

Marine Protected Areas



Effectively managed marine protected areas (MPAs) are promoted as a tool for managing fisheries, conserving species and habitats, maintaining ecosystem functioning and resilience, preserving biodiversity, and protecting associated human values and ecosystem services, with potential associated benefits including the development of tourism and alternative livelihoods.

Current strategies: range from limited controls on certain activities to fully protected no-take areas. Integrated MPA strategies have the dual purpose of conservation and poverty alleviation.

Assumptions for resilience: These strategies assume that the protection provided will increase the health of the reef, and hence support resistance to pressures such as climate change, ocean acidification and human activity allowing the continued provision of ecosystem services.

Ecological impacts

Positive

Documented examples have shown:

- Increases in biomass, species density and richness, and organism size and improved fisheries trends.

It has also been suggested that:

- Diversification into alternative livelihoods resulting from MPAs (such as tourism) may reduce overall fisheries pressure.

Negative

- This was not addressed specifically within the literature reviewed, but negative impacts may occur on areas outside the MPA when human pressures such as fishing effort are displaced.

Implications for ecological resilience

- Older, larger, isolated, non-extractive and effectively enforced MPAs have better ecological outcomes, with the assumption that resilience is therefore similarly enhanced. Achieving outcomes requires attention to governance, management and participation.

Social impacts

Positive

Documented examples have shown that:

- Communities (including direct and indirect stakeholders) can be empowered through participation in the decision-making process and MPA management, with wellbeing improvements.
- Well managed MPAs lead to local fisheries benefits, and improved food security through increased availability of fish.
- Alternative livelihood opportunities are created (primarily through tourism).
- Maintenance of structural habitats provides coastal protection, reducing vulnerability.
- Wealth and environmental knowledge may be improved.

Negative

Documented examples have shown that:

- In the short-term, fisheries displacement can lead to hardship.
- Communities may not be sufficiently empowered to enforce regulations and prevent poaching.
- Social tension and conflict may increase, and certain groups may be further marginalised.
- Low levels of participation lead to declines in wellbeing and empowerment.
- Economic benefits of tourism may not accrue locally. Existing inequalities from tourism may widen.

Implications for social resilience

- Increased livelihood diversity supports resilience.
- Appropriate governance and enforcement frameworks are essential for long term success (assuming this equates to resilience). Place-specific governance and management is likely to lead to more socio-economically beneficial MPAs.
- Sustainability may require longer funding cycles.

Spatial scale: From local to very large scale. Spillover effects are local.

Temporal scale: Longer term, due to the often slow pace of both ecological and socio-economic changes.

Case study: Voluntary Marine Conservation Zones, Mauritius

Voluntary Marine Conservation Areas or VMCA, is a bottom-up, integrated community (coastal inhabitants, stakeholders and direct users) approach to creating conservation sites with agreed usage established on the island of Mauritius, by local NGO Reef Conservation. Initial funding for this programme came through the Indian Ocean Commission: Regional Coastal Management Programme (RECOMAP) in 2008 with further funding from the GEF Small Grants Programme of the UNDP and local private sector companies.

This is an alternative concept to the traditional MPA as these areas are voluntary with no legal enforcement by government authorities. Communities and users voluntarily agree that no extractive or destructive activities should be carried out. Sustainable use of marine ecosystems is favoured through implementation of best practices for the maintenance and improvement of ecosystem health and biodiversity. Creation of the VMCA arose through an integrated programme including; participatory techniques used to create maps showing the distribution of key habitats and resource use patterns, communication through community sensitisation, capacity building in terms of ecosystem and marine ecoguide training for direct users, inclusion of community and stakeholders in data collection and implementing conservation measures for sustainable use such as fixed mooring buoys for boat anchorage and an underwater snorkel trail.

Has it been successful? Two VMCA have been created, the first in Roches Noires (8 hectares) in 2011, with successful replication in Anse la Raie (50 hectares) in 2014. The Anse La Raie VMCA is led by direct users from the tourism sector and is thus far proving to be a more robust and sustainable model.

Challenges: Voluntary sites do have their drawbacks as there is no legal standing for these areas and the code of conduct established with direct users may not always be upheld by others coming from outside the area. These sites are small in size and therefore limited in their ability to provide the same conservation services of a larger MPA.

Future application: More or larger VMCA sites are envisioned. However, long-term success will depend upon the continued active participation of the local communities in monitoring, education, sensitisation and management. The challenge will be encouraging the local communities to take greater ownership of the management of these areas. However, these VMCA are significant as no traditional stewardship or co-management for marine resources previously existed.



Further reading

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