

Seagrass, culture, women and hard decisions: A case study from Kiribati

Rooti Tioti,¹ Owen Li² and Aurélie Delisle²

Introduction

*Destructive fishing is a term mostly used to define activities that lead to overfishing and destruction of and/or damage to marine ecosystems and environments (Veitayaki et al. 1995). Much of the existing literature addressing destructive fishing describes modern fishing methods that involve the use of explosives, poisons (e.g. cyanide), and modern fishing gear (e.g. trawl nets, monofilament gill nets, scuba or hookah) to augment traditional fishing methods (Veitayaki et al. 1995; Pet-Soede and Erdmann 1998). Discussions on destructive fishing that occurs when using traditional methods, gear and materials tend to centre on techniques that involve the physical destruction of reef habitat and corals, or the use of traditional, plant-based toxins (Veitayaki et al. 1995; McManus 1997; Pet-Soede and Erdmann 1998). In this article, we present an instance where a traditional fishing method was deemed potentially destructive to the marine environment by Tekaman villagers on the island of Tabiteuea Meang in the Republic of Kiribati. This article focuses on: explaining the use of the fishing method *te uaaakeang* in Tekaman Village; how the method impacts the marine resources of the island; and the community's views elicited during community consultations (conducted in Tekaman) by Kiribati's Ministry of Fisheries and Marine Resources Development Community Based Fisheries Management (CBFM) project in 2019 and 2020.*

Tekaman Village

Tekaman Village is located close to the end of the northern part of Tabiteuea Meang Island (or North Tabiteuea, Fig. 1). Tekaman is known as one of the villages on Tabiteuea Meang to have a high density of seagrass in the lagoon – the only habitat in which *te uaaakeang* is practiced. The proximity of dense seagrass beds, which harbour many different kinds of fish and invertebrates that the community harvests for food, is part of the reason why *te uaaakeang* is among the most used traditional fishing methods on Tabiteuea Meang Island. The method is also efficient, and requires no modern technologies or materials.

Te uaaakeang fishing method

In Kiribati, *te uaaakeang* is mostly done by women on Tabiteuea Meang, an island known for its seagrass beds. The name *uaakeang* is a combination of two words: *uaa* and *keang*. *Uaa* is a Kiribati root word for *uaakinna*, which means “to drag” and *keang* is the local name for seagrasses. Thus, *uaakeang* means: “dragging seagrasses”.

Materials used in *uaakeang* are fashioned from the fronds of coconut trees. Approximately 15 fronds from a coconut tree are processed by removing the midrib section of the whole leaf and the midrib of each leaflet (Figs. 2–7). The cleaned leaves are then joined end to end, creating a barrier approximately 30 metres long.

The method requires a group of approximately 15 women. The barrier is carried by the women and is unfolded when they reach their fishing location over the seagrass bed. Each woman holds a section of the skirt while standing close together. The group then encircles an area using the barrier before moving toward each other and closing the circle further, thereby trapping the fish within the woven barrier. Two or three women then enter the encircled area with a mat (locally known as *te inai*) that is woven from coconut palm fronds, and scoop the trapped fish into a basket or bag (Figs. 8–10).





Fig 2. Cleaned coconut leaves are torn from the rachis (main stem).



Fig 3. One coconut leaf ready for use.



Fig 4. Two cleaned coconut leaves attached with a string at one end.



Fig 5. Two cleaned coconut leaves connected to one another.



Fig 6. More coconut leaves are attached and the rolling of *te uakeang* starts.



Fig 7. *Te inai* fishing mat weaved from coconut materials.

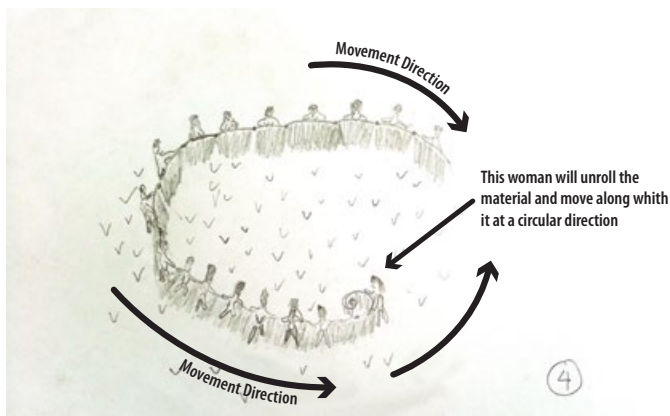


Figure 8. Step 1: Unrolling the *te uakeang* skirt.

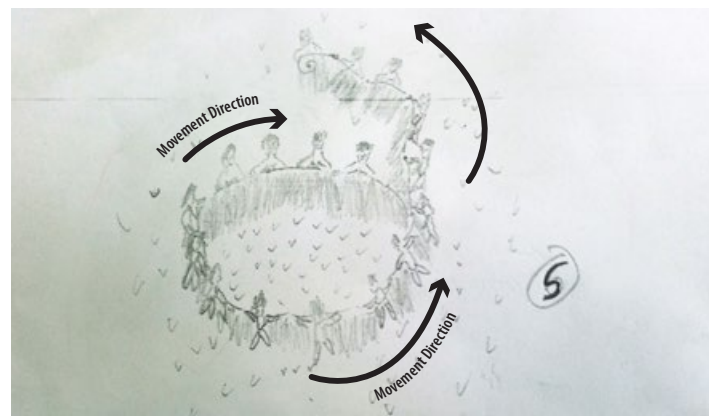


Figure 9. Step 2: Women moving closer together and closing the circle.

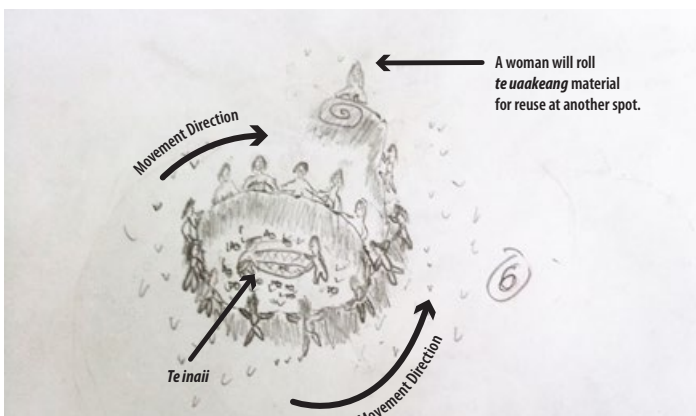


Figure 10. Step 3: Scooping the trapped fish with *te inai* and moving to another location.

Inclusion of women in the process

The village of Tekaman was visited by the Ministry of Fisheries and Marine Resources Development CBFM team under the recommendation of the Tabiteuea Meang Island Council, and the invitation made by the village itself to the CBFM project. The purpose of the visit was to develop the village's fisheries management plan, which addresses issues regarding the village's marine resources. The CBFM consultation process considered the value of gender equality and social inclusion throughout a series of meetings attended by men, women, elders and youth in the village where discussions were held (in separate groups) before a joint consultation in front of the whole community for the finalisation of the management plan. Because the cultural conventions surrounding community decision-making are hierarchical, and largely

driven by male clan heads, the representation of women was limited. Therefore, the CBFM team's first consultation under the village *mwaneaba* (Kiribati traditional meeting house) described the project objectives of inclusiveness, and made an effort to break down the barriers that cause women to be overlooked, owing to their status, by inviting them to contribute and work together as a social group. It was through the endorsement of this idea by the *mwaneaba* (also refers to the people making decisions under a village traditional house) that the CBFM team was able to invite women to participate in the community consultation. The involvement of women in this consultation was uplifting for the women of Tekaman who now felt they had a mechanism to speak and freely express their opinions, and contribute to decisions on fisheries management, rather than feeling that they needed to remain silent because of their status. The voices and arguments of the women of Tekaman were recorded by the team, and taken into account when the content for the village fisheries management plan was being finalised. The concerns and views of the women were, therefore, considered and integrated into the final village plan, and successfully informed decision-making regarding the *uaakeang* fishing method. The following sections provide details on the engagement process, points of view of different community groups, and the ultimate decision on the fishing method as a rule in the fisheries management plan.

Cultural and social impacts of *te uaakeang*

During the CBFM team's visit to the island in 2019 and 2020, the people in Tekaman Village were in conflict over their understanding of the impacts of this traditional fishing method. Some argued that *te uaakeang* was destructive to seagrass, and therefore needed to be banned. Others argued that the practice should be maintained because of its cultural importance and social contributions to the community of Tekaman.

I-Kiribati culture is changing with population growth and increased modernisation, and both are contributing factors to the disturbance of cultural ways of living and the associated methods of subsistence and sustainable living. Older members of the community were well aware of the damage that *te uaakeang* could cause, but felt the method was culturally important, and needed to be practised in a culturally appropriate way. An older woman (*umaine*) from the village stated that the use of *te uaakeang* in Tekaman might be one reason for the decline in seagrass cover in the lagoon. She continued by stating that the way people use *te uaakeang* nowadays is quite different to how it was used in the past, and that people today are abusing the method. Traditionally, women were more sensitive when walking on the seagrass. They also did not go fishing in big numbers. According to one of the oldest men (*unimwane*) from the village:

When using "te uaakeang" method, older generations tend to control the amount of fish harvested by repeating the method once or twice over a small area before turning back home. Additionally, the method is only used in times when needed such as during festivals or feasting events. Older generations knew that harvesting fish in large quantities especially, undersized fish can contribute to fish decline in the village lagoon.

The same respondent stated that the new generation is moving away from their cultural and community values, and becoming more individualistic. The interests of the individual were over-riding the interests of the community and "overfishing and ignorance to care for marine resources become part of a daily routine". He later added that, without our culture, our connection with the land and ocean will decline. As a consequence, parents and elders should have a sense of responsibility for ensuring cultural values are taught to the younger generations. The major argument here, was that *te uaakeang* is part of the community's culture, and it needs to be preserved because it is part of their story. People should, however, be more cautious and conscious when using this method as there will come a time when there is a need to use it.

Some community members also argued that *te uaakeang* is important to the social developments of women in the village. The gathering of women during their day of fishing was not only seen as important for feeding families, but also regarded as a day for women's fellowship and the sharing of stories. A woman in her late forties commented that instead of spending their day playing bingo, women were doing something important for their families. The argument here, was that the village needed to come up with a strategy for making this fishing method more sustainable and less destructive in order to avoid the loss of livelihood for women who rely on *te uaakeang* for that.

Environmental impacts and the final decision

In spite of suggestions made by elders and small groups of men and women from the village to preserve *te uaakeang*, the majority of the villagers of Tekaman decided to ban the method during the CBFM team's visit in May 2020. The main reason was that *te uaakeang* was too destructive, and it would be difficult to manage its use. In one statement from a woman who had been using this method for a long time:

...when using this method, one cannot tell the other [person] to manage their catch or to release undersized fish. Everyone is trying to collect as much as they [can] to feed their families for that day without thinking about tomorrow. Every woman in the fishing group expects to have enough share from every catch....

The same woman further stated that *te uaakeang* needed to be banned before it was too late to revive marine resources and save seagrass habitat in the village's lagoon.

The final decision to ban *te uaakeang* was made when the village's management plan was laid in front of the whole village to ensure a consensus was reached. Discussions continued about the banning of *te uaakeang*, with one strong argument made by women who had frequently used the method, stating that *te uaakeang* had been contributing to the declining health of seagrasses and fish populations in their lagoon. During the discussion, women later stated that the number of women using this method could exceed 15, which meant a greater number of people treading upon and damaging the seagrass. This argument was supported by an *unimwane* from Tekaman who said that "in every spot where

women carry out *te uakeang* fishing method, seagrasses would always be seen to be either squashed or uprooted”.

Moreover, *te uakeang* does not take into account the size limits of fish, the number of fish harvested or the impact on seagrass cover. The purpose of the method itself was deemed destructive because it aims to catch every fish trapped within the barrier, and damages seagrass beds in the process. According to a woman who had frequently used the method, the fish most commonly caught ranged between 5–10 centimetres in length. Throughout the discussion, many (mostly young people) were seen standing up, and supporting arguments citing the destructive nature of the method. The robust debate between parties that either supported or challenged *te uakeang* broadened the whole village’s understanding of the method’s impacts upon Tekaman’s marine resources. As a result, the village reached a consensus that the negative impacts of *te uakeang* currently out-weighed its benefits to the community, and should be banned until further discussion could be held on ways to properly monitor its use and impacts.

Conclusion

The CBFM team’s consultative approach enabled the people of Tekaman to have open and transparent conversations about the use of *te uakeang*, and helped the community reach a consensus regarding the technique. There were concerns that banning *te uakeang* could negatively impact the social lives of women in Tekaman Village, but the community could not see how the use of the method could be managed sustainably at present. On an island where equality is the basis of the traditional culture, the method was banned for the benefit of everyone in the village. As was seen through the consultation by the CBFM team, the whole village came to realise the importance of managing the marine resources for their people. With a new perspective, the village has agreed to reset their agenda to focus more on conserving their marine resources, particularly for the recovery of seagrasses, in order to enable fish population to regenerate. Although *te uakeang* may not seem destructive to outsiders, the process allowed the village to discuss the technique’s pros and cons during the drafting of the village management plan (among other decisions). The process also allowed for the decision to be based on input from the primary users (i.e. women) of the technique. During the implementation of the community rules, discussion between the community and the CBFM team will continue to be held about *te uakeang* to find ways to monitor its use and its impact, which could lead to a lift of the ban. However, those women who are no longer able to presently use *te uakeang* will be supported to explore more sustainable fishing activities such as net fishing using appropriately sized mesh, and gleaning. These new fishing methods are expected to be socially and environmentally friendly at the same time.

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References

- McManus J.W. 1997. Tropical marine fisheries and the future of coral reefs: A brief review with emphasis on Southeast Asia. *Coral Reefs* 16(1):S121–S127.
- Pet-Soede L. and Erdmann M. 1998. An overview and comparison of destructive fishing practices in Indonesia. *SPC Live Reef Fish Information Bulletin* 4:28–36.
- Veitayaki J., Ram-Bidesi V., Matthews E., Gibson L. and Vuki V. 1995. Overview of destructive fishing practices in the Pacific Islands region. Secretariat of the Pacific Regional Environment Programme, Reports and Studies Series no. 93.

