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# NGUNA-PELE MARINE AND LAND PROTECTED AREA NETWORK

Vanuatu



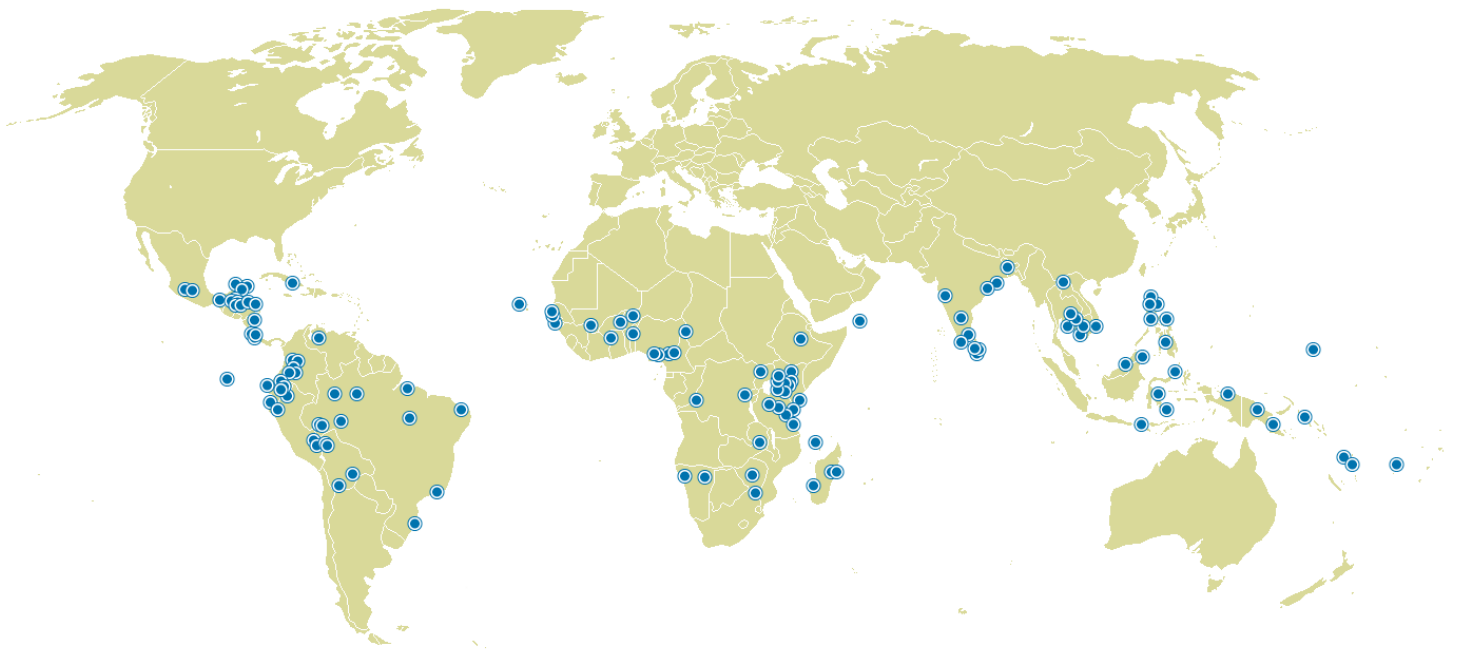
## Equator Initiative Case Studies

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# UNDP EQUATOR INITIATIVE CASE STUDY SERIES

Local and indigenous communities across the world are advancing innovative sustainable development solutions that work for people and for nature. Few publications or case studies tell the full story of how such initiatives evolve, the breadth of their impacts, or how they change over time. Fewer still have undertaken to tell these stories with community practitioners themselves guiding the narrative.

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# NGUNA-PELE MARINE AND LAND PROTECTED AREA NETWORK

Vanuatu

## PROJECT SUMMARY

This network of marine and terrestrial protected areas spanning the Vanuatu islands of Nguna and Pele has brought together local, national and international actors in a diverse partnership for the conservation of the area's unique biodiversity. The network comprises sixteen indigenous communities engaged in the conservation of more than 3,000 hectares of marine and terrestrial resources.

The project has become a case study for best practice in community marine conservation within Vanuatu and the Pacific islands for its strategies of proactive conservation, resilient management, and locally-appropriate awareness-raising. Among more than 60 different partner organizations are local and regional NGOs, government ministries, international volunteer organizations, research institutes, and tour operators who promote the islands as an ecotourism destination.

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## KEY FACTS

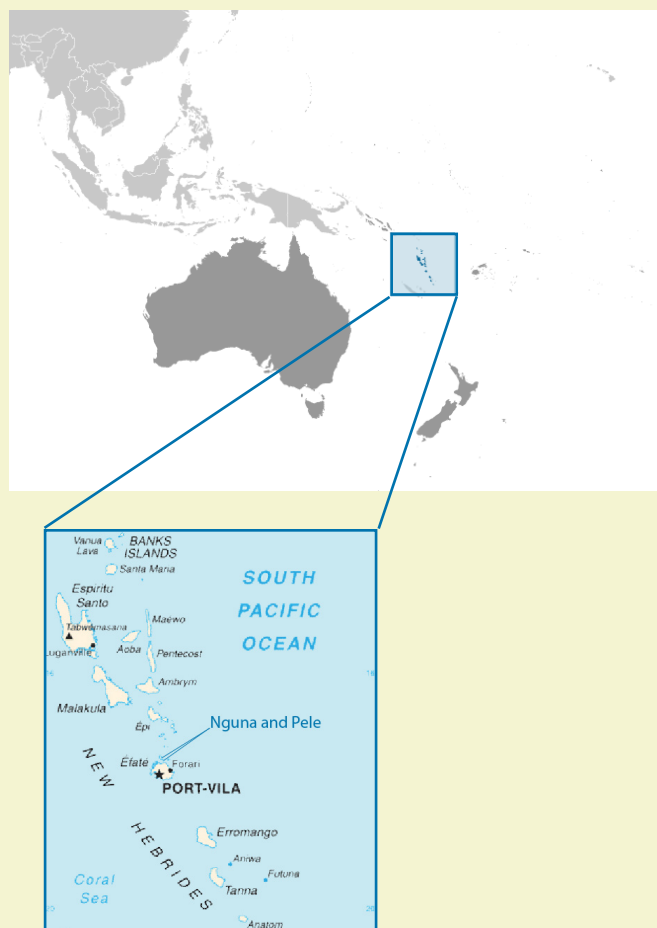
EQUATOR PRIZE WINNER: 2008

FOUNDED: 2002

LOCATION: Islands of nguna and Pele

BENEFICIARIES: 16 Nguna-Pele villages

BIODIVERSITY: Nguna-Pele Marine and Land Protected Area





# Background and Context



The Nguna-Pele Marine and Land Protected Area Network is a non-governmental organization which brings together sixteen indigenous communities on the islands of Nguna and Pele in the central Shefa province of the Republic of Vanuatu. The initiative promotes the sustainable use of marine and terrestrial resources in over 3,000 hectares of community-managed reefs, sea grass beds, mangrove forests and intertidal lagoons, coordinating a network of fishing communities in conducting biological monitoring, environmental education, waste management, and alternative livelihood projects. The project has become a case study for best practice in community marine conservation within Vanuatu and the Pacific islands for its strategies of proactive conservation, resilient management, and locally-appropriate awareness-raising.

The Republic of Vanuatu, an archipelago of 84 islands in the South-West Pacific, has a population of over 220,000 people, 80% of whom engage in artisanal agriculture and 77% in small-scale fisheries. The islands of Nguna and Pele lie just north of the larger island of Efate, and were home to approximately 1,100 people at the time of the national census in 2000. The population is spread unevenly among sixteen communities, ten of which are located directly on the coast; these villages are no more than a three-hour walk from one another.

A hereditary paramount chief presides over each village, assisted in governance duties by one or more lower chiefs. These chiefs largely deal with the preservation and promotion of local custom. Day-to-day affairs and administration of the community falls, however, to democratically elected village councils, as is common in other parts of Vanuatu. The councils are often themselves made up of several specialized committees. The advent of this system can be traced back to the influence of Christian missionaries in the 1870s, which resulted in a reorganization of local social structures; a shift from a clan-line elected system of governance to a hereditary royal-family chiefly system.

## *An unclear land tenure context*

In Vanuatu all land belongs to customary owners by decree of the national constitution. However, the definition of customary ownership remains vague; customary land owners are not usually individuals, a trait that existing statutory land policy does not appropriately capture. Communal right of access to natural resources is typical of many Pacific island societies, and is especially relevant in the marine context. While there has been a legal trend away from group and toward private land ownership in Vanuatu, encouraged by regional policies and investor-driven land acquisition, few legal deeds have been granted over parts of Nguna and Pele; some land areas and garden plots have relatively clear boundaries, but ownership tends to lie with families rather than individuals. Village boundaries are perceived differently to family land areas, however. A strong sense of communal identity typifies village membership on Nguna and Pele – belonging to a community or village provides a critical safety net by ensuring access to resources for those without hereditary entitlements. Geographical boundaries of a community are therefore treated with importance on the islands; due to dynamic settlement trends and the uncoded nature of communities, village boundaries are typically unclear and often disputed. These disputes have occasionally led to hostilities when benefits of tourism or infrastructural development were at stake.

## *A history of cooperation in Nguna and Pele*

Despite these infrequent tensions, the Nguna-Pele area is locally renowned for a history of inter-community collaboration. Villages on the two islands share a unique dialect as well as similar cultural and customary practices. Inter-marriage between island villages ensures social connections remain strong. Another legacy of the presence of missionaries is the existence of robust networks that span the two islands, such as the Nguna-Pele Presbyterian Session uniting elders from each community, the Nguna-Pele Council of Chiefs (NAPE), and the Nguna-Pele Shefa Provincial Councilor Technical Advisory Group.

This history of cooperation on the issue of resource access and territory demarcation was the context for marine resource management efforts in Nguna-Pele. Each island is surrounded by fringing reefs, typically extending 10 to 200 metres from the shoreline. While few individuals or households on Nguna and Pele make an exclusive living from the sea, most are involved in opportunistic fishing and reef gleaning. The importance of sea resources for household diets varies across the islands. In contrast to land ownership, areas of reef are not demarcated for use by families or groups, but are rather open for use by all members of a particular community. Access to marine resources is typically allowed for subsistence or small-scale commercial needs. Large-scale commercial harvests, however, require permission of the chief and the village council. Village members may make a monetary contribution to the council when undertaking a larger-than-usual harvest from village marine tenure area. Boundaries are defined in many different ways – one common definition is the outer edge of the reef – but the use of these boundaries to exclude non-community members from using village resources is a de facto practice on Nguna and Pele. Permission must always be sought before reefs can be used by an outsider. One role of village chiefs is to grant or revoke permission for outsiders to use a community's reef resources, in their customary roles as community stewards. In practice, the village council holds the responsibility of defining the uses, developments and restrictions within the community's sea tenure area.

### *Resource conservation rooted in local tradition*

The design and implementation of marine closures to meet social, cultural, or conservation needs is a common feature of many Pacific island communities. Traditional *tabu* declarations prohibit harvesting within defined community marine access areas, and may last for weeks, years, or indefinitely. Some of these *tabu* periods incorporate short-term harvests dictated by economic, social, or cultural processes. Rotational or periodic harvests within marine closures have been shown to allow for increased biomass or abundance of target species. In Vanuatu, communities have traditionally declared marine closures more often for resource conservation than for sustainable harvesting purposes; in the past, closures employed by communities on Nguna and Pele were enacted to stockpile resources in preparation for a celebration or community event such as a wedding or chiefly ordination. Closure duration was pre-decided, and was often independent of the quality or quantity of resources available on the reef. Reserve implementation, regulation enforcement, size, type, and location are typically governed by the local community with advisory support from national government departments.

More recently, however, marine closures in the Nguna-Pele and surrounding areas have been established with the clear objective of resource maintenance or conservation. This has been driven by the perception of declining marine resources on communities' reefs, as well as awareness of the global state of marine resources. Local communities have witnessed changes in their marine and land resources resulting from human and environmental pressures: improvements in fishing methods and technologies, population growth, and increased urbanization in the capital of Vanuatu have driven increases in the demand for seafood resources, while cyclones, earthquakes,

coral bleaching, and the impacts of invasive species have posed environmental challenges to resource sustainability.

### *Origins of the Nguna-Pele Network*

In the 1990s, the Vanuatu Fisheries Department began working with communities on the north coast of Efate Island to encourage marine area closures for trochus stock recovery. After some initial success, the Vanuatu-based Wan Smolbag Theatre group created the "Turtle Monitor" network as a tool for engaging Vanuatu's local communities in conserving endangered turtle species. The Nguna-Pele chiefs subsequently enacted an area-wide ten-year ban on turtle harvesting across the two islands. In 1998, the community of Mere-Sauwia created a terrestrial permanent protected area; the following year, the community of Utanlangi established the first marine *tabu* area on Nguna. In 2002, the Pele community of Piliura began work on creating a permanent marine closure area. The momentum created by these cumulative efforts led the chiefs of the Piliura, Worearu, Unakap and Taloa communities to establish an informal network called the Nguna-Pele Marine Protected Area in 2003. In 2011, this designation was changed to the Nguna-Pele Marine and Land Protected Area (MLPA) to incorporate its dual marine and terrestrial conservation focus.

Since its creation, the Nguna-Pele MLPA has referred to a network of both marine and terrestrial community-managed areas, rather than a single protected area. This network now includes sixteen communities across the two islands: the chiefs and people of the member communities have each set aside an area of village-owned reef or forest as a *tabu* resource reserve. These community reserves are small, typically measuring less than 0.05km<sup>2</sup>, and cover between 15-45% of the available marine tenured area. Although the goals and objectives of individual marine closures are similar, their form and expression is highly diverse across the islands. Three closure designs are common in the Nguna and Pele area: permanent, rotational and periodically harvested reserves. Permanent reserves are those in which the community indefinitely closes all harvest. Rotational reserves do not permit harvest during their closure period, but are designed to be permanently opened in the future. Periodically harvested reserves may allow infrequent and controlled harvests at any time, but generally not more than on one or two occasions per year. Reserves of all kinds commonly restrict harvesting of all the species within them, although reserve openings and harvests may selectively target specific organisms.

Member communities have elected volunteer MLPA representatives to conduct reef surveys, biological monitoring, and ongoing environmental awareness. A representative of each community takes part in monthly meetings of the network's Management Committee to make decisions guiding the current and future management of the MLPA network. The committee is headed by a Chairman and Project Coordinator. Each member community takes decisions on how to conserve and protect their resources, with the broader MLPA network supporting and guiding these individual projects. The network has engaged international and local researchers, volunteers, and educators in collaboration with their members, and has provided opportunities for peer-to-peer learning and knowledge sharing.



# Key Activities and Innovations



Decisions over *tabu* implementation, regulations, and enforcement are taken by individual communities, with guidance from Vanuatu's Department of Fisheries and Department of Environment. The Ngu-na-Pele MLPA network gives technical support where needed to assist communities in their decision-making processes, enforcement and *tabu* demarcation.

## *Marine Protected Area governance*

The decision to implement a marine reserve is taken democratically in the majority of cases. Each community's village council has established a conservation committee; this body commonly proposes resource prohibitions in a village meeting, which is then followed by public debate among residents. If a closure is approved, residents discuss potential locations and the type of *tabu* to be implemented. Final approval by residents to declare a reserve can take up to a year of detailed planning by the conservation committee.

Marine reserve declarations are attended by customary ceremonies. The village chief, as the symbolic resource steward, proclaims the area off-limits under the terms set by the community. The paramount chief will generally evoke ancestral protection over the area. Boundaries of the closed area are demarcated with recognizable objects; on Ngu-na and Pele, a *namele* palm leaf tied to a stake is the most commonly-employed marker, though large white stones, pig jaws and painted signs are also used. Each village conservation committee is responsible for the maintenance and regulation of terrestrial and marine resources. Conservation committees propose and adapt the specific rules for use of the reef. These committees report to and follow the mandates of the village council, which in turn works under the guidance of the paramount chief. It is considered the responsibility of all community members, including residents, the conservation committee, village council and chiefs, to comply with village marine regulations and to report trespassers.

Enforcement and surveillance is not difficult in most cases as reef areas are visible from the village. In cases where the reef is located further away from the settlement area, however, trespassing is often more frequent. Rule infringements generally invoke a fine payable to the chief, which is then divided among the village council and conservation committee. Infractions that involve non-community members are dealt with directly by the chief or village council of each respective community. Fines for non-community members are generally higher as these offenses are viewed as more severe.

Land conservation areas have been more difficult to establish and to maintain due to conflicts over land ownership, although some cases





have succeeded. In Mere village on Nguna Island, for instance, despite disputes over the *tabu* land area, the community has managed to maintain a conservation area in which flying foxes and small birds are protected.

### *A supportive network*

The role of the Nguna-Pele MLPA network has been to coordinate and facilitate action between a large number of community sites; the network has brought together communities that would not otherwise work together to discuss conservation issues and work together on management solutions for their individual communities. In addition to this, the initiative is engaged in ongoing negotiations with the national government for greater local rights to manage and access natural resources that will better support community-level action. The network also oversees comprehensive campaigns on raising environmental awareness, waste management, developing mariculture livelihoods, and conducting environmental assessments. To date, the Nguna-Pele initiative has undertaken a number of noteworthy projects, including an attempt to breed trochus and giant clams – both endangered species – and a turtle-tagging project that has enabled monitoring of hundreds of turtles. Supported projects include school education programs and working with in-

ternational universities in biological monitoring. The MLPA network fuses local custom and modern management styles, by maintaining and respecting traditional practices alongside a scientific approach to marine management. Finally, the MLPA network has focused on developing ecotourism projects on the two islands to promote create alternative sustainable sources of income for the member villages.

The Nguna-Pele MLPA has a constitution and a democratic organizational structure. Each community has elected one or two volunteer representatives to conduct regular reef surveys, tag sea turtles, plant coral and run continuous environmental awareness sessions. A Management Committee, comprised of representatives from every community, meets monthly to make decisions guiding the current and future management of the overall MLPA network; this Management Committee is led by a seven-person executive committee, which is elected by village representatives to serve for a two-year term and chairs monthly meetings. All representatives on the management and executive committees are volunteers. The Network Manager and four part-time staff assist village representatives to carry out day-to-day administration. The MLPA network has infrastructure on the two islands, including an office and survey equipment, which is collectively owned by all community members.



# Impacts



## BIODIVERSITY IMPACTS

The Nguna-Pele MLPA network incorporates eleven marine and two forest conservation areas on the two islands, collaboratively managed by sixteen communities. Each area employs locally-adapted strategies for conservation and management, although some approaches are common to multiple sites. In Unakap village on Nguna Island, for instance, the chiefs have set aside three different marine conservation areas: a permanent reserve, a periodic reserve, and a general use zone. The permanent reserve does not allow any type of fishing activities, but is open to tourism activities and clean-up campaigns for crown-of-thorns starfish. The periodic reserve is closed to harvesting until the area is needed for community events such as celebrations or fundraising for community development projects, when high-value species are collected for sale or consumption. Lastly, the general use zone is open for public access subject to prohibitions on destructive fishing practices and over-harvesting. One indication of the efficacy of *tabu* area implementation is that none of the terrestrial and marine areas originally set aside for conservation has been reversed; the MLPA approach is seen as an appropriate solution to the twin challenges of conserving threatened species and preserving local culture.

### *Conservation of flagship species*

One example of this is that of the sea turtle, undoubtedly Vanuatu's most iconic species. Throughout the south-west Pacific, where sea turtles have traditionally been hunted for millennia, these species are now at precipitously low levels, with many biologists predicting their imminent extinction unless harvesting is reduced dramatically. Green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricate*) sea turtles are common to the Vanuatu archipelago, while leatherback turtle nesting sites have also been reported. Green sea turtles are listed as endangered species on the IUCN Red List; hawksbills and leatherbacks are critically endangered. There have been many attempts to reduce harvesting of these species on Nguna and Pele,

including attempts to raise conservation awareness and engage local fishers in monitoring species population numbers. In 1995, the Wan Smolbag Theatre group distributed turtle-tagging equipment to many communities to promote tagging of nesting turtles in response to the South Pacific Regional Environment Program's (SPREP's) 'Year of the Turtle'. A network of villagers, initially called Turtle Monitors, was established to directly link community representatives to Wan Smolbag. Members were required to tag at least three turtles per month. Now known as the Vanua-Tai network, this organization serves as a major conduit of conservation information and discourse between remote communities.

In Nguna and Pele, these efforts have been supplemented by an approach to turtle monitoring that integrates ecotourism and local communities. Sea turtle hunting is not undertaken purely for consumption; the act of catching sea turtles and the close association between islanders and sea turtles has strong cultural roots. The species is also an important attraction for ecotourism visitors. The MLPA network has therefore developed a programme that encourages traditional hunters to continue practicing this custom, but for conservation rather than consumption purposes: for a fee, tourists are able to tag and release these wild-caught turtle specimens. Turtle Sponsors are presented with a certificate recognizing their financial contribution and detailing the biological particulars of their individual turtle. The name of the sponsor and the turtle are placed on the Nguna-Pele MLPA's website, and the information contributes to an international conservation database. Sponsorship fees are divided among the individual hunter, the village conservation committee, and the Nguna-Pele MLPA, providing a regular and sustainable source of income for villages and the network.

The annual number of sea turtles tagged has quadrupled since the introduction of this initiative, with sea turtle sponsorships contributing to increases in household incomes. The initiative has maintained the cultural identity surrounding turtle hunting and encouraged younger generations to follow these customary practices. As an indi-



cator of progress of this programme and associated awareness-raising activities, the number of sea turtles consumed among all villages on the two islands has declined to under five each year.

### *Quantifying the evidence base for conservation*

Partnerships with universities and research institutes have provided a broad evidence base for the positive benefits of community approaches to conservation. A study in 2009 of reserves on Nguna, Pele and Emao islands found that permanent and periodic reserves were of benefit to local marine ecosystems. The study showed that species of fish that are commonly fished by local communities had higher abundances in periodic reserves in comparison to open areas. Vulnerable species such as Trochus and Giant Clams were identified as species that were not suited to periodic harvesting, however. The positive impacts of marine protected areas in Nguna and Pele was also demonstrated by the fact that fish biomass and marine invertebrate abundance in community reserves was significantly larger than in unmanaged areas. In addition, live coral cover is significantly greater within marine reserves due to protection from destructive fishing activities such as small-mesh gill netting and reef trampling. The MLPA network has worked with Reef Check International's regional initiative to coordinate monitoring of the islands' coral reefs. Reef check monitoring occurs between one and four times per year, with results entered into the Reef Check Vanuatu database.

Community perceptions of the benefits of marine conservation have largely reflected empirical ecological studies of marine health. A study in 2009 used surveys to assess local resident's perceptions of conservation efforts: the report found that responses corroborated the hypothesis that permanent reserves were more effective than periodic closures in enhancing target fish biomass, trochus abundance, and live coral cover. In particular, higher perceived coral cover inside permanent reserves was validated by underwater surveys, while perceptions of the abundance of giant clams inside reserves also matched reef check results. The study concluded that as management decisions in the Pacific are commonly made in the absence of empirical ecological or fisheries data, the accuracy and validity of local perceptions can play an important role in influencing management approaches.

### *Combating an invasive species*

The network has also provided evidence for the efficacy of community-based approaches to invasive species eradication. A study from December 2009 to March 2010 (Albers 2010) found that the Nguna-Pele area was under threat from the invasive species crown-of-thorns starfish (*Acanthaster planci*); the study showed that an outbreak was likely to occur in the village of Unakap, with the number of juvenile *A. planci* increasing and levels of hard coral cover simultaneously decreasing. The MLPA network subsequently coordinated a 'land and sea clean-up campaign'. This was organized as a competition between communities: in total, over 10,000 starfish, including 3,000 from within the Unakap village land boundary, were collected, along with more than 53,000 African snails.

## SOCIOECONOMIC IMPACTS

Since the initiative began in 2002, there have been marked improvements in both the household income and community wellbeing of Nguna-Pele's villages. This is largely attributable to increased ecotourism, improvements in the involvement of women and youth in governance and decision-making, and a resurgence of local cultural and linguistic traditions through inter-village partnerships.

### *Combating income poverty*

A measurable quantitative outcome of the work of the Nguna-Pele MLPA has been the doubling of average incomes as the villages have shifted from fishing to ecotourism as an alternative livelihood activity. The marine conservation areas have acted as spurs for tourism to the islands, as Nguna and Pele have gained a reputation within Vanuatu for the ecological diversity of their marine sanctuaries, while an indicator of the growth in ecotourism is the quadrupling of turtle-tagging by tourists since the inception of the programme in 2002.

### *Catalyzing collective action*

In qualitative terms, the wellbeing of local residents has benefitted from the empowering nature of self-initiated community conservation. Communal management of natural resources has had a catalytic effect in stimulating other attempts to improve local standards of living. Involvement in community development projects has nearly tripled since the MLPA network began encouraging communities to engage in community mobilizing. Additionally, sustainable resource management efforts have built local organizational and administrative capacities, providing the foundation for further community-level development.

### *Improving local governance and democracy*

Prior to the establishment of the MLPA network, community governance systems on Nguna and Pele were weak, with little accountability or democratic transparency, and while inter-community cooperation was conducted on a sporadic basis, this was not formalized within an institutional arrangement. Now, in order to be accepted as a member of the network, each village is required to have a democratically elected conservation committee and the full endorsement of the chief and village council. The creation of a multi-community executive committee has facilitated a forum for exchange, collaboration and capacity-building. Through regular attendance at MLPA events and meetings, village chiefs and councilors can learn from and support one another in different aspects of local development.

### *Empowering community voices in development dialogues*

Social justice has also been a critical element in the establishment of the Nguna-Pele MLPA, both in correcting the imbalance in prevailing conservation and development discourses at the national level, and in empowering marginalized groups within communities. Previously, communities felt they had little voice in the sustainable development discourse dominated by government and international NGO approaches; community-centred approaches to resource

management – while supported by government departments and international partners – have helped to empower communities as autonomous actors and root development in local capacities.

### *Growing social equity*

Empowerment of marginalized groups has followed from the initiation of communal action, beginning in village councils and conservation committees, and then spilling over to village men's, women's and youth associations. The region is well known for its male-dominated culture, with most, if not all community decisions typically taken by men. The Nguna-Pele MLPA network recognized that women in Vanuatu play a critical role in the use and management of biodiversity, deciding what marine and terrestrial resources are harvested and in what quantities for sale in markets. Empowering women through participation in conservation committees and leadership roles, the network has been able to effect change at the individual and household level. Many more village women are also taking leadership positions within community organizations due to their success within the MLPA committee structures.

As well as environmental education in local schools, ensuring that students have a greater awareness of conservation and waste management issues, the Nguna-Pele MLPA has also facilitated activities for those island youth no longer in school, such as biological monitoring and clean-up competitions. Due to the initiative's emphasis on inclusive participation of marginalized groups, broad improvements to social equity have been witnessed.

## POLICY IMPACTS

The Nguna-Pele MLPA network has had a dynamic effect on national level policies concerning environmental conservation. The network is the first nationally recognized example of a community-managed network of marine reserves and conservation activities in Vanuatu, and has acted as a model for other community-led development initiatives in the island nation. The network was also an important influence in the drafting of government policy and legislation recognizing community conservation areas, through the Environmental Management and Conservation Act (2002). Underpinning this is the

recognition of communal rights to resources enshrined in Vanuatu's national constitution, which gives all land to Vanuatu customary owners and their descendants along with the duty to "protect and safeguard" national resources and the environment.

Tension and ambiguity characterize the relationship between village, provincial and national-level marine policies, however. While higher levels of government recognize local governance institutions such as Island Courts and Land Tribunals, village councils themselves are not formally endorsed by national legislation. And while the Environmental Management and Conservation Act recognizes marine regulations set by village councils, it does not provide for enforcement to support community-level conservation. In practice, resource management occurs in a local context where the state neither supports nor significantly impedes community-based approaches. Employing innovative and adaptive management techniques, village-level conservation approaches have flourished in this space, leading to their rapid replication and extension.

### *The hybridization of marine management discourse*

The success of the Nguna-Pele example has led to calls for a more nuanced government policy approach to devolving resource management to the local level. The islands' diversity of approaches to marine conservation in particular has lent support to the view that the "protected area categories" discourse does not sufficiently capture the varieties of local innovation and adaptation that underpin real community-based resilience. Bartlett et al (2009) argue convincingly that the multiplicity of experiences and blurring of distinctions between customary approaches and modern protected area terminology in Nguna, Pele, and other Vanuatu islands provides evidence for the view that conservation area strategies should be tailored to fit local needs. The study cites the use of terms such as *tabu*, conservation area (adapted to *konsevesen eria* in Bislama), and marine protected area in the cases of Nguna-Pele's communities, emphasizing that their local uses have diverged from their standard definitions during the process of expansion and replication across the islands. The result is a wide range of endemic, novel, and hybridized community conservation approaches that have achieved a high degree of success in conserving biodiversity and improving local social and economic wellbeing.

Given that externally imposed management approaches may be socially disruptive and/or locally inappropriate, alienate local stakeholders from active management, fail to recognize the complexity of local knowledge, or derive from an incompatible worldview, the study argues that interventions should focus on 'hotspots of protected area hybridization where management institutions embrace the overlapping concepts of past, present, local, foreign, colloquial and scientific.' In supporting active local experimentation with closure practices, Vanuatu has demonstrated its flexibility and adaptive capacity in the face of environmental and social change. The Nguna-Pele cases support the conclusion that 'hybridization of protected area operational rules and rhetoric, combining Western scientific and traditional ecological knowledge, likely presents a valuable policy option for the Pacific region.'





# Sustainability and Replication



## SUSTAINABILITY

The tailoring of conservation solutions to local need helps to explain the sustained success of community conservation on Nguna and Pele since the mid-1990s. The management of individual sites depends largely on volunteers whose commitment to conservation activities is evidence of the social and environmental benefits they obtain in return. The sustained impact of local resource management on household incomes, livelihoods, and on general local wellbeing is therefore critical to the continued sustainability of these initiatives.

This is also enhanced by existing social structures and traditional institutions. Nguna and Pele island communities' shared language, history, and strong cultural and familial links increase motivation for collective action. A tradition of cooperation between the islands includes networks such as the Nguna-Pele Presbyterian Session that unites the elders from each community, the Nguna-Pele Council of Chiefs (NAPE), and the Nguna-Pele Shefa Provincial Council Technical Advisory Group.

Into the future, the network plans to build more partnerships with local youth and women's groups as a means of ensuring organizational sustainability and renewed leadership. The network is also exploring additional ecotourism project ideas as a method of maintaining financial sustainability. A strong partnership of stakeholders in the project has also been an important factor in aiding sustainability, bringing together government, NGOs, communities, international donors, and research institutes. The re-naming of the initial MPA network as the Nguna-Pele Marine and Land Protected Area is an acknowledgement of the substantial scaling-up of initial conservation activities during the 1990s to meet a large set of challenges to marine and terrestrial resource management across the two islands. In recent years this has also included a widespread tree-planting campaign, as Vanuatu communities have been encouraged to help meet the challenges of climate change through targeted awareness-raising.

## REPLICATION

The pattern of rapid replication of community conservation approaches across Nguna and Pele since 1995 is testament to a process that has been documented in conservation literature as the 'prodigious multiplier effect', in which villages or individuals copy the actions of their neighbours after observing the positive benefits that can result. A similar concept known throughout the Pacific islands is that of "copycat entrepreneurship"; this copycat approach to conservation strategies has been an extremely valuable process for facilitating rapid and widespread replication of closure strategies that are locally perceived to be effective.

Since 2002, this replication process has been enabled by the development of the Nguna-Pele MLPA network, which has brought together representatives from each community to discuss, coordinate and collaborate on marine and terrestrial natural resource issues of wide relevance. Networking also enhances the political bargaining power communities have with the national and provincial government, and will continue to benefit advocacy attempts for greater enforcement and financial support.

The benefits of collaboration are locally recognized within the network, with villages often willing to adopt management strategies that may be most valuable to neighboring, "downstream" communities. For instance, the crown-of-thorns starfish outbreak was successfully contained because area representatives planned and implemented a cross-tenure clean-up strategy. Meetings of the network's representatives have also influenced the positioning of new reserves, particularly when they share boundaries with other communities, in order to create larger cross-tenure reserves. The network has also aided in some cases of conflict over disputed tenure boundaries. The islands' widespread collaboration represents Vanuatu's first attempt at ecosystem-level conservation planning.

The total area now managed by the Nguna-Pele Marine and Land Protected Area is over 3,000 hectares, including sea grass, intertidal lagoons, coral reefs, and land protected areas. Due to the overwhelming success of the initiative in Vanuatu, the Foundation for the Peoples of the South Pacific Vanuatu (FSP) has begun a series of pilot conservation projects on a nearby island. The MLPA network has also joined the Pacific's Locally Managed Marine Area Network, within which it hopes to exchange lessons learned with other community-conservation sites in Fiji, Indonesia, the Philippines, and other Pacific island states.

## PARTNERS

The Nguna-Pele MLPA has benefitted from a far-reaching range of partnerships it has formed with provincial, national and international actors. In particular, the Nguna-Pele MLPA has received critical support from the Vanuatu Environment Unit, Vanuatu Fisheries Division, Wan Smolbag Theater, Vanuatu Cultural Center, Foundation of the Peoples of the South Pacific, Wan Tok Environment Center, Peace Corps Vanuatu, Live and Learn, the NAPE Council of Chiefs, and Shefa Provincial Office.

### *Local and regional non-governmental organisations*

Wan Smolbag Theatre Group works with remote communities in Vanuatu to produce educational theatre productions on sustainable development themes. This partner played a critical role in the initial process of raising awareness on conservation in Nguna-Pele, leading to the first prohibition on marine resource harvesting in 1995, and established the Vanua Tai turtle monitoring network. Many of Nguna-Pele's leaders and conservation champions emerged from this turtle monitor network. Another example of a local NGO working closely with the Nguna-Pele network is the Foundation for the Peoples of the South Pacific (FSP-Vanuatu), a not-for-profit working with the Pacific's indigenous communities on sustainable development through effective project management, training and local capacity building.

### *Governmental*

The Environment and Fisheries Departments have been consistent supporters of the Nguna-Pele initiative since its initiation, while the Vanuatu Environment Unit has provided technical assistance. The Government of Vanuatu has recognized the Nguna-Pele area as the first example of a community-managed network of marine reserves and conservation activities in Vanuatu.

### *International*

U.S. Peace Corps Vanuatu has provided volunteers for project sites. The BBC has shot a number of documentaries focusing on the area and its conservation activities.

### *Academic*

Researchers from James Cook University have focused on adaptive community conservation in Nguna-Pele, while the university

has supported local technical capacity for social and ecological monitoring. University of the South Pacific is another research institute that has conducted studies within MLPA conservation areas. Reef Check International has collaborated with the Nguna-Pele network to conduct reef assessments.

### *Private sector*

To facilitate ecotourism, the Nguna-Pele management team partnered with Sailaway Cruises, a tourism agent located in Vanuatu's capital, to bring visitors to the islands.

### *Additional partners*

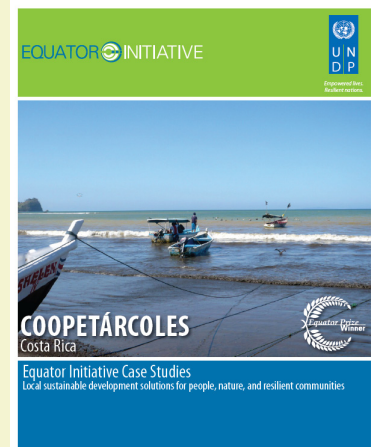
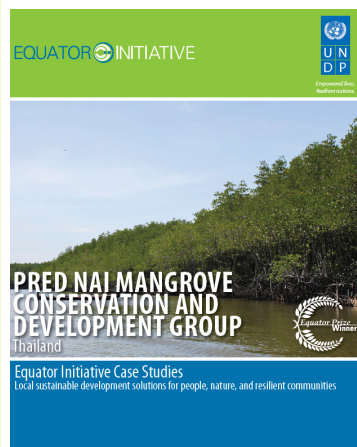
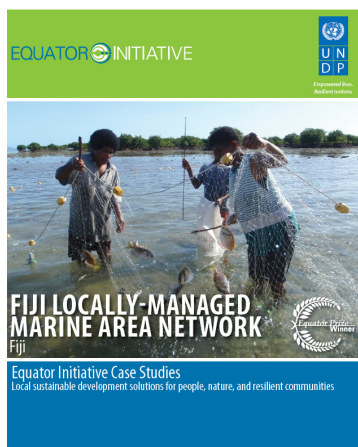
- Australian Centre for International Agricultural Research (ACIAR)
- Australian Institute of Marine Science
- Center for Tropical Aquaculture
- Changemakers Net
- Coral Reef Alliance
- Coral Reef Initiative for the South Pacific
- Coral Triangle Initiative
- Digicel Vanuatu
- Efate Land Management Area
- Global Coral Reef Monitoring Network
- Global Environment Facility - Vanuatu
- Google Earth & Oceans
- Great Barrier Reef Marine Park - Australia
- Indiana University Workshop in Political Theory and Policy Analysis
- International Coral Reef Action Network (ICRAN)
- International Waters Project (IWP)
- IUCN Climate Change Group
- Live and Learn
- Melanesia Interest Group
- MPA.gov
- NOAA coral bleaching satellites
- Ocean Revolution
- Pacific Asia Tourism Pty Ltd
- Pacific Institute of Public Policy
- Pacific Island NGOs - PIANGO
- Project Aware
- Protected Areas learning network
- Reef and Rainforest Research Center
- Reef Research Center
- Seacology
- South Pacific Commission
- South Pacific Regional Environment Program (SPREP)
- UNESCO World Heritage - Vanuatu
- Vanuatu Aelan Walkabaot
- Vanuatu Cultural Center
- Vanuatu Daily Post
- Vanuatu Meteorology Office
- Vanuatu National Statistics Office
- Vanuatu News
- Vanuatu Tourism Office
- Wan Tok Environment Center
- World database on protected areas



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- Nguna-Pele MLPA website <http://www.marineprotectedarea.com.vu/>
- Nguna-Pele Photo Story (Vimeo) <http://vimeo.com/24480714>

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