

Adaptation in Locally Managed Marine Areas in Fiji

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On small islands, adaptive management and planning is the cornerstone for survival. Climate change is putting additional stress on islands' limited resources, thereby threatening livelihoods. The need for local solutions that are flexible and responsive to the local context is paramount.

The Republic of Fiji has recently gained valuable experience with local adaptive management. In an archipelago of more than 300 islands in the South Pacific Ocean, Fijians have learned to coexist with the ocean for centuries and to make a living through the management of limited resources. As the sea level rises and severe storms become more frequent and damaging due to the changing climate, this management is being put to the test.

Over the past decade, more than 300 communities in Fiji have adopted a management model tailored to the needs of the community: the locally managed marine area (LMMA). The LMMA Network was launched in August 2000 as a learning network after a series of workshops to provide guidance on community-based management of marine areas. Promoting models of adaptive governance and knowledge-sharing networks, the network now has members in Indonesia, Palau, Papua New Guinea,

the Philippines, Micronesia, the Solomon Islands, and Fiji.¹

As an alternative to conventional centralized resource management or typical government approaches, the LMMA approach is a local community-driven effort to design, manage, and monitor marine resources through co-management by community members, with the support of traditional leaders, government agencies or ministries, nongovernmental organizations (NGOs), and educational institutions, in collaboration with other stakeholders such as businesses. LMMAs do not necessarily exclude government or other institutions; they engage them as partners rather than as commanders. It is an inclusive governance model for resource management, integrating different stakeholders in the decisionmaking process.

Communities are empowered to decide how to best use their resources in light of the predicted effects of climate change. The strategies created by the communities have multiple benefits, including community-based risk reduction, protection of endangered resources that are critical for food security, community engagement and capacity building, and enhanced disaster risk management. In Fiji, improvement in the integrity of the marine ecosystem is measured by monitoring reefs with the help of NGOs, the University of the South Pacific, and trained members of the community.

Many communities using the LMMA

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model have found practical solutions to emerging problems by reviving traditional knowledge, which can then be combined with modern tools. To decide the best combination, communities use an adaptive management approach, which the LMMA Network defines as “the integration of design, management, and monitoring of a project to systematically test assumptions in order to adapt, learn, and improve the results of their efforts.” With the help of the Network, practitioners increase the effectiveness and efficiency of local strategies over time.²

The community engagement process involves initial awareness-raising about marine issues and dialogue with stakeholders to engage them in the goals of the LMMA concept and ensure that the community is in harmony with the process of developing their local plans. This is followed by a workshop in which the community develops a marine resource management plan, which might include:

- declaration of a *tabu* (no-catch area) area and other traditional management practices,
- reduction in the number of fishing licenses,
- banning the use of *duva* (fish poisoning) and destructive fishing measures,
- restoration of economically important species such as clams,
- reduction of marine pollution,
- replanting of mangroves and coastal trees to reduce coastal and riverside erosion,
- marine awareness raising, and
- alternative livelihood options.

LMMA and *tabu* areas are set up not just for conservation but to improve the yield of marine resources that people use for subsistence and trade. The *tabu* is implemented by the communities, led by a local headman whom the community trusts to decide on implementation. A community with a demonstrated sustainable and secure source of food and livelihood is better prepared to

address and adapt to climate change. A common Fijian saying is that “a hungry community will be handicapped in making and acting on good decisions.”

Communities are trained to do biological and socioeconomic monitoring to monitor the effects of their management actions. Meetings are held regularly to review progress and see if changes in the action plan are needed.

Drama is an important component of community education and awareness in Fiji, as many elders who are key decisionmakers in villages find reading to be very challenging. Drama provides an interactive and innovative means of translating complex technical concepts such as climate change, and it can also paint a picture of its likely impacts.

More than 200 different localities in Fiji are using the LMMA model. The results vary, but most groups have found that effective implementation of this strategy can help recover marine resources through improved habitat quality (coral cover, seagrass, and mangroves) and increased fish populations. By being engaged in the LMMA, communities are also better prepared to implement practical solutions to emerging external threats such as climate change

The key element of the LMMA work in Fiji is that the communities are in control. Information on management options is provided by co-managers to help make decisions, but the community members make all decisions, such as location of the *tabus*. Thus the goal of informed decisionmaking on resource management is as important as the actual resource improvement. This will be increasingly valuable in a warming world. For while LMMA initially focused on food security issues and resource depletion, Fijian communities are learning important lessons about managing the impacts of climate change.

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