Increasing resilience to climate change, Barren Isles, Madagascar

The Barren Isles is Madagascar's largest archipelago of coral cays, which are composed entirely of coral reefs and sand. Located in the Melaky region, the archipelago accommodates some of the country's most significant marine and coastal biodiversity, including vast offshore coral reefs, seamounts, extensive seagrass ecosystems, mangrove forests, and wetlands. It is home to five species of sea turtles and eight species of sharks, all listed in the ‘threatened’ categories of the IUCN Red List, as well as a nationally unparalleled abundance of reef fish, numerous cetaceans, and seabirds. The region has long been identified as a national and regional marine conservation priority. In 2014, the Barren Isles received a temporary protected status as a marine protected area (MPA), prohibiting industrial fishing in nearly 4,300 km², and placing fisheries management in the hands of local communities.

The Barren Isles supports the livelihoods of more than 2,000 traditional fishers and their families who are among the poorest in Madagascar with very low resilience to economic and environmental shocks. The islands are the most remote destination reached by Madagascar’s coastal communities, who make seasonal trips to the islands during the fishing season. After the perilous journey, which often takes weeks at sea in open canoes, the communities live in basic temporary camps in extreme poverty with no infrastructure, fresh water, education, or healthcare. Climate change is forcing more and more fishers to make the dangerous journey each year, facing intensifying cyclones and periods of drought, a rise in sea temperature and level, and significant coastal erosion.

To reduce the climate change-related effects, this project will protect and restore the biodiversity of key ecosystems in the Barren Isles by securing permanent protected area status as an MPA. Blue Ventures and partners will focus on the establishment and support of Ecosystem-based Adaptation (EbA) management strategies and engage local communities in effective conservation of the Barren Isles' locally managed marine area. By underpinning the community-based management approach, the project will secure the rights, livelihoods, and futures of vulnerable small-scale fishers heavily reliant on this unique area. Benefits will include the development of local capacity and an increase in financial stability and access to healthcare.
## KEY TARGETS

<table>
<thead>
<tr>
<th>Newly created MPAs:</th>
<th>Effectively managed MPAs:</th>
<th>Number of beneficiaries:</th>
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<tbody>
<tr>
<td>4,300 km²</td>
<td>N/A</td>
<td>6,291</td>
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## KEY ACTIVITIES AND AREAS OF WORK

### MPA GOVERNANCE

- Conduct a detailed assessment of the area’s vulnerability to climate change, targeted at communities and ecosystems; this will identify key areas vulnerable to climate change and inform which EbA measures to include in management plans.
- Support the implementation of co-management plans for fisheries, mangroves and the MPA by running a community awareness campaign, involving radio emissions and the hosting of workshops to exchange experiences between communities.

### SUSTAINABLE LIVELIHOODS

- Set up and coach 80 micro-enterprises and cooperatives focusing on alternative livelihoods such as fish smoking, non-timber forest products and the production of biomass combustibles (i.e. briquettes).
- Promote alternatives to mangrove wood for construction and energy purposes through fast-growing tree nurseries.

### SPECIES CONSERVATION/SUSTAINABLE FISHERIES

- Establish community-driven ecological monitoring by building the capacity of local people to monitor reef health and fish biomass; this will inform future MPA management plans.
- Pilot a MONITOR app, which will train and support communities to collect and analyse data on finfish and octopus at site; this will allow for local ownership of the data and feed a national small-scale fisheries’ catch database.

### HABITAT CONSERVATION AND RESTORATION

- Enable the capacity building of communities for restoration activities through community consultations to develop mangrove restoration plans.
- Organise 60 community mangrove-planting events to restore an estimated 1.5 km² of degraded mangroves, thereby sequestering an estimated 10,650 tonnes of CO₂ equivalent over 10 years.