Partnerships, Collaboration and Cooperation for Effective Marine Resources Management: the Fiji Locally Managed Marine Areas (FLMMA) network

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Abstract
Over the last four years, the Fiji Locally Managed Marine Areas (FLMMA) network, in promoting community-based marine management areas in Fiji, has demonstrated a great deal about partnerships, collaboration and cooperation that provide useful lessons that need to be taken into consideration. The FLMMA network consists of a number of organisations in Fiji that are working with local communities in the management of their inshore marine resources. The network is based on the principle that people in coastal communities want to make marine resources management more effective and beneficial to their communities and contribute to the improvement of their living conditions. FLMMA members are committed to work with the community groups and with each other and to share their experiences because the sum of their collective effort is far greater than the sum of their individual contribution.

Guided by a social contract that emphasises respect for each other, trust and good conservation practices, FLMMA has fostered working relations with the local government departments, international donor organisations, international and national organisations and the local communities. For the very first time, government departments are working with national and international and non government organisations as partners that are united to bring about positive change to how marine resources are utilised in coastal communities.

The partnership, collaboration, and cooperation are resulting in good conservation practices and the increasing commitment of local communities to self determined development that reflect globally prescribed principles of precautionary, sustainable and integrated development. These interventions led to the recognition of FLMMA as one of the six winners of the United Nations Development Programme’s Equator Initiative for outstanding contribution to poverty alleviation and conservation at 2002 World Summit on Sustainable Development. The network emphasises effective conservation while
upholding the integrity of local communities to determine developments that improve their lives.

Introduction

The intervention of Fiji Locally Managed Marine Area (FLMMA) network in Fiji is timely as the commercialisation of inshore fisheries experienced over the last 20 years has been stressful on the fisheries resources. With the increasing number of fishers and their extended capacity, the sustainability of the resource has become highly unlikely. People and governments emphasised maximum productivity while the resources management activities promoted by government and based on legislation have failed to provide for effective resources use practices (Laws of Fiji 1985). The result has been depleting fisheries and dwindling catches despite increasing calls for conservation and sustainable development.

Resources management prior to the 2000 launching of the Locally Managed Marine Area network, featured largely government-determine practices that were based on legislations and government policies. These practices were ineffective and yet expensive. It was assumed that the people were familiar with the fisheries management regulations when in fact the majority of the villagers did not even know of the regulations let alone use them. Minimum sizes, licenses, restricted gear, and closed seasons were also difficult to enforce. Coastal communities were merely users of the resources that were managed by institutions external to the villages – a recipe for disaster.

FLMMA’s approach is appropriate because it treats local communities with respect and sensitivities to their needs and capabilities. According to the FLMMA approach, resource
owners should be involved as partners in the management of their resources. FLMMA encourages local communities not only to play an active part in the management of their natural resources, they should be leading the initiatives. Local communities still observe the remnants of their traditional resource use practices which, can be the basis of local actions. With the communities’ resource use traditions and close ties, the people are better able than their governments to effectively determine the level of use for their resources while their traditional cultural values allow for the implementation of management decisions. The partners, on the other hand, provide the scientific expertise and advise to set the management in its proper context.

In this paper, the focus is to discuss the significance of the partnerships, collaboration and cooperation to successful community-based resources management. The paper highlights the features that make the approach attractive and the issues that pose challenges to it. The paper concludes with the suggestions on why partnerships, collaborations and cooperation should enhance the successful management of marine resources in coastal communities.

FLMMA

FLMMA is made up of marine conservation partners working with coastal communities in Fiji. Formed in 2000, FLMMA is a network which consists of communities, conservation organizations, research and training institutions, and Government departments in Fiji. FLMMA members have agreed to use a common strategy to achieve the three goals of:

(i) implementing more effective projects

(ii) systematically learning about the conditions under which this strategy works best and why and
(iii) improving the capacity of the members of the portfolio to practice adaptive
management

(Locally Managed Marine Area Network 2002).

FLMMA was set up to collectively share lessons learned about marine resource
management interventions in order to maximize the benefits and avoid painful mistakes.
Key goals of the portfolio which promoted partnership, collaboration and cooperation
include community-based marine resource management projects that are committed to
taking action to achieve specific goals and objectives and using adaptive management to
improve the chance of project success.

The aim of the learning portfolio is to make the community-based learning process more
efficient. To achieve this, the members of the portfolio have agreed to collaborate and use
the same strategy to obtain their information and to share their findings to understand more
rapidly and more reliably the conditions under which the strategy is most effective. The use
of a common language to communicate with one another is very important in allowing the
sharing of data and its analysis. The partnership is also essential in enabling the projects to
agree on the strategy they use, what questions they study, what common sets of
information they need to get to answer the questions and what the different terms and
phrases mean. FLMMA uses a Learning Framework that provides the basis for
comparative work and learning (www.lmmanetwork.org).

The FLMMA partners collaborate on the basis of a Social Contract under which they
agreed to work together to make conservation better for the people involved and the marine
environment (www.lmmanetwork.org). The social contract is not legally binding but
emphasises good social relations. The core values that are upheld include commitment, teamwork, transparency, empowerment, respect, fun and the belief that practitioners can make a difference. This emphasis on the common values is appropriate to overcome the rivalry and suspicion that has featured amongst conservation practitioners and their organisations in the past. These barriers to genuine partnership cannot be easily untangled through legal contracts but through a social commitment to doing conservation work better.

FLMMA partners are now working in over 10 districts throughout Fiji and have a growing list of additional sites where people have shown interest in doing community-based conservation.

FLMMA’s story began in the early 1990s when residents of villages such as Ucunivanua in Verata, Tailevu and Waisomo in Ono, Kadavu realised that the marine resources in their customary marine tenure areas (qoliqoli) were becoming scarce (Aalbersberg et al. 1997; 1999; Tawake et al. 2001, Tawake 2001; Naqelevuki et al. 2002). In both these cases, the communities worked with their external partners to address their problems. These partnerships allowed the communities the benefits of outside expertise and funding to effectively change human behaviour. The result of these partnerships is two of the most successful community-based resources management initiatives in the country.

FLMMA works with their partners in the communities to formulate ways of addressing their marine resource management problems. Its experiences are unique and provide useful lessons that must be understood by those who are dealing with similar situations. The point to remember is that to involve people in community-based resources management requires a great deal of consultative work, goodwill, trust and commitment. The process
cannot be shortened and requires patience and understanding. This is why there was very little accomplished in management activities that are externally formulated.

FLMMA partners use the Participatory Learning and Action (PLA) method to involve local people in the making of decision to manage their resources. The PLA method emphasises a number of phases and steps that need the contribution of local communities and their partners. Background research and coordination are critical to ensure that the preparation is relevant and appropriate. For this reason, the FLMMA teams are purposefully made up of people who could converse in the vernacular and therefore are better able to appreciate the people and context they work with. The training of PLA practitioners is essential to promote the use of the method and build local capacity. Fieldwork is emphasised because the work should be set in an appropriate context. In many instances, resource management arrangements are finalised externally and are taken to the communities to implement and observe them. As is the case with national laws people are often not committed making necessary the need for expensive enforcement measures. The continuous gathering and analysis of data are important to illustrate the changes taking place which are critical to convincing the people who need to be assured that what management decisions are working well and providing positive feedback. Lastly, follow up is critical because the people need to be convinced that the method is responsive to their needs and plea and that they are constantly evaluating and reviewing their positions.

During the resource management workshops, local communities are asked to reflect on their resources and the changes they have experienced over the years. The people are asked to identify the main problems they face and to propose ways by which these may be addressed. The people are allowed the opportunity to reflect on their situations and what
activities they think they can undertake to solve their problems. The result is a resource management plan which outlines the management actions that the people have agreed to undertake (Table 2).

Table 2: Critical resource issues and management actions taken by a community in Verata.

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<th>Issues</th>
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| Overharvesting or overfishing of resources | • Stop the issue of commercial fishing licence and use of gillnets.  
• Alternative income arranged by USP through bioprospecting enterprise to offset short-term losses in income from actions taken.  
• Delineate species-specific reserves via no take area or no take species. |
| Mangrove and coral extraction   | • Banned                                                                           |
| Siltation                       | • Mangrove replanting and rehabilitation                                           |
| Trash and human waste          | • Set up of village health committee to periodically organize beach and water cleanups and oversee that each household has proper toilet and rubbish dump. |
| Poison Fishing                  | • Ban the use of *Derris sp* plant and other killing agents.                        |

Some of the proposed management activities that were put forward to address the above issues include the: declaration of fishing restrictions, declaration of *no take* areas, identification of action to address pollution issues, coastal erosion, education and awareness and community management framework. *No take* areas which are modeled on traditional practices are established as replenishment zones and specifically to rehabilitate depleted economically important marine resources and degraded habitats. The assumption is that when the resource population in the *no take* area has recovered and increased, there will be a ‘seeding effect’ to harvesting areas provided there is enough brood stock. In addition, the lack of knowledge on what needs to be done to rehabilitate and sustainably utilise resources are the most logical step to take to reduce fishing activities in an
environment where people’s knowledge of their resources are inadequate to make allow for effective resources management.

The communities and their FLMMA partners are responsible for supervising the achievement of the management plan. Follow up meetings and training workshops are periodically undertaken to maintain interest. Training workshops are organised in all of the managed sites to build local capacity and allow the local communities to conduct their own monitoring activities. These are now done through ecological, social and economic monitoring which have provided the evidence supporting local community intervention.

Community-based monitoring work has illustrated some dramatic gains in the health of local marine species. As one example, in Ucunivanua village, the community’s data indicate that both the number and sizes of clams significantly increased in both the no take area and the adjacent down current harvesting areas. At the start of the project, it was extremely rare to find a clam bigger than 5 cm in diameter. Today, the community routinely finds clams in the no take areas that are over 8 cm. In fact, clams exceeding the largest adult size class (> than 9 cm) are now being found by villagers for the first time in three generations. As an additional indicator of ecosystem health, the community is finding that other fauna are returning to the system. For example, it has become more hazardous to conduct the surveys in shallow water without proper foot cover because of the large numbers of stingrays (a major predator of the clams) that now frequent the mudflats. More importantly, once the people of other villages in Verata saw the effectiveness of the no take area in increasing clam stocks on the mudflats in Ucunivanua, they decided they would also set up no take areas in their mangroves and their coral reefs, to protect mud lobster, sea cucumbers, and several coral reef fishes and invertebrates. Similar results are being obtained at other project sites. To date, over 15 communities in six districts in Fiji have set
up marine protected areas and are monitoring their effects. People in several other districts have asked for assistance and initial discussions have been held about assisting them with this process.

The locally managed marine areas are not just being set up for conservation, but to also improve the yield of marine resources that people use for subsistence and cash income. Clam collectors in Ucunivanua are able to gather 4-5 bags in a morning of work. The increased resource yields of clams, crabs, and other species from areas adjacent to the no take area that can be sold in the municipal market of the capital, Suva, has led to a 35% increase in household income over three years and a tripling of the resource catch per unit effort. This project also had an enterprise component by which the people of Verata district have received to date US$30,000 in proceeds from licensing biodiversity samples for testing. This money has been put in a community biodiversity trust fund and the interest used to support the monitoring work and to meet needs such as improvement of village primary schools, which would otherwise have been funded from the parents' minimal cash resources.

In all of the FLMMA sites, partners complement each others work. The funding is from overseas private foundations that have agreed with the activities proposed as part of the approach. In these cases, the plights of these rural communities are only known because of their partners in government, non government and education institutions. The partners share experiences and lessons and emphasise adaptive learning. They promote local participation, effective conservation and flexibility. These collaborative undertakings involving people
who have decided to join their expertise and resources have been responsible for the success of the FLMMA approach that has been used in Fiji.

Over the last 2 years, the management initiative that the communities in Vanuaso district are undertaking have diffused into the other two districts on the island as well as neighbouring islands. The message in all of these areas remain the same, that people today need to manage their fisheries resources better if their future generations are to enjoy the same. The partners emphasised that local actions were required now so that the resources are given the chance. The resource owners in both Sawaieke and Navukailagi districts have embraced the initiative to make Gau the first island to be wholly involved in the work.

**Effective Partnerships**

It is well documented that the effective conservation now undertaken in the Asia Pacific region is largely due to the collaborations of local and external partners (Veitayaki et al. 2002, 2003). These people bring their collective expertise to the partnerships, which have greatly contributed to the success of their operations. In Vanuaso *tikina* the involvements of government and non government organisations in the communities have allowed the self-determined integrated resource management that the people are undertaking. The people of these communities are helping themselves and are undertaking the activities that they can manage on their own. The people are thinking of their future and are willing to set the standard from which their children can learn. The people are also
learning from each other and are fostering closer social linkages that can augur well for these rural communities.

In 2001 each of the six villages in Vanuaso District in Gau formulated their resource management plans based on some of the environmental issues problems that have been identified earlier (Table 3). These plans have been published as posters and are now available in each and every house in each of the villages. The posters were prepared by the partners who were aware of the need to continuously remind the people of the tasks for which each and every one of them is responsible. In situations like in Vanuaso where reading materials are restricted and people do not have access to the news media; the posters were welcomed contribution to the involvement of people. The posters now are used to monitor the work conducted in the district to rehabilitate coastal habitats.

Some of the results of the rehabilitation work in Vanuso District are shown in Figure 1. These initiatives provide guidelines to how people should be involved in the management of their resources and their development activities. At all levels from the communities, to the tikina, province, and the national government, the people and their partners promote and practice integration, collaboration and iterative management, which are the pillars of the integrated resource management approach. The approach should then be adopted in all areas where the local communities are trying to manage their marine resources. The coastal resources are complicated and need to be managed in the best way possible. The aims of the conservation and management need to reflect the need to manage marine resources and to involve people in the process. This is the way to go because it is appropriate to do so.

Figure 1. Rehabilitation of Coastal Habitats in Vanuso District, Gau Island.
Lessons Learned

FLMMA is fundamentally about partnership. Whereas in the past, the communities worked in isolation and the conservation organizations competed with one another, they now are collaborating and cooperating to make the work at each site more effective and to enhance learning across sites. This is why FLMMA has been effective in bringing about changes nationally and internationally even though there is still no legislative framework.

FLMMA has grown to include a number of projects and government agencies. The network has also benefited from the logistical support it has received from the USP and WWF and
from generous funding from the MacArthur and Packard Foundations, which have provided resources for both individual projects as well as network activities. Government has promised FLMMA the use of its research boats and has promised to provide a motorised fibre glass punt for each of the sites to assist in patrolling against outside poachers. Such support is welcome because it will enhance the work in the communities and act as an incentive to those that are contemplating such an activity.

Perhaps the most important driver of success is the feeling of all involved that working together in FLMMA allows their work to be done better. People are excited about how the approach engages the communities, help them solve their problems, improve their lives and enhance biodiversity. All the organizations have signed the Social Contract that requires support from the highest level of the different organizations involved.

To allow for long term sustainability of the FLMMA approach, it is hoped that locally managed marine areas become part of the government work program. Such development will free up the conservation organizations to play a facilitating role and to assist when needed. This would enable the conservation organizations to concentrate on developing new sites as their funds permit. There will be no problem with consistency and quality as all the partners are committed to implement the communities’ marine resource management plans. Once management plans are fully implemented the conservation organizations role would be to visit sites once or twice a year to discuss results and any problems. This approach would allow for the involvement of all the community based groups in the country.

The Fiji Government has voiced its intension to use FLMMA as the vessel through which it will implement its policy of returning the ownership rights to customary fishing area owners. FLMMA also has already gained regional and international recognition. Through the work of its partners and collaborators, FLMMA has been proposed as a preferred model. At the
Pacific Biodiversity Roundtable, a group of international NGO representatives, donors and conservation practitioners who meet annually to consider progress in implementation of the Pacific Nature Conservation Action Plan chose it as one of two examples of innovative projects in nature conservation. They also agreed to assist spreading this concept to the small islands in the Caribbean and Indian Ocean. The United Nations' International Coral Reef Action Network (ICRAN) project in the Pacific which is administered by the South Pacific Regional Environment Program (SPREP), also has chosen FLMMA as a demonstration site for its new projects in the region.

At the recent World Summit on Sustainable Development, FLMMA was one of the 6 recipients of the UNDP’s Equator Initiative: The Innovative Partnership Awards for Sustainable Development in Tropical Ecosystems and specifically for best practices on the theme of biodiversity conservation and poverty reduction. Thus the individual experiments in the different parts of Fiji have been successfully publicized to the world through FLMMA. It is hoped that the publicity will lead to more emphasis on successful conservation that conserve the resources and yet enhance the improvement of people’s living conditions nationally and globally.

**Conclusion**

FLMMA initiatives to manage the environmental resources in Fiji have been made possible by the partnerships of community members, resource owners, conservation practitioners, researchers, government officials and international funding agencies. These collective groups of people, who are experts in some aspects of resource management project development, have all played a critical role in the project. The number and skills of people practicing effective
Community-based resource management has increased while the people have made the network responsive and workable. Ultimately, it is the partnership that has helped in the preservation of natural biodiversity while providing for the livelihood needs of the communities in the district.

Community-based resource use arrangements make marine resource conservation at that level more effective. With the communities’ resource use traditions and close ties, the people are better able than their governments to determine the level of use of their resources while their traditional cultural values allow for the effective implementation of management decisions. Through collaboration with their external partners, important resource management activities have been undertaken. Likewise, international funding has been secured for resource management at the local levels. In Gau, some villagers are now licensed honorary fish wardens who are leading the sustainable use of their environment resources. These people were trained because their external partners were able to organise the training. Such examples demonstrate how local initiatives have been made a part of internationally accepted approaches and instruments to address globally recognised problems and issues.

Biological, social and economic surveys and monitoring are undertaken by the partners to prove the effectiveness of their chosen interventions. These exercises are important to maintain the people’s commitment to their resource management initiatives they have chosen. This is crucial because local
communities live with the dilemma of choosing between immediate incomes from the immediate and unsustainable use of their resources and the more remote futuristic benefits of conservation activities. People therefore have to be continually reminded of the effectiveness of the conservation activities they undertake.

It is also critical that management actions and their impacts are allowed time to work as the lessons people learned from these resource conservation effort will be a source of inspiration for the continuation of conservation and resource management into the future. The partnerships in this project allowed the people to collaborate and work together to make conservation better for the people involved and the environment. The core values that the partners observe have enhanced the partnerships. Commitment, teamwork, transparency, empowerment, respect, fun and the belief that practitioners can make a difference has ensured that the people understand and trust each other to come through with what they are expected to do. This emphasis of the common values has overcome the rivalry, competition and suspicion that existed amongst conservation practitioners and their organisations in the past. These barriers to genuine partnership cannot be easily untangled through legal contracts as such but through a social commitment to doing better conservation and making a difference for the people.
Conservation areas will only be successful if the approach is holistic and it is a part of a broader resource management plan, which must include monitoring and evaluation. People in the community need to understand how they will benefit from the conservation initiatives. In this era where resources are getting scarce and cash needs are increasing, fishers and community members are capable of doing anything to make ends meet even if it means exploiting the no take area. Hence, a sustainable enterprise to generate income and continuous community awareness programs, should be part of the approach if this conservation is to work in the long term.

FLMMA has shown that conservation organizations, research institutions and communities can work together if they are committed to the cause. The Social Contract is an effective way to get institutional backing and get the work done. FLMMA has also shown that the sum of the collective work is much more then the sum of each individual projects. In terms on mainstreaming conservation, its impact was far more effective then each of the individual members could have done separately. FLMMA had set out to improve conservation practice and in that process has facilitated the mainstreaming of its conservation approach.

The success of FLMMA in conservation should be used throughout Fiji and other places as a guide to how people should be involved in the management of their resources and their development activities. The future looks brighter given the interest people are showing in seeking assistance to work with the members on the management of their marine resources. At all levels from the communities, to the tikina, province, and the national government, the people now promote and practice integration, collaboration and iterative management, which are the pillars of the FLMMA approach. This proven approach should now be formalized into the countries Fisheries Act which needs to be
revised to reflect the need to manage marine resources and to involve people in the management of their resources.

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