

Coral rehabilitation and coastal protection in Sawana Village, Fiji

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This article showcases the strength of a diaspora community and rural women's group effort in coral rehabilitation and coastal protection in Sawana Village in Lau Province, Fiji.

Introduction

Coral reefs are among the most biodiverse and productive marine ecosystems (Wilkinson 2008). On a global scale, one-fifth of all coral reefs have been destroyed, and half of the remaining reefs are endangered (Wilkinson 2008; Burke et al. 2011; Hoegh-Guldberg 2014). Beyond their ecological importance and their role in coastal protection, coral reefs and associated ecosystems (i.e. seagrass beds, mangroves, mudflats) have important economic and social values in Fiji, particularly for fishing, tourism and recreation. Coral reefs, however, are impacted by multiple and intensifying pressures from the impacts of land-based development, increased fishing and climate change (Dutra et al. 2021). These challenges and pressures require responses at global, regional, national, and local levels, including traditional environmental management and approaches to improve livelihoods of communities dependent on coral reefs (Colls et al. 2009).

In the Pacific, the protection and conservation of coral reefs is supported by the participation and collaboration of governments, non-governmental organisations, scientists, volunteers, and local communities in setting up mangrove and coral nurseries (Govan et al. 2009). One of the main conservation tools being implemented in the Pacific, including Fiji, is community-based marine managed areas. This approach revolves around a participatory process on the part of conservation practitioners, and the resource owners implementing adaptive approaches to sustainably use their marine resources. The

Fiji Locally Managed Marine Areas (FLMMA) Network has been successfully implementing the community-based adaptive management (CBAM) approach across Fiji for two decades. Globally, regionally and locally, many coral reef restoration projects are being implemented (Ammar et al. 2000; Rilov and Benayahu 1998).

Background

Sawana Village is on the Fijian island of Vanuabalavu, in the Lau archipelago. Villagers are predominantly of Tongan origin, and church services are conducted in both Tongan and Fijian.

The Sawana Women's Association (SWA) consists of members of the rural women's group and the diaspora women's group living in urban centres outside of Vanuabalavu. SWA is well established and has a strategic plan for 2020 to 2024. Implementation of SWA's strategies is progressing well, particularly with regards to the coastal rehabilitation programme. For this programme, Conservation International (CI)-Fiji is providing technical support to the Vanua o Lau province under the Lau Seascape Strategy to plant 200,000 coral fragments in the 13 districts within Lau Province. CI-Fiji is also assisting with a coral planting programme to connect the diaspora community with the rural women's group, and supporting social cohesiveness with the intention of sharing capacity with other women's group and to consolidate their role in managing natural resources in their villages.

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Members of the Sawana Women's Association applying the coral planting training with assistance from youth and men. Image: ©Livai Tubuitamana



Sawana women participating in the coral planting programme. Image: ©Isimeli Loganimoce



Group photo after the initial consultation of the coral planting program with the Sawana diaspora women's group with Lau Seascope partners and facilitated by CI (Fiji) marine team. Image: ©Isimeli Loganimoce

The Coral Restoration Initiative

Coral reef restoration could help countries deliver on national commitments to the Paris Agreement on climate change. The United Nations Decade on Ecosystem Restoration aims to scale-up ecosystem restoration efforts globally in order to meet the Sustainable Development Goals linked to conserving biodiversity, ending poverty, improving livelihoods, ensuring food security, and combating climate change. Coral reef restoration efforts are now implemented in at least 56 countries (Bostrom-Einarsson et al. 2020), but there is limited guidance on the efficiency and efficacy of various methods, particularly with regards to scale, cost and regional specificities.

Lau Province's waters are biologically rich and support habitats that depend on healthy island ecosystems that are a cornerstone to climate resilience. The Lau seascape, however, is threatened by unsustainable land-use methods (e.g. excessive use of chemicals, unfenced livestock), unsustainable fishing methods, pollution, illegal fishing by locals, illegal fishing by commercial vessels, invasive crown-of-thorns starfish, unsustainable tourism development, physical damage to reefs from anchoring, invasive species, and unsustainable coastal development. CI, in collaboration with partners and the chiefs of Lau, has developed a strategic plan to manage natural resources, and making sure that this management is harmonised among the decision-making entities in government and Lau's traditional chiefly leadership.

Currently, all districts in Lau have developed a management plan. This process has incorporated high-level issues ranging from ridge to reef to ocean within the districts and integrated interventions to improve ecosystems generally. One of the main issues identified by all districts in Lau, is coral degradation caused by changes in weather patterns and

climate change. In supporting this issue, the Lau Seascope initiative – a Conservation International programme being implemented in Lau Province – have been requested by Lau chiefs forum to assist communities and various groups with reviving degraded coral habitats by implementing restoration programmes. From there, various communities and groups have requested restoration programmes to be implemented in their coastal reef areas.

CI had started assisting communities by carrying out general awareness on the coral restoration process. From this, SWA has been endorsed by its chiefly forum to take the lead in implementing the coral restoration programme. The includes the engagement of the SWA diaspora women's group to support the SWA rural women and the village with the resources needed to implement the programme effectively and efficiently.

Significance of the diaspora women's group

SWA was established and registered in 2014 with the Ministry of Women, Children and Poverty Alleviation, with the aim of assisting and supporting its village and contributing to the sustainable development and exploration of other alternative livelihoods. Initially, the SWA diaspora women's group was supported by the Women's Empowerment Programme (within the Ministry of Women, Children and Poverty Alleviation) and included enhanced capacity building on business skills, alternative livelihoods, and establishing a successful association. Out of these training sessions, SWA developed the capacity to write grant proposals to support the implementation of their strategic plan. The group has since developed two strategic plans, one for 2014 to 2018, and an updated version from 2020 to 2022.

The SWA diaspora group was endorsed by the chiefly forum to support and participate in any village development. An activity that is currently underway is the establishment and coordination of a coral restoration programme. The SWA urban women had requested the CI to conduct a general awareness about the Lau Seascape Initiative, its vision, strategies, and approach to protect and sustain resources in perpetuity. The SWA urban women supported the coral planting initiative and actively participated with the rural women group to undertake a coastal protection project through the restoration of corals in front of the village. Permission was granted from the chief with the allocation of an area to install the coral restoration project in their marine area.

In addition, the proactive engagement, and the respect of the SWA urban women to consult with internal groups in the village are the key success factors to gain the rapport and the trust to participate in the programme. The diaspora women had set out a workplan with CI to carry out the restoration program in Sawana. The CI team visited the village on 26 March 2022 with the essential materials and technical skills to train the communities in planting coral fragments.

Results of first phase of coral restoration

There were four steps done in the coral restoration training process:

Step 1. Coral frame preparation: This process involves the women preparing the frame and tying cable ties onto the frames. The women managed to attach 2000 cables on the 4 racks to deployed.

Step 2. Snipping of coral fragments: Women, men and youth were trained on theory and in on how to carry out this process of snipping coral fragments. Afterwards, the group left to collect coral fragments to be tied onto the cable ties that were already attached by the women.

Step 3. Attaching coral fragments to the frame: Coral fragments were then attached onto the frames using the cable ties. This step was carried out collectively with the support of the women, men and youth of Sawana.

Step 4. Deployment of coral racks: The four racks were deployed directly to sites pre-selected and agreed on by community leaders. The deployment step was conducted by the women.

Conclusion

The coral restoration activity in Sawana has strengthened the functions and relationship of the SWM diaspora women's group, thus gaining the rapport and respect to engage in their village development. Overall, 10 women were trained on nursery coral propagation methods. In addition, women and youth were also trained to carry out monitoring and replacement of unhealthy coral fragments. In total, 2000 coral fragments were planted on the racks.

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