

Local and traditional knowledge is the knowledge held by individuals that comes from their own observations, experiences, beliefs or perceptions rather than from scientific research. This sheet emphasises the importance of taking this into account in the development and management of an MPA.

Fishing communities have their own knowledge about fish stocks and other marine resources including information on the location of resources, migration patterns, movements and seasonal abundance of species of economic importance, and details on their reproductive and feeding behaviour. Local people often also have a good understanding of how resources and the environment have changed over time and possible reasons why.

Other stakeholders in an MPA also have relevant knowledge. Women have knowledge of trends in local community structure and household characteristics. Government agencies and local businesses may have information on socio-economic trends (e.g. the development of tourism in the area or changes in demography and local government). Divers and dive operators may be able to provide information on the status of reefs in terms of coral health and fish populations.

Local communities may have their own names and classifications (or 'taxonomy') for resources, places (particularly significant sites such as fish spawning aggregation sites, fishing grounds and landing sites), and marine-related activities. The ways in which these items are classified may not reflect the scientific taxonomy familiar to biologists; for example criteria such as palatability and seasonal availability may be used to categorise resources.

Local or traditional knowledge is generally passed by word of mouth through generations and is not often recorded in writing. Gathering information of this nature therefore requires techniques such as interviews, focus groups and other participatory methods (see sheet B1).

LOCAL KNOWLEDGE FOR MANAGEMENT

In some places local people have traditional systems of rights over marine areas and resources and these can be a useful basis for developing community involvement in MPA establishment and management. Many of the best studied and applied examples come from the Pacific region, where customary tenure is providing a basis for more modern marine resource management. Traditional management often includes the main forms of regulation that are familiar now: gear restrictions, limited access, time limits, size restrictions and sacred or protected areas, although these may be used more for social, cultural or political reasons than for increasing fish stocks or protecting biodiversity. Nevertheless, they may have application for these latter objectives. Religious and cultural beliefs and customs may also be highly relevant in MPA management (see case study).

Such customs are rare in the WIO and it seems likely that traditional tenure was not as well developed here as in the Pacific. Nevertheless, it is useful for MPA managers to understand the concept as it may be relevant in some situations, especially if traditional management systems exist and are a cause of conflict between local communities and the MPA authority. Knowledge of such approaches in other parts of the world can also help to guide community involvement in a more modern setting.



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Misali Island off Pemba, Tanzania, has strong religious significance among many local Islamic fishers.

One example in the WIO is Menai Bay on Zanzibar, Tanzania. At Kisimkazi village, a traditional management system involved seasonal closures of fishing areas, particularly for octopus, with controls on fishing gear and use of the area by visiting fishers. The system collapsed with increased pressure from fishers using the area, but government support has allowed the system to return improved.

In southern Kenya, traditional systems have recently been acknowledged as being relevant to natural resource management. The Digo people inhabit the coastal strip down to northern Tanzania and have a complex set of beliefs in spirits associated with natural resources and places which is overseen by community leaders or elders, who pass down their knowledge to their sons. The spirits require offerings (*sadaka*) which are generally made at sacred sites: the *kaya* in the coastal forests, and *mzimu* at sea. Significant fishing events (for example, unusual decreases or increases in catches) are still a reason for elders to convene a meeting and sometimes for *sadakas* to be made. The elders are currently playing an important role

in initiatives undertaken in collaboration with the Fisheries Department, NGOs and other government agencies, to introduce and enforce regulations banning damaging fishing methods and to increase the use of local knowledge in management. This has been particularly important in Diani, where a Marine National Reserve was gazetted in 1995 but never implemented because of opposition from local communities. New initiatives that respect the indigenous people of the area and their traditions may prove to be more effective.

KEY POINTS FOR THE MPA

- ❑ Find out whether local people in or adjacent to the MPA have relevant traditional beliefs and knowledge or cultural practices. Asking local fishers about what they know helps to form a relationship with them and to build trust.
- ❑ Where there is a traditional conservation ethic, get to understand this and use it as a foundation for local conservation education and awareness-raising.
- ❑ Use local people's knowledge to fill gaps in scientific information e.g. fishers often know the location of fish spawning areas, and of populations at a finer scale than academic or government information can provide.
- ❑ Learn local names of places, fish and other natural resources, and use local terminology when talking to stakeholders if appropriate; this will help to facilitate interactions with stakeholders (e.g. fishers may not respect MPA personnel if they do not fully understand the area and its resources).
- ❑ Use local knowledge and classifications in monitoring programmes to increase participation of communities and make use of as much information as possible.

Sources of further information

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CASE STUDY

Using religious beliefs to promote effective MPA management - Misali Island, Zanzibar

The participation and support of local Muslim elders has been sought in the management of Misali Island Conservation Area, a small MPA off the west coast of Pemba Island, comprising a closed sanctuary area and a larger area open to traditional forms of fishing by local communities. Many Islamic teachings and concepts are relevant to marine conservation such as the recognition that animals should reproduce before they are killed for human use, the duty to treat all creatures well, and the guardian or stewardship role of humans in protecting the environment. Preserving the balance of marine and terrestrial ecosystems helps to achieve the *mizaan*, or the principle of balance on which all creation is based.

Under the Misali Ethics Project (jointly undertaken by local government departments, the Misali Island Conservation Association, and CARE Tanzania, with funding from the MacArthur Foundation), religious leaders and teachers in the mosques and *madrasa* schools associated with Misali Island were provided with educational materials including posters, calendars, a film and a short manual explaining how the guidance in the Holy Qu'ran is relevant to day-to-day decision making by fishers. The Islamic messages were used to promote conservation, with religious leaders assisting through their sermons and teachings.

A baseline study at the beginning of the project showed that only 34% of fishers thought that Islam related to their use of the marine environment. An assessment at the end found that 66% could now relate their religious beliefs to marine resource use behaviours, and that some fishers were practising at least one or two specific conservation measures. It was also found that this increased understanding had spread beyond the villages directly involved in the project. As a result of this pilot programme, the initiative is now being scaled up to address a broader population on Pemba Island.

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