the Network is, what it does, what it does and doesn't provide to members, and how it operates. While some progress has been made in addressing this, more is needed. The publication of this annual report is one step in that direction. Continued upkeep of the LMMA website is another; however, being that many project sites and staff are remote and do not have easy access to the internet, basic and critical information must be shared using other means.

Requests have been made for Network brochures and other printed materials that can easily be handed out, as well as resources such as educational materials, radio shows and videos that introduce LMMA approaches and provide real life examples from existing projects. These materials need to be translated to various languages and dialects. Plans for 2005-06 include the production of an LMMA Network video and training in specific communication needs as identified by the Network Coordination Team (NCT). These activities are ultimately dependent on available funds and capacity.

Network Coordination

Coordinating a network that is this geographically dispersed can be both challenging and fun. The fun comes from working with such a highly motivated, dedicated, talented and culturally-diverse team. While working across eight different time zones and with many dynamic personalities is a challenge in itself, the larger challenge is balancing the needs of individual members and country networks in order to achieve the overall Network's goals.

Coordinating the Network and its members requires constant seeking of information from country coordinators and project liaisons; diagnosing and attending to members' needs; investigating and addressing problems systematically; and linking all of this to the objectives and work of the overall Network. Keeping track of each member's particulars and managing their relationship with the Network is key to providing the appropriate assistance to projects at the right time and in the most efficient manner.

Providing leadership to an empowered and autonomous team such as the NCT is tricky. While we want to maintain the productivity that this self-managing group generates, we need to implement a better evaluation and monitoring system. Strategic planning and streamlining of the NCT's operating procedures also need to be undertaken. Continued investment in communications and face-to-face meetings will result in better workplans and strategies, increased team trust, and more objectives reached.

Lack of time and resources to work more with project teams was a recurring theme in 2004. The NCT is acutely aware of this and has identified potential solutions. These include exploring ways to improve capacity building, planning and scheduling, as well as considering the hiring of more in-country people to help carry out project work. By continuing to strengthen our foundation through capacity building, we will have a deeper pool of LMMA Network members to tap for conducting trainings and assisting with other project needs. This will better distribute the load and prevent the "burning-out" of any one member. We also plan to address specific NCT training needs as identified by NCT members themselves. In addition, we plan to focus attention on meeting the needs of current members, rather than taking on new projects. By doing so, we hope to see more efficient data collection and initial Network-wide analysis in 2005. However, this inward focus and slowing down of our expansion strategy requires careful management so that we do not miss any opportunities for the Network to take on projects that could add to Network learning.

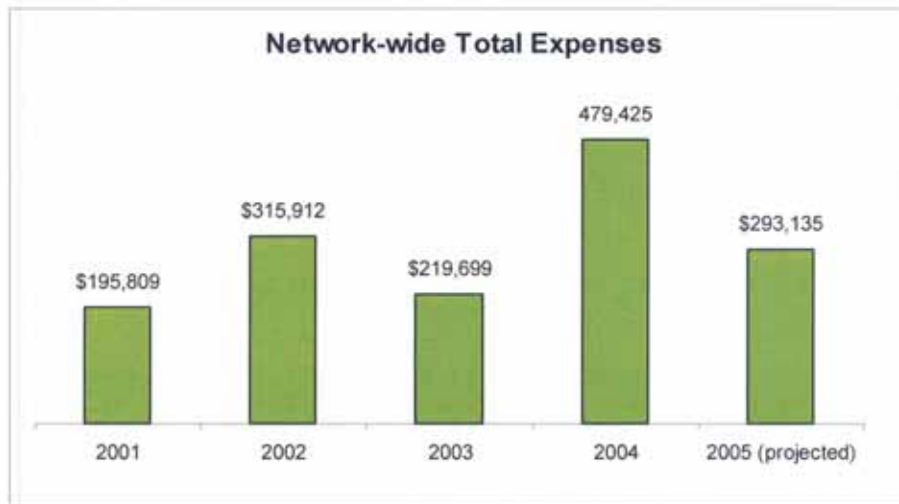
With focus on these key challenges in 2005, we expect to see increased progress toward our objectives.



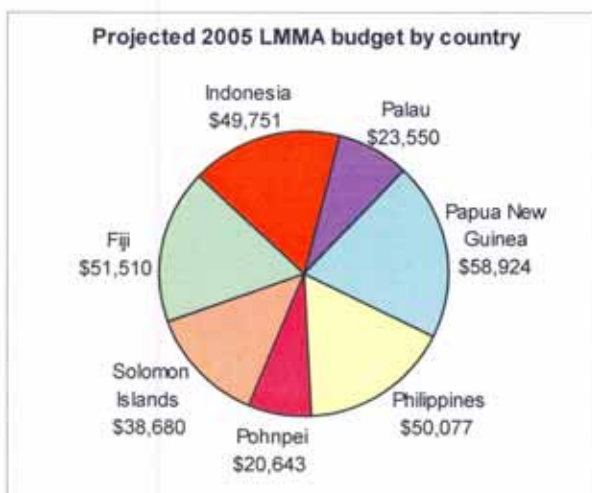
IX. Financials

The work of the overall Network is generously supported by the David and Lucile Packard and the John D. and Catherine T. MacArthur foundations. Country-level networks and individual projects are funded through other sources. The figures presented here represent only costs pertaining to overall Network activities. All figures are expressed in \$US dollars.

The following graph illustrates funds expended annually by the overall Network since its inception (although the Network was launched in 2000, it did not have an operating budget until 2001). Types of expenses include salaries (including field staff and consultants), travel, conferences and workshops, equipment, resource materials, field supplies, and telecommunications.



Individual projects have their own funding for program costs as well as staff salaries. For the first four years, there were no full-time LMMA Network employees; staff from partner organizations were paid a percentage of their salaries for time spent on specific LMMA Network-related work. In 2004, this changed; the Network hired a full-time Network Coordinator, and several country coordinators naturally evolved from carrying out LMMA activities through their associated partner organizations into working full-time for their respective country networks.



The pie chart at left gives a breakdown of projected 2005 LMMA Network funding per country (final amounts subject to change). Some countries' total budgets are more than the figures presented here; this chart indicates only the amount being supplied by the Network directly.

Acknowledgments

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