Equator Initiative Case Studies
Local sustainable development solutions for people, nature, and resilient communities

MOHÉLI MARINE PARK
Comoros

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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.

To mark its 10-year anniversary, the Equator Initiative aims to fill this gap. The following case study is one in a growing series that details the work of Equator Prize winners – vetted and peer-reviewed best practices in community-based environmental conservation and sustainable livelihoods. These cases are intended to inspire the policy dialogue needed to take local success to scale, to improve the global knowledge base on local environment and development solutions, and to serve as models for replication. Case studies are best viewed and understood with reference to *The Power of Local Action: Lessons from 10 Years of the Equator Prize*, a compendium of lessons learned and policy guidance that draws from the case material.

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PROJECT SUMMARY

Between 1998 and 2005, the Comoros island of Mohéli was the setting for an initiative that brought together international organizations and local communities in creating a co-managed marine protected area. The idea was to conserve 404 square kilometres of ocean, home to key marine species such as the coelacanth, humpback whales, dugong and dolphin, while benefiting local livelihoods through ecotourism. The result, the Mohéli Marine Park, is an ongoing experiment in setting the right conditions for co-managed marine management. Benefit-sharing arrangements and enforcement of harvesting regulations are key issues that have affected the success of the initiative in recent years; early results in increasing live coral cover on the park’s reefs and increases in tourism numbers, however, indicate that the park may yet be able to deliver on its promise.

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KEY FACTS

EQUATOR PRIZE WINNER: 2002

FOUNDED: 1995

LOCATION: Mohéli island

BENEFICIARIES: 10 communities of southern Mohéli coast

BIODIVERSITY: Mohéli Marine Park
Comoros is an archipelago island nation in the Indian Ocean, located off the eastern coast of Africa, between Madagascar and northeastern Mozambique. The country consists of the four islands in the volcanic Comoros archipelago: Grande Comore, Mohéli, Anjouan, and Mayotte, although the latter is politically administered by France as an overseas department. Comoros was declared independent from France in 1975 and is one of the world’s poorest countries: in 2008, almost half the population of 798,000 lived on less than USD 1.25 per day. The islands have inadequate transportation links, few natural resources, and a young and rapidly increasing population, which has been exacerbated in recent decades with an influx of Comorians who were forced to leave Madagascar and Zanzibar.

Environmental degradation and persistent poverty

The labour force is characterised by low levels of educational attainment and high unemployment, while the country is heavily dependent on foreign grants and technical assistance. Agriculture, fishing, hunting, and forestry account for 40% of gross domestic product, employ 80% of the labour force, and provide most of the country’s exports. An over-reliance on subsistence livelihoods has created a vicious cycle of poverty and resource over-exploitation. Coastal communities on the island of Mohéli, for example, which account for approximately 80% of the island’s population of 30,000, use poison and dynamite to maximise short-term fish catches, reducing fish stock in the long run and further contributing to income poverty.

Environmental degradation threatens Mohéli’s abundant biological diversity; the island is a tropical paradise, home to more than 500 species of plants, 21 species of birds, and nine species of reptiles. Flagship species for conservation include the endemic Livingstone’s Fruit Bat (Pteropus livingstonii), a giant bat with a wing span of more than one metre, that numbered only 1,200 individuals in 2003. The beaches are an important nesting ground for green sea turtles, while the waters surrounding it are home to the coelacanth, a rare prehistoric fish with limb-like fins that was thought to be extinct until 1938.

Other key species include humpback whales, dugong, the Spinner dolphin (Stenella longirostris) and Bottlenose dolphin (Tursiops truncatus), corals, sea cucumbers, and the large gastropod Turbo marmoratus. The island is also home to Lake Bundouni, a Ramsar site and the largest body of freshwater in the Comoros, which is a nesting site for hundreds of migratory bird species.

As well as the threats of species extinction, the island’s ecosystems have also sustained damage from unsustainable land-use practices. Deforestation, increased agriculture on hillsides due to land shortages, and cattle grazing have resulted in severe soil erosion and runoff that have damaged the island’s coral reefs. Overfishing has depleted stocks, while the search for building materials has destroyed mangrove forests and beaches that are essential breeding grounds for turtles. Coral reefs have also suffered bleaching as a result of the warming Indian Ocean.
An international intervention to support local action

In 1998, IUCN, the United Nations Environment Programme and the Comorian government, with funding from the Global Environment Facility and United Nations Development Programme, initiated a five-year project entitled ‘Conservation of Biodiversity and Sustainable Development in the Federal Islamic Republic of the Comoros’ (typically shortened to ‘Project Biodiversity’). This project’s most notable achievement was the declaration of the Mohéli Marine Park in 2001. This was the first protected area to be gazetted in the Comoros, and was an attempt to counter the social, economic, and environmental threats of population growth, resource over-exploitation, and poverty by adopting a collaborative and community-based approach to management of the marine resources upon which the islanders’ livelihoods depend.

The establishment of the park represented the culmination of a multi-stakeholder process begun in 1993, when the government introduced a National Environmental Policy designed to halt the spiral of environmental degradation. The policy introduced the idea of involving a broad spectrum of parties to marine and coastal management, namely local resource users, non-governmental organisations, government departments, the private sector, and international donors. This was the first time the government had sought to work with local communities in resource management. Consultations were held with coastal villages, aiming to both identify socioeconomic needs and to raise awareness of the need for conservation.

This process led, in 1995, to the ten communities that make up the southern coast of Mohéli advocating for the designation of their offshore waters as a marine protected area. These communities are home to approximately 10,000 inhabitants. Meetings took place with different stakeholders including fishermen, youth leaders and village elders to discuss collaborative management options for the marine park. The principle of “joint management” guided these consultations, in which communities were encouraged to negotiate and define the respective functions, rights and responsibilities of different stakeholders in the management of the park. Co-management agreements were signed between the Comorian government and each village community detailing the management and regulation of the coastal and marine areas under the direct responsibility of the respective villages.

Parc Marin de Mohéli

Together, these ten community-managed marine reserves are incorporated within the Mohéli Marine Park, which was officially gazetted on 19th April 2001. This Marine Protected Area covers 404km² of ocean extending from the southern coast of the island. The conservation area was chosen for its rich biological diversity, including the presence of key coastal coral and mangrove forest habitats, and endangered marine species such as humpback whales, dugong, and a globally-important nesting site for the endangered green sea turtle.
The designation, establishment and management of the Mohéli Marine Park was an important instrument in the Comorian government’s sustainable development strategy, providing a range of benefits for fisheries, local economies and the marine environment, such as a safe haven for fish stocks to recover, an alternative source of income for local people through ecotourism, the prevention of further coastal habitat damage, and the maintenance of globally-important biodiversity.

While the management of the park falls within the government’s constitutional responsibility, the daily regulation of local coastal areas is devolved to the community level. Regulations concerning marine zoning, boundaries, management, and local access are largely based on consultations with villagers, fishermen, community groups, and resource users in each of the villages that lie within the protected zone. For instance, regulations allow only traditional fishing methods within the park’s boundaries, prohibiting the use of fine mesh nets, dynamite fishing, and the destruction of corals. Village committees are mandated to deal with cases of non-compliance, with cases referred to the national judiciary if local solutions cannot be found. UNDP, UNEP and IUCN provided financial support and technical assistance to train community volunteers as “eco-guards”, who are responsible for awareness-raising as well as monitoring.

As well as regulating fishing practices, the park management has also sought to develop sustainable livelihood alternatives to marine harvesting. The Comorian government provided co-financing for the development of income-generating activities proposed by village development associations. A community that raised 50% of the cost of a proposed livelihood activity, for example, received a matching investment from the government of 50%. A community that raised 30% of the total cost of its activity, meanwhile, received a matching grant of 30%, and the remaining 40% in an interest-free loan.

A Park Management Committee oversees management of the park. This consists of sixteen individuals, including ten elected representatives of the member communities, and brings together the government and local communities in a joint management approach. Two government officials provide support and technical expertise in administration and finance to the committee, while overall responsibility for the park resides with the Comoros Minister for Environment.
Impacts

The creation of the Mohéli Marine Park had tangible benefits for the marine environment and its member communities in the early years of its existence. For instance, coral health was seen to improve thanks to bans on destructive fishing practices. Between 1998 and 2001, live coral cover on the park’s reefs increased from 30% to 65%. Other regulations regarding local access include bans on harvesting sea cucumbers, starfish, and crustaceans, as well as a ban on turtle poaching. Turtle nesting sites were found at more locations on the island’s southern beaches as a result.

While the conservation of more than 400 square kilometres of ocean has had visible benefits for the region’s endangered marine species, sustainable management regulations have also produced social and economic gains for local communities. Government funding for sustainable livelihood projects facilitated the construction of ecotourism lodges by four community development associations. This led to the number of tourists visiting Mohéli to rise from 75 tourists per village in 1998 to 140 in 2001. This has had spill-over effects in terms of creating related livelihood opportunities for villagers. Community members have been employed as guides, in building and managing accommodation facilities, and selling handicrafts. By 2002, the initiative reported the direct creation of 30 new jobs for local people.

Sustainable harvesting regulations on fishing allowed local fishermen to increase catch sizes. Between 1998 and 2002, catch size nearly doubled from 160kg per month to over 300kg, benefitting 250 fishermen working in the park. With increased revenues from higher fish catches, villagers were able to buy motor boats for use in fishing, reserve surveillance, and tourism activities.

Limits to long-term viability

Despite the initial successes of the Mohéli Marine Park, it is currently operating at a vastly reduced capacity. Although some components of ‘Project Biodiversity’ were extended for two years in 2003 under the title ‘The Project for Rehabilitation Activities for the Conservation of Biodiversity’, all GEF-funded activities concluded in 2005. Since then, while the Mohéli Marine Park still nominally exists, the management of the park at the community level has been significantly eroded. Tourism numbers have declined dramatically from their initial levels, and lack of funding for monitoring and enforcement of park regulations has led to increases in poaching of high-value species such as sea turtles.

A study conducted in 2007 interviewed a large number of respondents across the park’s ten communities to assess its impact. All of the focus groups agreed that the existence of the park was still important,
citing its role in ensuring the conservation of marine and coastal biodiversity, habitats and endangered species, encouraging the development of ecotourism and other income-generating activities; ensuring the sustainable use of marine resources; and reinforcing environmental education, training and communication. This demonstrates that the project had been effective in communicating its purpose and objectives to its target audiences; the extent of local disenchantment with the project arguably reflects, in part, the failure to meet these high expectations. In particular, community respondents were often frustrated by the slow progress in seeing economic rewards from sustainable fishing that had been promised by park officials.

Although the survey respondents credited the park with eleven key achievements, such as reducing environmental degradation, raising environmental consciousness, and increased coral cover; they also identified eighteen negative aspects of the park. These included its lack of sustainability, the lack of effective monitoring or enforcement, lack of respect for park personnel or official agreements, and poor management of equipment. Specific criticisms were directed at the lack of communication between the park’s management and external actors: commercial harvesting of sea cucumbers had been carried out within the park by foreign companies, for instance, while local community members were banned from harvesting these commercially valuable species. There was also a widely-held belief that the park’s regulations had unfairly discriminated against women, for instance in outlawing the use of uruva poison (Theophrasia candida) in fishing, an activity exclusively carried out by female fishers. Benefits of ecotourism were also not distributed equally across the ten communities; those that were marginalised were typically where the worst instances of poaching were seen. Lack of technical assistance and equipment was also highlighted: the promised introduction of Fish Aggregating Devices (FADs), which would have helped to increase fishing yields, was not carried out, for example.

The study identified six main contributing factors to the park’s diminished effectiveness. These were: the inequitable distribution of benefits; the lack of sustainable livelihoods options; the failure to involve women in awareness-raising and leadership roles; the challenges to effective monitoring and enforcement; the number of environmental threats to biodiversity that remained; and the lack of sustainability that undermined the management of the project.

**Lack of financial sustainability**

This lack of sustainability was identified as the primary flaw in the Mohéli Marine Park project. Although there were originally plans to address this, it seems that they were not fully realized by the park’s management team. ‘Project Biodiversity’ laid the groundwork for a Biodiversity Trust Fund for the Comoros that would have included the management of protected areas, but this failed to materialise. A much longer time-scale was required to set up the fund – several years, rather than the 4-5 years envisaged in the project document – as well as a much greater level of capitalisation: USD 15 million was required, rather than the USD 2 million proposed in the project document. The management plan estimated annual management costs at between USD 87,000 and USD 215,000. In the absence of the Trust Fund to cover these costs, and no alternative means of financing the project, the park’s financial situation was already unclear by 2003. This led to reductions in management effectiveness, activity and levels of enforcement; following the end of funding, communities were no longer willing to accept the potential of low-cost, community-motivated conservation initiatives, preferring to leave enforcement to the salaried eco-guards. The study concluded that community enthusiasm for conservation ‘was, in some ways, reduced by the creation of Parc Marin de Mohéli as stakeholders became disillusioned by the lack of activity and realized benefits following Project Biodiversity.’

A quote from a male respondent from the community of Ouallah 1 sums up the challenges that now face the project and the difficulty of sustaining community enthusiasm for conservation initiatives in the absence of institutional support:

‘Since Project Biodiversity finished, we now say that the word Parc Marin de Mohéli does not exist. There has never been follow-up to anything that was implemented during the project. With the project, we stopped all of the harmful activities that we were told to stop. However, we saw that we gained nothing, and now, bit-by-bit, we have started engaging in harmful activities again. Moreover, the management of the Parc Marin de Mohéli now remains only in the hands of a few individuals – this is the reason that there is more damage occurring now than before – people have lost respect for Parc Marin de Mohéli. To make matters worse, the eco-guards were abandoned as soon as the project finances stopped. They were expected to work hard and were paid very little. For example, they were expected to defend themselves against poachers carrying weapons, without having any weapons themselves or even training in self-defence.’

**Looking to the future**

Despite this, there remains a widespread desire to see the project ultimately succeed. Its importance for marine biodiversity and its potential for improving local livelihoods are well-recognised. In the words of another respondent from the community of Ndrondroni:

‘We want youth to be involved with Parc Marin de Mohéli. We want them to become motivated and to forget about all the past negative aspects associated with Parc Marin de Mohéli. We want them to be able to gain the benefits. Our generation has failed, but we should look to improve the situation for the following generations.’
FURTHER REFERENCE

- Video on Mohéli Marine Park (Vimeo) vimeo.com/36989115

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