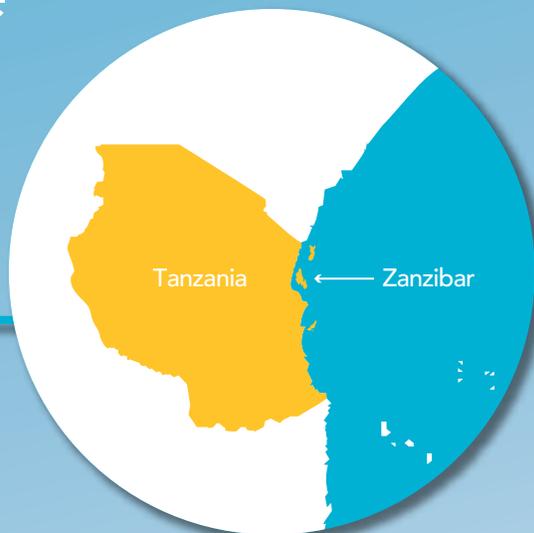


## East African Centre of Excellence



### Taboos, customs hold key to managing Tanzania's reefs

The Coral Reef Targeted Research & Capacity Building for Management Program (CRTR) is a leading international coral reef research initiative that provides a coordinated approach to credible, factual and scientifically-proven knowledge for improved coral reef management.

The CRTR Program is a proactive research and capacity building partnership that aims to lay the foundation in filling crucial knowledge gaps in the core research areas of Coral Bleaching, Connectivity, Coral Diseases, Coral Restoration and Remediation, Remote Sensing and Modeling and Decision Support.

Each of these research areas are facilitated by Working Groups underpinned by the skills of many of the world's leading coral reef researchers. The CRTR also supports four Centres of Excellence in priority regions, serving as important regional centres for building confidence and skills in research, training and capacity building.

The CRTR Program is a partnership between the Global Environment Facility, the World Bank, The University of Queensland (Australia), the United States National Oceanic and Atmospheric Administration (NOAA) and approximately 50 research institutes & other third parties around the world.

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A proper recognition of indigenous knowledge in coastal management is a key step towards preserving the marine resources of the East African nation, Tanzania.

These natural resources, including coral reefs, are in decline, as demand for fish stocks increases due to a growing population and a boost in tourism to the region.

But recognising local knowledge, including taboos, customs and beliefs, in the development of future policies and strategies for coastal management could turn this around.

Fishing is an important coastal occupation in Tanzania, with most people relying on marine resources, or more specifically, fish, for their subsistence and their income. These resources are obtained from a variety of habitats, including coral reefs, mangroves, seagrass beds, and estuaries along the 850-kilometre stretch of the coastline and around the islands.

Small-scale fisheries which employ a variety of fishing techniques to target a large number of species supply about 95% of the total marine catch. Typically, these use traditional vessels and gear. With the growth in Tanzania's population and the development of its tourism industry, fishing pressure has increased and the use of gear and techniques destructive to fishing habitats has spread.

Today, overfishing, though difficult to document, appears to be a major threat as more fishers use techniques without any regulation and fishers are reluctant to observe limited access criteria unless it is effectively enforced. As a result, fishing habits are degraded and fish stocks are declining.



#### Key Points

- Indigenous knowledge encompasses the wisdom, knowledge, customs, taboos, beliefs, teachings and practices of local villagers.
- The loss of indigenous knowledge in coastal management is having a negative impact on the health of the marine environment in East Africa.
- Local customs, taboos and beliefs, when used in conjunction with scientifically-developed and improved technology, promise to help protect and sustain fish stocks and coastal habitat.

Government actions, such as the enforced closures of fishing grounds, are helping to better manage fishery resources and fishing habitats, yet these actions overlook the powerful possibilities of incorporating local indigenous knowledge. Indigenous knowledge – the culture, wisdom and skills of local people – when used in conjunction with scientifically-developed and improved technology, promises to provide useful ideas and procedures for restoring environmental resilience in the developing world.

Its benefits are well-documented, with a number of traditional management strategies serving to indirectly protect coral reefs and the marine environment for years.

Indigenous management strategies of fisheries in Tanzania include:

- Customary marine tenure
- Taboos and beliefs
- Magical power
- Technical inadequacies
- Closures for octopus fishery
- Restrictions of destructive fishing gear.

This paper specifically covers taboos and beliefs which include restricted access to the reef at particular times; closed season with elders responsible for dictating the times and punishing offenders; and restrictions on fishing gear.

But this knowledge, developed outside the formal education system over many years and passed down orally from generation-to-generation, is quickly disappearing as young people spend more time at school, and older people die without their knowledge being transferred or documented. This poses a knowledge transmission challenge. One option for conserving this knowledge is to make concerted efforts to research and document more of this knowledge and transmit to young people by incorporating it into both formal schooling curriculum and informal education.

Colonialism, which brought outsiders with different beliefs, also led to the abandonment of many of these indigenous management strategies that once protected reefs and other fishing habitats. This breakdown and the advent of improved fishing gear and vessels, has led to the degradation of local coral reefs and the marine environment more generally.

Yet, at a time when coastal populations continue to grow and place increasing demand on limited resources indigenous knowledge does not provide the complete solution. There is a symbiosis between traditional knowledge and modern science. Each informs the other. Formal science can clarify the significance of myths and customs and it can also benefit from the stronger base of technical information which is created with the addition of indigenous knowledge.

Consequently, a stronger nexus between traditional knowledge and modern science promises to assist policy-makers and coastal managers with the development of improved management strategies for fish stocks and habitats, particularly coral reefs.

### What is indigenous knowledge?

Indigenous knowledge, traditional knowledge and local knowledge generally refer to the knowledge, innovations and practices of indigenous and local villagers. Such knowledge encompasses the wisdom, knowledge and teachings of these indigenous communities, and is developed from experience gained over the centuries and adapted to the local culture and environment. It is transmitted orally from generation to generation and is not often recorded in writing.

Some forms of Indigenous knowledge are expressed through stories, songs, myths, proverbs, cultural values, beliefs, rituals, community laws and local language.

# Taboos and beliefs

Fourteen forms of taboos and beliefs that inadvertently protect fish stocks and consequently protect fishing habitats have been identified in Tanzania.

## 1. Dietary restrictions

Taboos against eating certain marine species because of religious influence or beliefs exist among coastal villagers in Tanzania. These taboos, which include fears of poisoning, impotence, spots on the skin and ill-effects on unborn children, unintentionally limit fishing.

## 2. Restrictions on fishing before bathing after having sex

For coastal fishers, whether married or not, it is a taboo not to have a bath after having sex before fishing. This is due to a belief that having intercourse dirties the body. The ocean is the home of evil spirits and, according to beliefs, they dislike meeting with an impure person. This taboo is strictly adhered to avoid misfortune during fishing activities. This taboo again involuntarily limits fishing in the study areas.

## 3. Restrictions on fishing for menstruating women

According to Islamic religion, a menstruating woman is considered impure. She is not allowed to fast, pray or read the Koran. Additionally, to avoid misfortune it is a taboo for a menstruating woman to go fishing. This taboo involuntarily protects fishing habitats on the near shore reefs.

## 4. Restrictions on fishing during strong winds and heavy rains

It is taboo for the artisanal fishers to fish when there are heavy rains and strong winds. This is due to the nature of the fishing vessels – most fishers still use traditional fishing vessels and gear which can not withstand strong winds. Heavy rains during fishing may result in poor visibility and loss of direction. In most places fishing activities are generally reduced during the strong winds (southern monsoon winds) and heavy rains. This unintentionally allows some marine fish species to breed and grow.

## 5. Lost fishers during fishing

In early times when fishers were lost while fishing, other fishers would not continue fishing but rather search for the lost fishers until they were found. This taboo unknowingly limited pressure on marine habitats in the study areas. Nowadays, this is not common in some areas, but in other places like Kizimkazi and Mkokotoni villages, the practice still exists although it is not as strongly adhered to as it was in early times.

## 6. Death events

In early times when there was a death at the village, no fishing activities could take place until the body was buried. According to this taboo, misfortune would occur if you went out to fish while others were involved in burial activities. This taboo involuntarily helped to limit pressure on marine habitats. Nowadays some people continue with fishing activities even if there is a death in their village.

## 7. Mentioning names of terrestrial animals

In some fishing communities, for example Mangapwani village, fishers cancel fishing activities if one among them inadvertently mentions a name of a terrestrial animal. This is considered to be a sign of bad luck.

## 8. Alcohol consumption

It is a taboo for coastal fishers to drink alcohol when going out to fish. This taboo is connected with the Islamic religion which says that consuming alcohol makes the body impure. If a fisher is identified by others as having consumed alcohol, he is dropped off to avoid misfortune and other dangers during fishing. This taboo, too, decreases pressure on marine habitats and reduces the destruction of the coral reef.

### 9. Festivals and special days

It is a taboo for Muslim fishers to go out to fish during the Islamic religion ceremonies. This inadvertently protects fish stocks and protects coral reef habitats. Most coastal fishers are Muslims and accordingly it is a taboo for them to fish on Fridays. This day is regarded as a special holy day for them to rest at home and conduct the Friday pray. However, some fishers, because of poverty and lack of alternative livelihood, continue to fish on Friday night.

It is also a taboo for Muslim fishers, who have been fasting, to dive for octopus during the holy Ramadhani month. Similarly, it is a taboo for some fishers to fish during 'mwaka-kogwa', wedding ceremonies, election days and during neap tides. Furthermore, in early times, there was a one-day ceremony during male circumcision during which there was no fishing.

### 10. Meeting with one person

Some fishers cancel fishing activities if, when going out to fish or check nets/traps, they meet with one person. This is believed as a bad omen on that day as nothing will be caught. On the contrary, it is considered a lucky sign to meet with two or more people when a fisher goes out fishing.

### 11. Fishing without success

If a handline fisher goes out fishing and spends some time without any success, they do not continue but rather return home because it is a sign that something is wrong at home. For example, their wives might be having sex with another man, or there may be a death in the family. Handline fishers also cancel fishing activities if they hook a bottle, which is a bad sign.

### 12. Receiving payment for fish in advance

Most fishers believe that it is a taboo to receive payment for fish in advance. If this happens, some fishers don't accept the payment and cancel the fishing activities on that day. To some extent it reduces fishing pressure on the coral reef environment.

### 13. Fabrication and deployment of fishing vessels

It is a taboo for another carpenter to take up unfinished fabrication work on a vessel without prior approval of the initial carpenter. It is believed that both the vessels and the new carpenter will be accompanied by bad omens. The vessel may not be able to catch fish and may cause accidents during fishing. This controls the number of fishing vessels and thus reduces fishing pressure.



### 14. Impurity of fishing vessels and gears

Fishing vessels and gears must be free from impurity of any kind. For instance, in most places it is believed that nothing will be caught if a goat urinates on the basket traps. It is also a taboo for fishers to defecate or urinate inside or nearby the fishing vessels in the belief that nothing will be caught on that day. This inadvertently reduces fishing pressure. For many fishers it is a taboo for a woman to touch basket traps (madema) and nets during their fabrication and deployment. If they do, the basket traps and nets won't catch fish.



## Even magical power has a role, too

Fisheries in coastal communities have long been associated with innumerable magical practices. Some fishers believe that, in order to catch more fish, a talisman must be tied to the fishing gear or vessels, and/or a prayer must be said in order to give fishermen confidence in the face of a wide range of hazards and threats.

A traditional healer should be consulted to find the best time and day to leave home and the best direction for fishing and camping. In addition, some fishers believe that a big tree found along the coast is a home of evil spirits, so a special prayer must be said before cutting down the tree for vessel construction to avoid misfortune. In the absence of traditional healers the number of fishing vessels is greatly reduced and thus fishing pressure is reduced and fishing habitats are protected.

# A roadmap to preserve customs, taboos, beliefs

## Policy Recommendations

Unless steps are taken to preserve and utilise indigenous knowledge, there is a risk that its role in protecting fish stocks and coastal habitats will be further eroded.

Here are recommendations from which seek to preserve the role of indigenous knowledge in the management of fish stocks and coastal habitats along the Tanzanian coast.

- There is a need to build capacity among local communities to develop, share and apply their indigenous knowledge to monitor their resources based on indigenous knowledge.
- There should be provision of alternative livelihood strategies to alleviate poverty because hunger is the major driver of the erosion of tradition and customs of coastal people.
- There should be an urgency to collect, disseminate and systematize indigenous knowledge, taking into account the specific context in which it developed and exists.
- Research and public awareness in the use of indigenous knowledge for sustainable development should be conducted, and national conferences should be prepared, in order to promote the science and art of inculcating indigenous knowledge into development.
- Indigenous knowledge innovations should be periodically disseminated to development practitioners and beneficiaries.
- In order to make indigenous knowledge in natural resource management sustainable, there should be national strategies to support the use of indigenous knowledge in natural resource management. This should include incorporating indigenous knowledge system into development programs of government and non-governmental organizations.



### Walking at low tide:

Hand collection of marine animals is typically done by women and children, who target molluscs and crustaceans during spring tides in intertidal areas.

- Before the establishment of marine reserves, government should involve local communities, particularly elder fishers, to identify their priorities and incorporate them into the management plan.
- In each coastal village, it should be mandatory to have village regulations (bylaws) based on people's beliefs and taboos governing the sustainable utilization of marine resources.
- To avoid disappearance, indigenous knowledge should be well-documented and transmitted to young generations through integration of indigenous knowledge into both formal school curriculum and formal education.

The CRTR Program is working with local stakeholders to integrate customs, taboos and beliefs with new, scientifically-based management practices.

The recording of indigenous knowledge is strengthening the technical information base which is available to marine authorities when they prepare strategies for coastal management.

## Further information

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The CRTR Program is a partnership between the Global Environment Facility, the World Bank, The University of Queensland (Australia), the United States National Oceanic and Atmospheric Administration (NOAA) and approximately 50 research institutes & other third parties around the world.

## About the Centre of Excellence

The East African Centre of Excellence, is one of four Coral Reef Targeted Research & Capacity Building for Management (CRTR) Program Centres of Excellence (CoEs) throughout the world.

The Institute of Marine Sciences, University of Dar es Salaam, which is located in the heart of Stone Town on the island of Zanzibar, off the east coast of Tanzania, is a hub for coral reef studies in the region. It provides laboratory facilities and office space for more than 25 faculty and staff.

The aims of the East African Centre of Excellence are:

1. To provide technical support to CRTR Working Groups' research and training activities.
2. To build regional capacity through:
  - graduate scholarships;
  - training workshops on regionally emerging issues; and
  - access to new expertise.
3. To undertake regionally-relevant coral reef research such as the impacts of coral bleaching, fisheries, and various environmental factors (nutrients, sedimentation, primary productivity) to coral degradation and recovery processes, and also facilitating coral reef information outreach and uptake in the Eastern Africa region.

