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Dynamite Fishing in a Marine Protected Area in Tanzania: Why Youth Perceptions Matter

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ABSTRACT

Young men in coastal Tanzania are often blamed for damaging marine habitats by engaging in unsustainable and destructive fishing practices, including dynamite fishing, but their perceptions have not been sufficiently documented. While marine scientists, international environmental NGOs, and activists have called attention to the destructive fishing practices' devastating impacts, insights into the contextual factors that motivate those who engage in dynamite fishing are limited. Additionally, risk perceptions and concerns regarding the environmental impact and dangers of dynamite fishing among the youth are also understudied. This paper provides ethnographic insights into the historical and contextual factors underlying dynamite fishing in rural coastal Mtwara. It draws on ethnographic data gathered through participant observation, focus group discussions and in-depth interviews with residents from two neighboring coastal villages – one located inside a marine protected area (MPA), and another located outside the MPA's boundary. The paper first examines the views of elderly men and women to provide the historical context of dynamite fishing in coastal Mtwara. It then juxtaposes youth perceptions regarding marine conservation and dynamite fishing in the two villages, vis-à-vis ongoing efforts to curb destructive fishing practices and to enhance marine biodiversity and ecotourism in the region. Results of the study reveal that unresolved tensions between the MPA authorities and local fishers surrounding enforcement practices and unfulfilled gear-exchange-related promises, and allegations of poor governance, are important contextual factors in the persistence of dynamite fishing. The paper concludes by articulating possible remedial measures to mitigate the tensions between youth concerns about their livelihoods, and the goals of marine biodiversity conservation as a way forward in preventing dynamite fishing.

KEYWORDS

ethnography; dynamite fishing; gender; marine biodiversity conservation; risk; Tanzania; youth

Introduction

In Tanzania, fishing with dynamite sticks or homemade explosives as a method to kill and capture marine fish is rooted in a long history of extreme poverty, petty corruption and poor law enforcement (SeaSense 2010; Braulik et al. 2015; Chevallier 2017; Katikiro and Mahenge 2016; Raycraft 2018a; Slade and Kalangahe 2015). This destructive fishing method is practiced along Tanzania's coastline around nearshore and coastal towns and villages (Braulik et al. 2017). While dynamite fishing has been reported in Tanzania

since the 1960s and made illegal since 1970, the intensity and impunity with which it has been carried out in the last few years, has led marine conservationists, activists, academics, and ordinary citizens alike to express their alarm against the practice in different forums (Samoilys and Kanyange 2008; Braulik et al. 2015; Katikiro and Mahenge 2016; Chevallier 2017; Wells 2009). The immediate and long-term destructive effects of dynamite fishing on hard coral, reef structure, and marine life are well-known (Guard and Masaiganah 1997; Fox and Caldwell 2006; Tobey and Torell 2006; Katikiro and Mahenge 2016; Braulik et al. 2017). Dynamite fishing can result in serious physical injuries and it often invites social disapproval and public condemnation (Samoilys and Kanyange 2008; Katikiro and Mahenge 2016). Beyond these proximate environmental and individual-level impacts, dynamite fishing, along with other destructive fishing methods, can have deleterious impacts on the artisanal fishing industry, tourism industry and the larger economy.

There are differing views on why dynamite fishing is practiced in Tanzania, considering that it does not exist in Kenya or Mozambique (Samoilys and Kanyange 2008; Chevallier 2017). Local poverty, inconsistent law enforcement, the politics of patronage, organized criminal gangs, and petty corruption are frequently cited as the primary reasons for the persistence of dynamite fishing in Tanzania, even when various preventative and punitive measure have been implemented in the country for decades (UNEP 1989; Darwall et al. 1996; Guard and Masaiganah 1997; Walley 2004; Wagner 2004; Silva 2006; Samoilys and Kayange 2008; Wells 2009; Cinner 2010; Raycraft 2018b). More specifically, three decades ago, Guard and Masaiganah (1997: 758) asserted that the problem of dynamite fishing in Tanzania is “underpinned by ineffective law enforcement, inadequate legislation, insufficient regulation of dynamite supplies and a prevailing opinion that corruption will prevent any effective action being taken.” A decade later, Wells (2009) observed that the dynamiters, mostly young, unemployed males, are able to continue with their destructive fishing practices without consequences because of the protection and patronage they enjoy from influential leaders and well-placed community members. This “often obstructs enforcement efforts, and there are numerous examples of arrested culprits not being effectively prosecuted, receiving light fines or charges being dropped” (Wells 2009: 21–22; see also Machumu and Yakupitiyage 2013: 377). Thus, dynamite fishing in Tanzania remains a problem because of its entanglements with other systemic and historical problems facing the country, including structural inequalities and the political and social marginalization of certain social and ethnic groups within the country (Walley 2004).

Previous attempts to stop dynamite fishing along Tanzania’s coastline, particularly in the mid-1990s when it was rampant, were successful, albeit briefly. At the time, it was alleged that unscrupulous businessmen and politically influential people in Dar es Salaam patronized and funded dynamite fishers especially along the coastal towns and villages of Tanga, Dar es Salaam, and the Lindi-Mtwara region (Samoilys and Kanyange 2008; Wells 2009: 22). In the 1990s, buoyed by funding from international donors, the Government of Tanzania pursued an aggressive campaign known as Operation Pono (parrotfish) to stop dynamite fishing, involving the Tanzanian Navy, Marine Police, and the Prime Minister’s office (Darwall and Guard 2000; Wells 2009: 22; Katikiro, Macusi and Deepananda 2013: 10; see also Katikiro and Mahenge 2016: 2). The interventions

were temporarily effective, leading some activists to conclude that dynamiting was no longer a problem on Tanzania's southern coast (Wells 2009: 22). However, by 2008, declining fish catches had increased the prices for fish significantly, which in turn had triggered the resurgence of dynamite fishing in the coastal villages of the Mtwara region. As many fishers were unable to use their traditional gear to take advantage of the high market prices for fish, some fishers returned to older destructive fishing methods (Katikiro, Macusi and Deepananda 2013: 101). More recently, Katikiro and Mahenge (2016: 11) have observed that "A lack of political will and strong socio-cultural patterns such as kinship and family relations in coastal areas seem to have influenced a high tolerance of destructive fishing activities and promoted low national attention." In addition to the increasing market prices for fish, relaxed preventative interventions such as the withdrawal of the Navy and the Marine Police in 2004 from actively monitoring the use of dynamites for fishing, and a combination of other political, socio-economic, cultural and contextual factors contributed to the resurgence of dynamite fishing in the Mtwara region.

This paper examines local perspectives on various aspects of dynamite fishing in the fishing villages of rural Mtwara. It ascertains people's awareness of the risks involved in dynamite fishing, its destructive impacts on the marine environment, coral reefs, fish abundance, and their livelihoods in general, and their explanations for why it persists despite the Tanzanian government's repeated efforts to stop the practice. In order to shed light on the historical context of dynamite fishing in rural Mtwara, I first present the views elicited from older men and women, including village leaders, on dynamite fishing, before focusing on the youth perspectives on dynamite fishing in some depth. The goal is to ethnographically document and analyze local perspectives and articulate potential remedial measures to mitigate some of the unresolved problems as a way forward in permanently ending the practice of dynamite fishing.

In the following sections, I first describe the research setting and the methodology used to gather the ethnographic data on dynamite fishing in the rural coastal Mtwara region, with the Mnazi Bay-Ruvuma Estuary Marine Park (MBREMP), Tanzania's second marine park, and other large development projects constituting the background. I then present the ethnographic data consisting mostly of narrative segments from focus group discussions with a small sample of 24 elderly participants (to obtain historical depth), and in-depth interviews with 60 young men and women in two study villages. This is followed by analysis and discussion of the data in which I examine the wider implications of how the youth in particular in rural Mtwara understand and interpret dynamite fishing. I conclude by proposing important contextual considerations for those involved in the actual implementation of efforts to eliminate dynamite fishing altogether in the Lindi and Mtwara regions, and along Tanzania's coast.

Research setting and methods

I conducted fieldwork in a sample of villages inside the MBREMP's catchment area. The MBREMP is located in Mtwara rural district on Tanzania's southern border with Mozambique (see map). The park was gazetted in 2000 to protect marine biodiversity, prevent destructive fishing practices, and promote ecotourism in the region. It has a



Map 1. Map of Tanzania showing location of the study site. Source: Google Map.

catchment area of approximately 650 km² of which 430 km² is sea and 220 km² is land. It covers 45 km of coast, including coral reefs, sand dunes, mangroves, wetlands, coastal lagoons, three main islands, the Ruvuma River estuary, and 23 villages with a total population of around 45,000. The MBREMP is designated as a multi-use marine protected area (MPA) and allows for local fishers to access marine resources within designated zones. Activities prohibited inside the MBREMP include dynamite fishing, use of beach seine nets, monofilament nets, mangrove cutting for commercial sale, mining of live coral, and poaching of turtles or turtle eggs. The park's general management plan includes the ideal of "collaborative management through community participation" as one of its key highlights, but in reality, the MPA is described as a "bulldozer style state-led conservation" (Mwanjela and Lokina 2016: 152).

I became interested in why fishers engage in dynamite fishing after I witnessed loud explosions in the shallow waters of Msangamkuu village, during one afternoon in August 2012. The Village Executive Officer who was accompanying me at the time, explained to me that, despite the MPA, dynamite fishing was common in the region. I conducted preliminary fieldwork on dynamite fishing in July and August of 2013. I took field notes on my observations and interactions with local villagers, followed by intensive fieldwork and data collection activities in a sample of six coastal fishing villages during the subsequent years (2014–2017). The data that form the basis of this paper were gathered in 2013 and 2014 in two of the study villages – Mkubiru and Sinde, where I had previously conducted fieldwork.

I conducted additional interviews and FGDs in the study villages in September 2016 and August 2017. These two neighboring villages have been directly affected by a major infrastructure development project – the Mtwara Development Corridor (farmlands and trees lost to the expansion of the Mtwara port), the MBREMP (restrictions on fishing and harvesting of marine resources), and loss of farmland to rural electrification projects. Mkubiru and Sinde are located approximately five kilometers apart: a 10-minute motorbike ride or hour-long walking distance along the coastline.

Mkubiru is a mid-sized oceanfront village located on the North East side of the Mtwara Bay. It has a total of 460 households (*kaya*) and a population of 1,540. It is one of 23 villages that come under the MBREMP's 650 km² catchment area. Every household in Mkubiru is directly or indirectly engaged in fishing, including women who glean (*kuchokoa*) on the beach for shellfish and intertidal invertebrates. Most of the households also engage in some subsistence farming activities to meet their food security needs.

Sinde, by comparison, is a relatively large, spread-out village with a total of 938 households and a population of around 4,000. It lies just outside of the MBREMP's catchment area/boundary. The village is located about 10-minutes walking distance inland from the beach. A paved road connects Sinde to the ferry terminal, where the motorized ferry links with Mtwara town on the mainland. Although a significant number of households in Sinde are also directly or indirectly dependent on the ocean/fishery for their livelihood, Sinde's relative proximity and accessibility to Mtwara town has made it a more occupationally diverse village.

Notwithstanding the overall different profiles of the two villages, they are well-connected through a shared social history, strong family connections and everyday social exchanges. Nearly all the residents of the two villages are followers of Islam; a very small minority are Christians. Most of them self-identify as belonging to the Makonde ethnic group and speak both Kiswahili and Kimakonde. Further, a significant number of the households in both villages live in poverty and experience food insecurity during most of the year (Kamat and Kinshella 2018). Many households have lost their ancestral farmlands to the Tanzania Port Authority and are overdependent on the ocean for their food security and livelihoods. Neither Sinde nor Mkubiru were connected to the electricity grid till August 2017. Finally, educational levels in Sinde are marginally better than in Mkubiru, but only a small number of individuals in either of the two villages have studied beyond primary school education.

The main goal of this study was to document everyday discourses on dynamite fishing through interviews and discussions with fishers and non-fishers. More specifically, it sought to elicit the perspectives of young men and women in the age range of 18 to 28 on dynamite fishing to understand why it is practiced in the coastal Mtwara region despite the MBREMP's presence and the government's long-standing ban on unsustainable, destructive fishing practices. Although it is invariably men who tend to engage in dynamite fishing, women also indirectly partake in it. They do so as family members, wives or partners of fishers who engage in dynamite fishing, and as those who justify, condone, or condemn the practice in their everyday discourse. Women also buy fish caught by dynamite fishers and sell it through kiosks, food stalls and at the fish market in Mtwara town, and hence were included in the study as research participants.

Table 1. Background characteristics of the youth participants.

	Men <i>n</i> = 30	Women <i>n</i> = 30	Totals and % <i>n</i> = 60
Age			
18-20 (1993-1995)	5 (16.66%)	7 (23.33%)	12 (20%)
21-23 (1990-1992)	7 (23.33%)	3 (10%)	10 (16.66%)
24-27 (1987-1989)	18 (60%)	20 (66.66%)	38 (66.33%)
Place where born and raised			
Born and raised in Sinde	8 (26.66%)	13 (43.33%)	21 (35%)
Born and raised in Mkubiru	10 (33.33%)	7 (23.33%)	17 (28.33%)
Other village on the Mtwara peninsula	12 (40%)	10 (33.33%)	22 (36.66%)
Marital Status			
Married	12 (40%)	25 (83.33%)	37 (61.66%)
Not Married	17 (56.66%)	4 (13.33%)	21 (35%)
Divorced	1 (3.33%)	1 (3.33%)	2 (3.33%)
Children			
Yes	9 (30%)	23 (76.66%)	32 (53.33%)
No	21 (70%)	7 (23.33%)	28 (46.66%)
Number of children			
0	4 (13.33%)	4 (13.33%)	7 (11.66%)
1	8 (26.66%)	15 (50%)	23 (38.33%)
2	0	7 (23.33%)	7 (11.66%)
3+	0	1 (3.33%)	1 (1.66%)
N/A = Not married	18 (60%)	3 (10%)	22 (36.66%)
Educational Attainment			
Never Attended School	2 (6.66%)	2 (6.66%)	4 (6.66%)
Completed Primary School	17 (56.66%)	16 (53.33%)	33 (55%)
Completed Secondary School	2 (6.66%)	3 (6.66%)	5 (8.33%)
Beyond Secondary School	9 (30%)	9 (30%)	18 (30%)

Before conducting in-depth interviews with a sample of randomly selected youth (fishers and non-fishers) in the two villages (see Table 1), I conducted four focus group discussions (FGDs) with a sample of older residents (ages 55 and above) in the study villages – two FGDs with six men in each and two FGDs with six women in each – a total of 12 men and 12 women. To reiterate, the main purpose behind conducting FGDs with older men and women (fishers and non-fishers), before conducting in-depth interviews with the youth, was to obtain a broader historical perspective (oral history, cultural memory) on marine conservation and dynamite fishing in the region. Following the FGDs, I interviewed an equal number of young men and young women in the same age category on the subject of marine conservation, livelihoods, dynamite fishing and related topics, including 15 young men and 15 young women from Sinde village, and an equal number from Mkubiru village, totaling to 30 young men and 30 young women. These 60 in-depth youth interviews were conducted with the help of a male and a female research assistant. Both had assisted me with my fieldwork in the study villages during the previous years. In order to link the key questions surrounding dynamite fishing within the broader context, research participants were asked questions on three broad topics: a) their perceptions of the changes and social transformation taking place in the rural Mtwara peninsula; b) their concerns regarding their livelihoods and disposition toward outmigration – that is, their desire and willingness to migrate elsewhere in Tanzania; and c) dynamite fishing on the peninsula in the context of the implementation of the MBREMP, and the restrictions and enforcement that followed.

All FGDs and interviews were recorded on a digital audio-recorder with the study participants' prior permission. The recordings were first transcribed verbatim in Kiswahili with the help of a research assistant. The transcribed audio-recorded material

resulted in hundreds of pages of ethnographically rich textual data. Two research assistants verified the accuracy of the transcriptions against the original recordings. The author then read the transcripts and the associated fieldnotes to identify patterns relevant to the open-ended questions that were asked. Based on the patterns noted during the iterative process of reading the transcripts from the FGDs and interviews, multiple times, the author and two research assistants identified key phrases and segments, which were highlighted, extracted and translated into English for emergent analysis. Topical and thematic (in vivo) codes were applied, following a word search, for example, dynamite (*baruti, bomu*), greed (*tamaa*), danger/risk (*hatari*), benefit (*faida*), youth (*vijana*) migration (*kuhama*), employment (*ajira*), food security (*usalama wa chakula*) environment (*mazingira*), to do a close analysis of the transcripts of interviews and FGDs. The data were analyzed using an inductive approach (Strauss and Corbin 1990; Bernard 2006). Representative quotes (exemplars) have been included in this paper to illuminate key points. Numerical data pertaining to the study participants' background profile and their thoughts on out-migration were processed using Microsoft Excel and IBM-SPSS Statistics 24 to generate frequency tables.

Denial and deflection: Everyday discourse on dynamite fishing

During fieldwork in the coastal villages on the rural Mtwara peninsula, nearly everyone I inquired about dynamite fishing, emphatically stated that they did not personally engage in it. A small number of individuals who admitted that they had indeed engaged in dynamite fishing were quick to add: "But that was a long time ago." One elderly individual described how easy it was for him to get access to the dynamite sticks that were being used to blast rocks when the Mtwara port was being built in the 1950s. Another elderly resident recalled the first time he heard a dynamite explosion in the ocean; he was a 12-year-old school-going child. An elderly resident from Mkubiru even boasted about the big fortune he had made by indulging in dynamite fishing in the past. He dismissed the idea that dynamite fishers (*upigaji wa baruti*) of today were able to catch large volumes of fish and make a lot of money because, as he said: "There are no fish left in the ocean. Those who use dynamites, just get enough fish to feed themselves." Two others narrated in detail some horrific accidents involving loss of limbs that had forced them to give up dynamite fishing and pursue a different occupation altogether. They added that the people who still engage in dynamite fishing were irresponsible fishers from other coastal villages and migrant fishers from distant places. One male participant in a FGD, insisted that he was telling the truth when he said that he did not know anyone in his village who was using bombs (*mabomu*) for fishing. He claimed: "People in this village simply do not have the means or tools to make homemade bottle bombs." He then went on to state that people from other villages such as Nalingu, Mnazi, Mnete and Msangamkuu were using homemade bottle bombs for fishing.

Such statements of denial and deflection were common in everyday discourse and formal interviews across all age groups. According to most of the older study participants, dynamite fishers were always from some other place; never their own village. In making such statements, they named other villages on the Mtwara peninsula where residents allegedly tolerated or even engaged in dynamite fishing. The villager leaders I

spoke to often expressed frustration with their inability to stop dynamite fishers. In doing so, they blamed the MBREMP authorities for not doing enough to put an end to destructive fishing practices and promoting ecotourism in the region. They pointed to the fact that the village government did not have a boat that was powerful enough to chase and apprehend dynamite fishers. Whereas, the MBREMP personnel had two powerful boats at their disposal, but rarely used them to apprehend dynamite fishers. As one FGD participant stated: “They come two hours after someone has complained to them. By then the dynamite fishers have already finished their job and gone.” One older female FGD participant explained how when concerned villagers make a phone call to tell the MBREMP authorities that illegal fishing is going on, they are told that MBREMP authorities would not be able to do anything about it because they do not have the fuel for the speed boats. As she put it: “We have not seen the Marine Park people chase and catch a single person who has engaged in dynamite fishing, so we think that they are just playing a game. They are really not interested in doing anything to stop this problem.” In other words, according to this participant, dynamite fishing in the fishing grounds of her village was prevalent because of a deceptive game in which the MBREMP personnel want the villagers to believe that they are there to protect the ocean from poachers and dynamite fishers. In reality, they find excuses (e.g. no fuel for their speed boats) to justify their inability to apprehend those who violate the MBREMP’s restrictions, particularly those who engage in dynamite fishing. While budgetary limitations on the MBREMP may partly explain the “fuel shortage” situation, from the villagers’ standpoint, it was a poor excuse for corruption and incompetence.

In addition to the fact that the village government did not have access to a high-powered boat, and the authority to apprehend dynamite fishers, village leaders were also wary of dynamite fishers because they carry explosives, knives, and potentially acid as a deterrent to those who might try to prevent them from carrying out their activities (see Katikiro and Mahenge 2016: 7). Crucially, in this discourse, villagers blamed the MBREMP personnel for being disingenuous, corrupt, and unworthy of their official mandate to stop dynamite fishing.

Other older FGD participants expressed their frustrations with the futility of expecting Marine Park rangers or police officers to apprehend and punish those who are caught red-handed engaging in destructive fishing activities. One FGD participant stressed that even when dynamite fishers (*wavuvi haramu*) are caught red-handed and taken to the police station, no action is taken against them. He asserted that he did not know of a single dynamite fisher who was caught, sentenced and imprisoned for dynamite fishing. He said:

May be “those at the top” [i.e., Marine Park enforcement officers] are actually supplying them with the dynamites and looking the other way. The Marine Park people are corrupt and the police are also corrupt. That’s why the dynamite fishers are back in the ocean the very next day after they have been apprehended. They continue to use their bombs for fishing. So, if dynamite fishing is still going on in this area, it’s because of the government’s negligence (*uzembe wa serekali*).

Here, the narrator alludes to institution-level petty corruption, and more generally to the government’s negligence or lack of seriousness in wanting to put an end to dynamite fishing, as key factors in its persistence.

Overall, older study participants who earned their livelihoods directly or indirectly through fishing vehemently denied that they or anyone from their respective villages were involved in dynamite fishing. At the same time, they acknowledged that dynamite fishing was still a problem in their fishing grounds. They commonly blamed the MBREMP personnel's incompetence in clamping down the problem. It should be noted that their condemnation of the MBREMP was part of a long-standing opposition and on-going narratives of subjugation related to the processes of displacement, dispossession, violence and social marginalization in the coastal villages (Kamat 2014; Kamat 2018). On May 23, 2013, for example, disgruntled individual(s) destroyed the newly-furnished WWF-funded MBREMP's gatehouse office in Msimbati village, with dynamite (see Raycraft 2019: 12).

Awareness of the dangers of dynamite fishing

Villagers of different age groups were remarkably aware of the destructive impacts of dynamite fishing on the marine environment. A local NGO's activities and MBREMP's anti-dynamite fishing poster campaign on the Mtwara peninsula (see Katikiro 2014) had certainly increased people's awareness regarding the destructive impacts of dynamite fishing on the marine environment. Moreover, stories of dynamite-fishing-related injuries and deaths, and the MBREMP's patrolling activities, were a staple of everyday conversations. The youth in particular who participated in this study were fully aware that dynamite fishing can do irreparable damage to the marine environment. The following response from a 23-year-old youth from Sinde was typical of youths who were asked to explain why they do or do not consider dynamite fishing as *haram* (forbidden, unacceptable):

Dynamite fishing is dangerous and destructive because it destroys the corals (*kunavunjwa mawe*) where the fish lay their eggs and breed, and the corals cannot grow back, they just become sand [...] Now the fish are going to distant places to lay their eggs; they are searching for distant places because their homes here have been destroyed by those who have been tossing dynamites into the water to catch fish.

In the above quotation, the respondent indicates his awareness of the widely-shared local knowledge that fish live and reproduce in the corals (*nyumba ya samaki* – the homes of fish), and that blasts from dynamite sticks or homemade bottle bombs destroy the corals and the fish that use them as their homes and nurseries. The respondent also draws a direct connection between dynamite fishing and the depletion of fish in the ocean.

Similarly, a 25-year-old youth from Mkubiru expressed his concerns regarding dynamite fishing:

Yes, you get a lot of fish, but because you destroy their homes (*mazalia ya samaki*), they don't reproduce. After a year, you hardly get any fish there if you go fishing, so it's a big loss, you get just rubble (*unakuta ni changalawe*).

As with the previous respondent, this respondent also expresses his awareness of the destructive impact of dynamite fishing on marine life, and the resultant depletion of fish.

Finally, in explaining his awareness of the dangers of dynamite fishing, a 23-year-old youth from Mkubiru said:

There are no benefits of dynamite fishing, and I don't engage in it. Only three days ago, we heard that someone was fishing with dynamites and something went wrong and he died in Msangamkuu. We heard that the lit dynamite fell inside the boat and it was blown to bits. So how can I say that dynamite fishing is good when I hear that people have died while engaging in it?

In the above quotation, the respondent's rhetorical question is meant to not only demonstrate his awareness of the physical risks and dangers of dynamite fishing, but also to make it explicit that he does not engage in or support dynamite fishing. In sum, most of the youths who participated in this study, were explicitly aware of the dangers of dynamite fishing – its potential to cause physical harm and the destructive impact it can have on the marine environment and marine life. And yet, as will be discussed in the following section, their awareness of the destructive impacts of dynamite fishing on the marine environment did not necessarily translate into actions they would take to halt the practice in their fishing grounds.

Why young men engage in dynamite fishing

Nearly all the youths who participated in this study acknowledged that it was mainly but not exclusively young men who engage in dynamite fishing. They gave different explanations for why this was the case. One 24-year-old youth from Mkubiru explained:

Young people are strong, and they are also greedy (*wana tamaa*). They have more strength and stamina than older men ... young people can swim for much longer under water to look for fish. Yes, the youth who engage in dynamite fishing are greedy, they are desperate, they are different from those who go fishing with traditional nets. They know that its dangerous work, but some youth continue to engage in it because they can go fishing with homemade bottle bombs, and come back with their boats filled with fish, and that too in a short time.

In the above narrative segment, the narrator emphasizes greed and youthful desires as key factors that prompt young men to engage in dynamite fishing. In everyday conversation, people in the study villages commonly used the notion of greed (*tamaa*) to describe someone who they believed is being short-sighted, irresponsible and inconsiderate. A person with *tamaa* pursues immediate material desires such as seeking out money to build a new house or buy a motorcycle (*piki piki*) to earn a more regular cash income by operating a motorbike taxi (*boda boda*). It is not just youthful strength that makes it possible for young men to engage in dynamite fishing, but also their desire to earn substantial amounts of money in the shortest time possible and move away from fishing as their primary source of livelihood. Doing so invariably involves taking life-threatening physical risks (harm, drowning, being apprehended and threatened by the authorities) and social risks (reputation, disapproval from community members, public condemnation by villagers/fishers). Although most of the study participants agreed that dynamite fishing was a dangerous, illegal (*haram*), and environmentally unsustainable method of fishing, they emphasized that unless drastic measures were implemented, it was inevitable that some young fishers will continue to engage in it, because of their *tamaa*.

One 28-year-old youth, from Sinde village, characterized the youth in the coastal region as being primarily interested in their individual economic development (*maendeleo ya mtu binafsi*). Those who engaged in dynamite fishing, he said, did so to get a lot of fish in the shortest time possible with the least amount of effort, thus increasing their earnings. However, he was quick to emphasize that not every young individual in the coastal villages will engage in dynamite fishing, no matter how hard their lives are, or how attractive the immediate economic returns from blast fishing may be. Dynamite fishing, after all, is *haram*.

A 23-year-old youth from Sinde, gave the following explanation for why it is mainly the youth who engage in dynamite fishing:

It's quick work; quick money. They can finish their work a lot faster than fishers who engage in conventional fishing with nets and handlines. You see, fishers like me who use nets, can only set the nets and make a guess that there are fish down there, and they'll get caught in the net, but you're just trying your luck (*unabahatisha*), there's no guarantee. But those who use dynamites, they don't just guess, they dive deep down to make sure that there are enough fish below before tossing the bomb.

In this participant's view, those who fish with traditional nets have to live with uncertainty and luck in being able to catch fish. In contrast, those who engage in dynamite fishing find it an attractive fishing method because of the certainty with which they can catch a lot of fish in a short time. As the participant suggests, dynamite fishing is quick work, and quick money. In other words, for those who engage in this illegal activity, prospects of quick economic returns eclipse concerns for the long-term social and ecological consequences of destructive fishing.

According to one 25-year-old fisher from Mkubiru, the main reason why dynamite fishing has continued, albeit in an abated form, is because of the MBREMP's heavy-handedness. "What they have done to us is unjust (*wameisha tudhulmu*). They have wronged us (*wanatudhulmu*)" he said. He claimed that some people were deliberately using dynamite to destroy the coral reefs (*watu wakaona bora kwa kuwa ndivyo hivo wakaamua wakavunje mawe*) because they were angry with the Marine Park personnel for harassing them for violating the regulations, confiscating their traditional fishing gear, and failing to replace them with legal nets as promised. Dynamiting of coral reefs has become an act of defiance against the Marine Park rangers' heavy-handedness. Some of the young women who participated in this study also rationalized and justified dynamite fishing. They blamed the MBREMP for alienating their men and leaving them with no better option than to use homemade bottle bombs to capture fish. A 27-year-old mother of three young children from Sinde village, whose husband was a fisher, explained:

The Marine Park people have taken away our nets and burned them. They had said that they would come back with free legal nets in two or three days, but a year has passed and they have brought us nothing. They have not fulfilled their promise. So what are we supposed to do? Our lives are dependent on the ocean, so without our boats and nets, we'll just die. People have returned to dynamite fishing because of hunger; the Marine Park people should have given us the boats and nets they had promised.

In addition to the allegation that the Marine Park officials were to be blamed for the resurgence and escalation of dynamite fishing in her coastal village, this narrator accuses them of leaving the fishers and their families without the legal means to catch fish for

Table 2. Responses of youth participants to questions about their quality of life compared to five or more years ago.

Whether life is good	Men	Women	Total
My life is better (<i>Maisha yangu mazuri</i>)	6 (20%)	6 (20%)	12 (20%)
My life is harder (<i>Maisha yangu magumu</i>)	14 (46.66%)	16 (53.33%)	30 (50%)
My life is just the same (<i>Maisha yangu iko sawa sawa tu</i>)	10 (33.33%)	8 (26.66%)	18 (30%)
Total	30	30	60

their subsistence. In her view, if the Marine Park people had fulfilled their promise of providing the local fishers with larger boats and legal nets, people would not have returned to dynamite fishing. She uses hunger as a metaphor for lack of alternative livelihood opportunities and legal fishing gear that is driving some of the youths to return to this illegal activity.

Similarly, a 24-year-old fisher from Mkubiru explained why he believed that the youth in his coastal region continue to engage in dynamite fishing, despite knowing that the government has banned the practice:

After the Marine Park people confiscated our nets and dugout canoes, we lost our ability to fish in the ocean with nets and other traps (*mitigo*), so some fishers have resorted to dynamite fishing... they don't have other tools or fishing gear, and because there are very few employment opportunities here, they continue to resort to dynamite fishing. It is unlikely that this practice will stop because the only tools they have for fishing are homemade bottle bombs.

In the above quotation, the narrator does not believe that the youth will stop engaging in dynamite fishing anytime soon. He attributes his pessimism to the fact that the Marine Park personnel have confiscated illegal fishing gear, and not replaced them with legal gear in exchange as promised. Consequently, the youths, who have few other alternative income earning opportunities, have resorted to dynamite fishing. It is important to note that at the time of data collection, participants rarely mentioned fear of being apprehended by the marine police or the marine park rangers as a deterrent to dynamite fishing. In one of the study villages, during the course of my data collection in 2014, police officers showed up late in the evening and took away six young men suspected of storing material commonly used for making homemade bottle bombs/dynamites, for interrogation. I learned that they were released the next day with only a warning.

Finally, in the wake of the MBREMP's restrictions and the depletion of marine resources, the youth were asked to compare their current life with their life five or more years ago, and comment on whether it has improved, remained the same, or has become harder than it was few years ago.

As the data in Table 2 indicate, for the majority of the youths who participated in this study, life was harder, as compared to five or more years ago, regardless of their gender. Only a relatively small number (20%) of the participants described their life as better now than in the past (> five years ago). Thus, there is little evidence to show that the MBREMP's goal of conserving biodiversity while also promoting ecotourism and employment opportunities in rural Mtwara, has been realized (see also Katikiro 2014).

Regardless of their response to the question whether life was better, all the youth participants were asked whether they would like to migrate elsewhere, given that they had very limited employment and income earning opportunities available in rural Mtwara.

Table 3. Whether youth participant has the desire to migrate elsewhere out of Mtwara.

Desire to migrate elsewhere	Men	Women	Total
Yes	20 (66.66%)	12 (40%)	32 (53.33%)
No	9 (30%)	15 (50%)	24 (40%)
Unsure	1 (3.33%)	3 (10%)	4 (6.66%)
	30	30	60

As the data in Table 3 reveal, more than half of the respondents – 3/4th of the male youth and 40% of the female youth who participated in this study expressed their desire to migrate elsewhere, mainly in search of a better life with alternative employment opportunities. Notwithstanding this, many of them qualified their responses by saying that although they were keen to migrate elsewhere, they were constrained by their commitments to family members. Some expressed that they were also worried that migrating elsewhere is risky, and that their lives could go from bad to worse if they failed to find employment elsewhere.

Discussion

Extreme local poverty, economic motivations, the easy availability of explosives, organized criminal gangs, ineffective law enforcement, and petty corruption, are among the most frequently cited reasons that enable dynamite fishing along Tanzania's coastline to continue (Slade and Kalangahe 2015; Braulik et al. 2017). In rural coastal Mtwara, findings of this study suggest that in addition to the known factors listed above, the MBREMP's inconsistent enforcement practices, and its renegeing on its gear exchange/distribution promises, are key factors that have contributed to the persistence of dynamite fishing in the region. Study participants frequently accused Marine Park personnel for depriving fishers of their traditional fishing gear, threatening physical violence against fishers, and engaging in petty corruption. Rumored allegations of corruption in the domain of marine conservation and sustainable fishing are common in Tanzania (Somolys and Kanyange 2008). In her ethnography of the Mafia Island Marine Park, for example, Walley (2004: 35) reports of "explicit charges that government officials were accepting bribes to ignore dynamiting or were even cooperating (*wanashirikiana*) with the dynamiters." More recently, in the audit published by the Government of Tanzania's National Audit Office (March 2018) the Controller and Audit General states:

"According to parks officials, there were breaches of patrol confidentiality such that when surveillance plans are made and patrols are planned somehow culprits were able to find prior information. This resulted in failing to capture them in action and, in most cases they fled and abandoned their gears." (p26)

Researchers have also documented similar allegations of corruption and incompetence across the African continent (Cross 2016) and throughout southeast Asia (Fabinyi, Foale and Macintyre 2015).

The overall disposition, sentiments and grievances of those living inside the MBREMP's boundary and those outside it, were remarkably similar. Arguably, the MBREMP's aggressive enforcement practices during its early years have been inscribed in the collective memory of the people of rural coastal Mtwara. The continuation of

dynamite fishing therefore represents, at least partially, a deliberate act of defiance against state domination and repression. Nonfulfillment of the promised gear exchange program and alternative livelihood programs in the coastal villages inside the MBREMP's catchment area (Katikiro 2016) has further exacerbated the mistrust and antagonism that has lingered for several years between the MPA authorities and the villagers.

Even if the MBREMP were to eventually fulfill its promise of providing fishers in its catchment villages with legal fishing gear, there is no guarantee that a gear exchange program will effectively end dynamite fishing in the MPA's catchment area. Such a gesture would a) likely have no impact on migrant fishers and those from outside the MPA's boundary, who are not invested in the local communities and are likely to maximize their fishing activities, regardless of their impact on the environment; and b) be unlikely to dissuade fishers who are willing to take the physical and social risk of resorting to dynamite fishing as a rapid exit strategy from fishing, which is considered a low status occupation. Ultimately, a key desire among the youth of rural Mtwara to own and operate a *boda boda* and enable them to move away from fishing is unlikely to disappear anytime soon. Moreover, as of this writing, voluntary outmigration for the majority of the youth in the coastal villages is not an imminent option.

The failure of multiple interventions implemented over several decades to stop dynamite fishing along Tanzania's coastline underscores the complexity of the problem. It speaks to the need for a deeper, contextualized understanding of why those who engage in dynamite fishing or support it do so, despite their awareness of its destructive effects on marine life and fishing communities, and the physical and social risks associated with it. Local poverty and lack of alternative employment opportunities have been implicated in the persistence of dynamite fishing in Tanzania. However, there is insufficient data to explain why dynamite fishing is rare or absent in other contexts and countries (e.g., Somalia, Kenya and Mozambique) where coastal communities are also desperately poor, and where alternative employment opportunities are also limited. There is extreme poverty and petty corruption all along the East African coast, yet Tanzania is the only country in Africa where, at least until recently, dynamite fishing has continued unabated (Slade and Kalangahe 2015; Braulik et al. 2017; Chevallier 2017). In other words, there is more to finding out and explaining why people in Tanzania engage in dynamite fishing, than summarily attributing it to the prevalence of extreme poverty, unemployment, economic motivations, easy availability of explosives, criminal gangs and corruption.

The Tanzanian government's decision to use marine parks/MPAs and marine reserves as one tool to conserve biodiversity and prevent destructive fishing practices, has been successful in some situations, but not in others (cf. Walley 2004; Mwaipopo 2008; Katikiro and Mahenge 2016). The intensity and frequency with which dynamite fishing is carried out has varied over the years, with hundreds of blasts recorded daily all along Tanzania's coastline (Braulik et al. 2017). In the present case, none of the study participants acknowledged their own involvement in dynamite fishing. Yet, they all acknowledged that it is mostly young men from coastal villages and migrant fishers from distant places, who use homemade bombs to kill and capture fish inside the MBREMP's catchment area.

All the research participants were fully aware of the dangers of dynamite fishing for the marine environment and marine life. They described how explosives destroy the coral reefs where fish live, seek refuge and reproduce. They spoke of how dynamite fishing threatens the fishers' physical safety and the fishing community's food security. They were aware that dynamite fishing was illegal (*haram*) and a punishable offense. Yet they were resigned to the inevitability that fishers will continue to engage in it for various reasons – their income poverty, overdependence on the ocean as the primary source of their livelihood, no access to legal fishing gear, inability to find alternative income earning opportunities, and youthful desires or greed (*tamaa*) that prompt many to resort to dynamite fishing. Several of the study participants repeatedly emphasized in their interviews that it was the MBREMP's unfair restrictions, confiscations, physical threats and unfulfilled promises that were provoking some villagers to return or resort to dynamite fishing. In their perception, dynamite fishing in rural coastal Mtwara persists not only because of extreme poverty and the desires and aspirations of the youth to make some quick money and invest it in non-fishing occupation (such as a *boda boda* motorbike), but also because of the government's and Marine Park rangers' inability to deal with the problem seriously and consistently and meet their obligations to provide fishers with legal fishing gear through gear exchange programs.

As numerous studies have documented, the MBREMP was beset by mistrust, local conflict and violent opposition since its inception. Therefore, a history of physical violence and “bottom-up resistance” in response to local people's opposition to the MBREMP cannot be overlooked (cf: Kamat 2018; Raycraft 2019). As Guard and Masaiganah (1997: 761) asserted during the peak of Operation Pono in the 1990s, “To put an end to the problem requires not small token gestures such as occasional dynamite patrols but a complete rethink of the situation and the development of an effective strategy encompassing wide ranging action.” I argue that three decades later, such a rethink in the present context still demands, among other interventions, the need to incorporate ethnographic insights from the micropolitics of everyday life in coastal communities, into policy discussions. More specifically, it calls attention to the need to pay heed to the perspectives and concerns of youths – i.e., those who allegedly engage in dynamite fishing the most. As Katikiro and Mahenge (2016: 2–3) have rightly said: “Halting dynamite [sic] will require more comprehensive information, based on the perceptions and roles of fishers in these widespread dynamite-fishing activities, and support from government and non-governmental stakeholders for the fishing community to enhance their alternative livelihood strategies.” Without concrete and culturally acceptable alternative livelihood opportunities in place, “any efforts to persuade them to support a reduction of dynamite fishing are likely to encounter significant opposition and little commitment from community members” (Katikiro and Mahenge 2016:8). A one-size-fits-all legislative approach to curbing dynamite fishing in Tanzania, and economic incentives such as payment for ecosystem services (PES) (see Somolys 2011), i.e., refraining from destructive fishing practices, is unlikely to achieve much success, due to the context-specific reasons for why people resort to dynamite fishing. Clearly, explanations for why people engage in dynamite fishing vary from region to region and communities to communities. In the present case, many of the study participants blamed the MBREMP for being inconsistent in carrying out its duties; and for why dynamite

fishing inside the MPA's catchment area remains a problem despite all the restrictions. Elsewhere along the Tanzanian coast, the context-specific reasons could be different – such as economic motivations and organized criminal gangs operating in Dar es Salaam's Temeke district, which is notorious for the scale of blast fishing (Braulik et al. 2017). Any interventions to put an end to dynamite fishing in rural coastal Mtwara must acknowledge and address local social and economic realities: local perceptions of injustice, particularly among the youth; their feelings of exclusion and the further marginalization and repression of an already impoverished population. Such interventions must explicitly recognize that since fishers are integral to the problem and any feasible solution, they must be consulted in good faith and engaged with to mitigate the problem (see also Fabinyi et al. 2010: 623; Coulthard, Johnson and McGregor 2011: 454; Katikiro and Mahenge 2016: 10).

Conclusion

The Tanzanian government has recently re-committed itself to eliminating dynamite fishing from its territorial waters. To that end, in 2015, through the initiative of the Indian Ocean Commission's SmartFish project, the Tanzanian government implemented the Multi-Agency Task Team (MATT) to stop destructive, illegal and criminal activities that take place in the fisheries sector, among other measures. It remains to be seen whether the effectiveness and sustainability of this initiative is demonstrable on a long-term basis along Tanzania's 1,424 km coastline.

While numerous researchers and environmental activists have documented the intricacies of dynamite fishing in Tanzania, none have focused their attention on the youth, who are commonly blamed for being involved in dynamite fishing. In the present case, in an ideal scenario, identifying and interviewing those who actually engage in dynamite fishing would have provided a more robust picture of the problem at hand. However, given that dynamite fishing is an illegal activity, there are methodological, ethical and analytical challenges to embarking on such a research strategy (Raycraft 2018b).

Notwithstanding this important methodological limitation, in this paper, I have provided ethnographic insights into local perspectives, particularly of local youths (both men and women), on dynamite fishing, their existential insecurities, livelihood concerns, and their disposition toward the MBREMP. The study revealed that there is substantial awareness among those who live in the coastal villages about the dangers of dynamite fishing to the environment, marine life, the fishing community, and the fishers themselves. Yet, multiple factors had intersecting and cumulative effects on the persistence of dynamite fishing in the rural coastal Mtwara region. The suggestion that “a culture of zero tolerance for blasting must be developed at both community and official level so that it becomes an unacceptable practice” (Wells 2009: 23) may sound platitudinous. However, given the well-documented damaging effects of dynamite fishing on the coral reef ecosystems and the fishing communities, it is imperative to halt this practice.

While young fishers are commonly blamed for damaging the marine environment through unsustainable and destructive fishing practices, perceptions that enforcement agencies (in this case, the MBREMP) may be indirectly precipitating the problem, have

not received sufficient attention in the Tanzanian context. To that end, this paper has illuminated some of the divergences between youth concerns and the MBREMP's mandate to protect and conserve the marine environment. Paying close attention to local people's motivations, goals and aspirations in relation to the coastal environment and their livelihoods, within the broader historical, political and economic context, can lead to a better understanding of why people continue to engage in dynamite fishing, despite their awareness of its destructive effects, the personal risks involved, and the government's ban (see Fabinyi et al. 2010: 620). Additional applied research is needed to determine whether a reasonable gear exchange program in the MPA villages will have a demonstrable impact on lowering the incidence of dynamite fishing, or eliminating it altogether, at least within the MBREMP's catchment area. Research is also needed to determine whether similar contextual reasons prevail in other MPAs and other places along Tanzania's coastline where dynamite fishing is practiced. Just as importantly, more ethnographic research is needed on the gender dynamics that are intrinsic to destructive fishing. As this study revealed, young women were not indifferent to dynamite fishing; they also had very strong opinions about it. Some of them justified it as a survival strategy in a context where repressive measures have been taken to stop people from engaging in illegal and unsustainable fishing practices. Finally, additional on-the-ground longitudinal research is needed to monitor and ascertain the effectiveness of recent initiatives launched by the Multi-Agency Task Team to completely eliminate dynamite fishing in Tanzania.

In conclusion, dynamite fishing is a complex, multi-layered, enduring problem, rooted in conditions of extreme poverty, poor governance, incompetence at various scales, the micropolitics of political patronage, community power dynamics, and petty corruption. It is a symptom of a more complex set of problems facing those who live in rural coastal Mtwara, including extreme poverty, historical neglect, and social and political marginalization of the region's residents (Lal 2015).

The state's use of excessive force and repressive tactics against those who violate the laws against destructive fishing may have yielded positive outcomes in the 1990s. However, a top-heavy approach may yield successful outcomes initially (e.g., Operation Pono), but in the long run it can exacerbate negative sentiments, mistrust, non-cooperation, or even indifference from the fishing communities who feel disempowered and repressed (Katikiro and Mahenge 2016: 11). The way forward lies in a revised governance strategy that in addition to mandating regular patrolling activities, a) prioritizes and institutionalizes village-level conflict management mechanisms; b) privileges timely modern gear exchange programs and schemes to promote legal fishing methods and culturally appropriate alternative livelihood opportunities; c) responds to the aspirations and concerns of youths regarding employment opportunities and their social wellbeing; and d) is as demonstrably intolerant of petty corruption as it is of dynamite fishing. In all of this, youth perspectives must be taken seriously in policy discussions and community-level interventions. Ultimately, if the youth are seen as part of the problem, blaming them for being irresponsible and destructive minded individuals, is likely to be counter-productive. A more productive approach should make them part of the solutions to permanently stamp out dynamite fishing in Mtwara.

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