

Fishing Down the Food Chain for *Dagaa*

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Abstract

This article explores fishing practices and fishermen's relation to the ocean in Zanzibar in the context of global political economy. Based on two months of fieldwork in Unguja, it centres around catching small pelagic fish species, *dagaa*, which has become vital for food security among the local population. The article accounts for how *dagaa* fishing, in contrast to other fishing practices, constitutes a different relation to the ocean. The expanding *dagaa* industry stems from an overexploitation of bigger fish species. The article discusses how this exploitation down the food chain is connected to the political economy in Zanzibar. It argues that capitalism and an increasing need for money constitute a metabolic rift that alienates *dagaa* fishermen. This alienated relationship between local fishermen and the ocean is discussed in the context of Zanzibar's multifaceted position in the global political economy: as a postcolonial state, a 'paradise island' for Western tourists, and a central actor in BE investment.

Keywords: *political economy, neoliberalism, blue economy, scientific capitalism, unlimited goods*

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1. Introduction

"Fishing in Zanzibar is history. I've seen it change. Soon dagaa will be history too."
(Bwana, a fisherman interlocutor, 2022)

During the last decades, the fishing industry of anchovies and sardines, locally known as *dagaa*, has expanded significantly in Zanzibar. The activity is primarily concentrated in the Urban/West region, where shoals are hauled with a ring net at night, using lamps to attract them. As a semi-autonomous state within the United Republic of Tanzania, Zanzibar invests in the Blue Economy (BE). Promoting economic growth, the BE strive to develop a sustainable marine industry and reduce poverty. In this context, *dagaa* plays a vital role: both as food security for the poor, and as an export product. For fishermen in the region, it has become the primary source of income since the catch of other species has declined. BE investment in Tanzania now encourages further expansion and streamlining of the industry (ZIPA, n.d.; FAO, 2025).

This article examines fishermen's contradictory relationship to *dagaa* fishing, based on two months of fieldwork for my Master's thesis in 2022. During the research, I found that *dagaa* fishing was generally seen as simple and uninspiring, yet essential for survival. Although many feared the stocks were declining, they continued to

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fish. Driven by immediate income needs amid rising prices and shrinking alternatives, older fishermen—as my friend and interlocutor, Bwana—often dismissed *dagaa* fishing as not being ‘real’ fishing. Meanwhile, younger men treated it as a convenient job to earn some quick cash.

Dagaa is the primary food for already depleted predator fish in the region; hence fishing for it meant *fishing down the food chain*. If *dagaa* were to be overexploited, it would further undermine the recovery of other fish species. Some interlocutors perceived the stocks to be declining in both size and species composition due to a surplus of fishermen. Reports already indicate overfishing of *dagaa* along the Kenyan coast (Kamukuru et al., 2020).

The perception of the ocean and fishing was different in the *dagaa* industry: less a site of skilled practice; and more a *site of industrial extraction*. *Dagaa* fishing resembled day labour performed for a pay check, rather than a craft rooted in tradition. Other forms of fishing, by contrast, were described with enthusiasm and passion. However, fishing for *dagaa* was not fancied but accepted as a necessity in an increasingly costly daily life, shaped by the island’s transformation into a paradise destination for Western tourists.

I situate these tensions within broader debates on ecological crisis and political economy. Drawing on the Marxist theories of metabolic rift and alienation, I ask how fishermen’s relationships to *dagaa* reflect disconnections between labour, livelihood, and ecology. I further connect these dynamics to Zanzibar’s investment in the BE, where promises of sustainability risk reproducing ocean grabbing and scientific capitalism.

2. Brief Background

During the 17th century, the Sultanate of Oman took control over Zanzibar after 200 years of Portuguese rule. During the Omani rule, Zanzibar became a trading hub for ivory, spices, and slave trade to Arabic countries. The Arabs living in Zanzibar came to form an elite (Minde et al., 2019). Eventually, the British Empire gradually turned Zanzibar into a protectorate, still ruled by an Omani sultan. When Zanzibar gained independence in 1963, the Arabic sultanate remained in power. This sultanate was overthrown in the Zanzibar Revolution of 1964. The new Revolutionary Government of Zanzibar (RGoZ) formed the union of Tanzania with Tanganyika, ruled by the Chama cha Mapinduzi (CCM) party, and has remained in power since then.

Initially, Tanzania was governed by a socialist ideology, which eventually failed, forcing the government to turn to the International Monetary Fund (IMF) for assistance in the mid-1980s, adopting structural adjustment programs that liberalized markets (IMF, 2009). Liberalization implied a booming tourism industry and imported commodities, a transition that has been described as the entry of neoliberalism in Tanzania and Zanzibar (Keshodkar, 2022).

2.1 Socioecological Overview

Marine activities go back millennia in Zanzibar. The archipelago's strategic location in the Indian Ocean has made Zanzibar central for trade to the Middle East, India, East Africa, and Europe. At the same time, artisanal fishing with small vessels, limited to the inshore waters, has been vital to local livelihoods. Fish contributes 90% of the protein intake; while fisheries offer direct employment for about 100,000 fishermen in Zanzibar (Woiso et al., 2024: 1).

The governance of accessing Zanzibari fishing grounds has varied. Access to fishing grounds was once restricted by local taboos, but these restrictions were dismantled under British colonialism as exports to Europe began (Mkumbukwa, 2017). During the following socialist era, the limitation to inshore water caused overexploitation. This has, however, continued since the liberalization of the market by the IMF programs. Although community-based conservation projects have been introduced, they have often created conflicts, as fishermen feel excluded from their traditional grounds (Roszko, 2021: 10). Today, Zanzibar's fisheries are often described as open access (Rehren et al., 2022).

Open access in Zanzibar's fisheries poses a dilemma between environmental and social sustainability as food insecurity compounds the threat of overfishing. Though central to Zanzibar's economy, tourism has raised the cost of living and intensified the dependence on cash income (Keshodkar, 2022). With limited alternatives, more Zanzibaris enter fishing, thereby compounding competition over dwindling stocks (Makame & Salum, 2021). Scientific assessments confirm declines below critical thresholds (Rehren et al., 2022: 13). As tourist hotels and restaurants are reported to pay large sums for big fish, fishermen tend to sell their big fish to the tourist markets (Thyresson et al., 2013: 253). Since 2002 the annual catch has increased by a fold of 3.9; while fish value has risen by a factor of 45.4 (Salum Haji, 2025: 1). Demand for specific species could lead to selective fishing and potentially overexploitation (Yadav et al., 2021). Though lucrative, the market might exacerbate ecological decline.

2.2 Blue Economy

To address these challenges, the Zanzibari government is investing in a BE with support from multilateral organizations, such as the World Bank; targeting fisheries, aquaculture, and ecotourism. The BE policy plan (RGoZ, 2020) highlights artisanal small-scale fisheries as having growth potential due to rising tourist demand (ibid: 8). It emphasizes modernizing artisanal practices (ibid: 23), expanding from inshore to deep-sea fishing (ibid: 9–10), and improving storage and processing to meet export standards (ibid: 11). Including fishing communities in development is seen as key to meeting market demand, while preventing depletion (ibid: 23).

Yet, as with other World Bank programs, economic growth and exports are prioritized over domestic food security (cf. Ferguson, 2005: 78). Scholars critique the BE as a neo-liberalization of nature, "saving nature by selling it" (Barbesgaard, 2018: 131), framed in ways that depoliticize debate and marginalize small-scale fishers through industrially oriented policy frameworks (Roszko, 2021: 322).

3. Methodology

From November to the end of December 2022, I conducted a fieldwork across Unguja Island; carrying out interviews and participant observation on both land and the ocean. I also turned to books and articles to gain an understanding of Zanzibar's history. Additionally, I scrutinized policy documents and investment plans within fishing to get a wider picture of the BE initiative.

Studying a seasonal subject, such as fishing for a short amount of time, one cannot expect to cover the profession fully. This was especially so as this period was impacted by the Kaskazi monsoon, which affected the catch and the size of the fish. Hence, one should keep this limitation in mind while reading.

3.1 *Gaining Access to the Field*

Being a white middle-class man, born and raised in Sweden, and conducting fieldwork in a post-colonial and post-socialist state: all this has brought dilemmas to my approach in the field, and descriptions in the texts. Prior to this fieldwork, I had barely been outside of Europe. The first day in Stone Town, I called my girlfriend and cried: everything seemed so different from what I was used to. After a while, I did somewhat settle, as I made friends across the Island. However, I have kept this first impression as a reminder to avoid inaccurate or exaggerated descriptions and interpretations.

While guiding me across the island, Makame—the host for my temporary living quarters—introduced me to a fishing community just north of Stone Town, where I received a warm welcome. Many of the fishermen there had long experiences of fishing with all kinds of techniques, but were now more or less solely fishing for *dagaa*. When not fishing, many hung out in a small building they referred to as the 'Clubhouse'. While I also visited other communities, the Clubhouse became like a base for me to visit every day.

3.2 *Interviews*

All in all, I carried out 19 semi-structured interviews with 32 fishermen at urban fish markets and fishing communities. I got in contact with most of the interlocutors via other researchers, while others were approached on landing sites or at the Clubhouse, where I combined participant observation with interviews. The fishermen at landing sites were selected randomly by me asking for their time. By contrast, in the Clubhouse it was more of a snowball effect; where people I talked to introduced me to other fishermen.

The interlocutors were captains, net haulers and retired fishermen. Obviously, it cannot be claimed that this small selection of actors can be regarded as representable for the *dagaa* industry. However, it gives a picture of how *urban fishermen* perceive the *dagaa* industry. Most of the interlocutors already had agreements with other researchers for monetary compensation of about USD4 per interview, which I chose to follow.

Monetary compensation for interviews has been a taboo and vividly debated, as it risks influencing people's motives of participating in a study (McNeill, 1997; Abadie, 2015). The dilemma for social science and ethnographers is that it is research *with* people rather than *on* people (Cajas & Yolinaliztly, 2017: 145). The importance of reciprocity in social relationships should not be dismissed by any ethnographer. Given the precarity of many fishermen's economic situation in Zanzibar, and the fact that my interviews often took place while fishermen were still working, not compensating them for taking their time to talk to me could be considered as exploitation, or rude at the very least. I made sure the interviews were arranged without mentioning money beforehand, even if it was possibly implicit. Through this arrangement, information and access to my field was compensated for, rather than being bought.

I had help from three different interpreters during a majority of the interviews: Catherine, Omar and Nia; whom I came in contact with via other researchers. The interviews centred around themes such as the practice of fishing, fishing as livelihood, and the perceived status of exploited species. At the Clubhouse, I often went without an interpreter, even if the language was a challenge. I chose to do so since I found it more effective to establish a relationship with key interlocutors this way, even if it sometimes took some time to gather data. Sometimes I found it too difficult to understand, and had to ask for an interpreter.

3.3 Key Interlocutors

Over time, some interlocutors became close friends, who would give me deeper understanding into matters I found hard to grasp. Two of them—Bwana and Abdullah—became like key interlocutors who I daily spoke to. With them, the relationship went deeper. They did not only help me with my research, but they also helped me settle in Stone Town, invited me to dinner, and took care of me when I fell ill.

I met Bwana at the Clubhouse. He is a tall middle-aged man who has been fishing and working with the ocean his whole life, but has stopped fishing since the bigger stocks had become depleted. Bwana helped wherever it was needed in the fishing community. He assisted me by translating spontaneous conversations at the Clubhouse, telling me about the history of Zanzibar, and putting me in contact with Kapteni who took me out fishing.

Another friend that I made while strolling down the streets of Stone Town is Abdullah, a young man from Dar es Salaam, who moved to Zanzibar to seek for a job; and plans to establish his own business in the spice industry. During my fieldwork, Abdullah had two jobs: working as a guide during tourist seasons; and switching to a *dagaa* fisherman during low seasons. Abdullah often told me about his relation to fishing, explaining how the business works. Furthermore, keeping company with Abdullah gave me insights into future imaginaries among younger people who engaged in *dagaa* fishing: both from acquaintances with other fishermen, and through Abdullah's stories.

I have strived to have a decolonized approach to my fieldwork, including how I have collaborated thoughts with my key interlocutors, Bwana and Abdullah. Decolonized ethnographies aim to raise awareness of the relation between the ethnographer and the interlocutors; questioning which voices are heard, and how they are represented (Kaur & Klinkert, 2011). There was a language barrier throughout the fieldwork, some things I had to ask multiple times to understand. To avoid metanarratives and misrepresentations, I often discussed my interpretations with my key interlocutors. Whenever I was confused, I asked them. Obviously, two months is not enough to grasp neither social structures nor the government's relation to fishing communities fully, but at least it provides some insight, while 'the certainty of uncertainty' (Sholock, 2012) prevents me from confidently stating false claims.

3.2 Sensory Ethnography

According to Pink (2015: 46–7), by paying attention to all senses, an ethnographer's own experiences of a place can give an understanding of the interlocutor's embodied emplacement. In my case, experiences like the pungent smell from the fumes of diesel generators mixed with the odour of small fish, or the weight of the net and body ache after sleeping for less than an hour: these have given insights to the fishermen's embodied labour. My participation during fishing trips have helped approach fishermen's relationship to the ocean and *dagaa*, observing Kapteni and Abdi move across the rocking boat to plug in headlights and move across the boat in the pitch-black Indian Ocean: all these experiences gave me further substance and understanding to what was said during conversations. This attention to bodily experience could be understood as becoming an ultra-sensitive antenna in the field: to be aware of what it means to 'live among' (Bergé n.d., cited in Stoller, 1997: 33).

To get an insight into the lives of the fishermen, I often accompanied my interlocutors on walks. Walking provided a dynamic setting for conversation, where topics naturally shifted in temporality (Lee & Ingold, 2006). Discussions would seamlessly move between memories of Zanzibar's past, reflections on recent changes, and speculations about the future of fishing. These narratives not only revealed their perceptions of change in Zanzibar, but also highlighted meanings and memories that fishermen attached to the places we moved through.

4. Ocean Interactions

We have tossed anchor in complete darkness, out on the Indian Ocean. Four headlights are directed straight down to the surface, driven by a diesel generator that gives off just as much fume as noise. Wet plastic bags cover all the electronics and extension cords; the waves rock the boat heavily, and I have lost service on my phone. Deep down in the turquoise water, fish shoals are circling. Two meters from our vessel, the water is pitch black.

Abdi tosses me a large garbage bag: 'lala salama' (sleep tight), he says and laughs as he lies down on the plywood planks on the deck with a tarpaulin as a blanket. Kapteni sees my baffled look and explains: "The bigger boat will lay a net over there, and come to us about 03.00 tonight," before he follows Abdi, and takes a plastic bag around him, and lies down. The time is now 20.15. Are they going to sleep, for real? I thought we would be out looking for dagaa, and actively fishing for it. This just seemed dull, and on top of it all, unsafe...

I did not sleep well that night. Nothing really happened the next three or four hours after we had tossed anchor, and after a while I laid down next to Abdi and Kapteni. But as soon as I relaxed, a wave would rock the boat so heavily that I thought we would capsize. Fishing *dagaa* was far from what I had hoped for. Due to the waiting, I oscillated between fear of drowning and restlessness. Eventually, I somehow calmed my nerves by observing how comfortable Abdi and Kapteni were. They knew these waters; and they would know if something was wrong.

People had told me of the peculiar dullness of *dagaa* fishing before I embarked. “Anyone could fish for *dagaa*. You do not have to do anything,” Bwana had said during one of our first meetings, and it seemed like just anyone did. I met a lot of younger men who had come from Mainland Tanzania to Zanzibar for work, and ended up in *dagaa* fishing due to the lack of alternatives. Many of them lacked fishing experience, and learned while doing.

Regardless of Bwana’s claim that anyone could catch *dagaa*, he put me in contact with Kapteni—the best fisherman in the region, according to Bwana—to go fishing. People at the Clubhouse told me stories of how Kapteni used to come back with massive catches. But these stories were about big fish, caught with a hook and line, which nowadays most often occurred between *dagaa* seasons. Like most fishermen in the Urban/West, Kapteni had started to catch *dagaa* as larger fish had dwindled.

The vast majority of fishing carried out in the Urban/West of Zanzibar was for *dagaa*, but the relatively open access to fishing grounds had led to a situation of ‘too many fishermen,’ Kapteni said. This surplus in numbers made many Clubhouse fishermen fear that it would lead to the overexploitation of *dagaa*, just like had been the case with bigger fishes. Some of them claimed that the daily *dagaa* catch had already started to decrease.

Despite my own aversion to the activity, the outspoken distaste among local fishermen, and the worry of overexploitation, *dagaa* still caught my interest. How do fishermen relate to *dagaa* fishing as a marine activity among dwindling stocks?

4.1 Ocean as a Landscape

The ocean is part of the Zanzibari *landscape*, directly present in one’s daily work or in the periphery; attached to memories. Landscape in this sense is neither a terrestrial area nor a body of water, but an intersubjective understanding of how the world is known by those who inhabit it (Ingold, 2000: 193). A landscape is more than a map used for navigating between places: we interact with, and attribute meanings to landscapes, both on land and at sea.

Adopting ‘landscape’ as a conceptual lens for how people perceive their surroundings offers insights into how memories and emotions become intertwined with places and past experiences. Some days I would sit next to Bwana and his friends for hours, observing the tidal waves. Even if Bwana rarely

fished nowadays, he needed to see the ocean daily. “*I love it. Sometimes it’s rough, but other times it’s calm. But it’s still the same ocean,*” he told me. Our conversation topics were often shaped by the weather. If a storm came in, Bwana would tell me fishing stories of how he had navigated in similar winds before. Sometimes the weather led to discussions among the other fishermen of previous events, or how to manoeuvre a sudden gust.

The most recurrent weather phenomenon causing discussion during my visit was *Kaskazi*, the north-eastern monsoon. Its strong and warm wind passes from the south Arabian coastline down to the East African coast from November to the beginning of March. When the strong wind of the monsoon settles, sailing is particularly challenging, but it can be turned advantageously if one knows the wind and the landscape. This local knowledge became clear when fishermen described how the monsoon shapes their search for fishing grounds. As Bwana told me, big fish come in from the open sea, while the bays are more sheltered from the wind. In his experience, Kizimkazi and Chumwe Bay in Zanzibar had many good spots for big fish. The big fish were caught with a handline, spear, or purse seine net. One must be a skilled navigator to find these places. In Ingold’s terms (2000: 192–3), a *place* is a delimited area of the world’s surface that is imbued with meaning, whereas the landscape is rather a map used to navigate between these places. Translating this definition to ocean interactions in Zanzibar, the fishing grounds can be understood as places attached to past experiences of *how* and *when* to get a fish to bite.

I was told that elders could merely give you advice on how to fish, but the true skill of fishing and navigating had to be acquired on your own. Skill is not merely a script handed down through generations, but also developed through an interpretation and engagement with the environment. Skill is incorporated and grown into the body through both social *and* subjective interactions with the surroundings.

Envied for his skill, Kapteni was known at the Clubhouse for interpreting the reflections and the waves in the water to understand how the fish moved. Being stubborn, he would never let go of anything that he caught on the hook, even if the line cut through his palms during the tug of war between him and the fish. While GPS was a common tool for fishermen, Kapteni combined it with traditional knowledge of landmarks and stars to navigate to his fishing grounds. When a good fishing ground was found, people could be out for two or three days, line-fishing nonstop. These fishing trips usually took place every full moon, between the *dagaa* seasons.

Before the depletion of larger fish, I was told that these trips used to be more frequent. Then *vibua* (mackerel) was the main source of protein that was fished: it could be caught ‘everywhere’ in the coastal water, Bwana declared. He told me people used to joke and say they were so sick of eating *vibua*: that it gave them flu. Thirty years ago, no one could have imagined that the *vibua* would dwindle; or that they would eat *dagaa* – the fish bait used for catching *vibua*.

5. Hauling Dagaa

It is 02.30, we have been slumbering on the deck for about six hours, when Kapteni calls on his colleague Abdi. Warm yellow lights are approaching in the distance. In the dark, I see the yellow lights coming closer. It is a dinghy. The man onboard sits on his knees, paddling his way toward us. The waves look bigger than the boat, but he manages to reach us and tosses a rope that Abdi ties onto our boat.

Half an hour later, the bigger boat approaches us. The crew is in a good mood, laughing and screaming at us as they come closer. I count 16 people on the boat, a skipper sits by the outboard, and the rest of the 15 people are baharias¹, net haulers. We let the dinghy take over our spot with its two lamps. As the ring net is laid, the baharias start to haul. A pile of fish rises from the surface as we return to them to scoop over the catch to our boat. The ring net starts to fold, and the fish fall back to the water. “Hey, mzungu²! Help!” one of the baharias shouts at me. I quickly tense up the net by hauling it onboard. It is heavy, my body aches from sleeping on the hard deck, and my fingers are stiff from the cold. After a while, I realize I am standing in fish, which are splashing around me.

Dagaa fishing primarily occurs during moonless nights, following the Islamic calendar between the 20th until the 10th of the following month.³ It is carried out using three fishing boats of different sizes. One is a big wooden flat-bottomed dhow, (*mashua*), with a crew of 14 to 16 *baharias*. The *mashua* crew lays and hauls the ring nets, while a skipper oversees the fishing shift. The other two boats, a *dinge* (dinghy) and a *ngwanda*, attract the shoals by using headlights directed at the surface. The *dinge* is carried out by the *mashua* and launched into the water at the fishing ground with two lamps, and one crew member to manage the lights. The *ngwanda*, which Kapteni and Abdi steered, is bigger and has its own crew of three persons. The *ngwanda* uses more lamps than the *dinge*, and attracts bigger shoals.

Generally, two nets are laid per night: one around the *dinge*, and another around the *ngwanda*. As the *dinge* is part of the *mashua* crew, the catch from the *dinge* goes solely to the *mashua*. The *ngwanda* has its crew of three to four persons, and gets half the profit from the net laid around their boat. The *mashua* hauls the net from the *dinge* first. The small *dinge* then paddles toward the *ngwanda* to take over its fishing spot, using only two lamps. By reducing the amount of light, the shoals of fish become more concentrated around the *dinge*, making it easier for the *mashua*'s ring net to encircle the shoal. The net is then hauled manually by the *baharias*. All these activities occur after six hours of floating on the Indian Ocean, with lamps beaming on the surface to attract shoals.

¹ A *baharia* is a seaman: one that belongs to the sea (*bahari*).

² Mzungu is a Kiswahili term for a white person.

³ The Islamic calendar is based on the lunar calendar. Consisting of 29 or 30 days, the month begins as the first thin crescent of the new moon is sighted. The moon has a profound impact on marine activities by driving the tides which, to a large extent, determines when fishermen embark and return from fishing trips. For a deeper account of how the tides affect the everyday life in Zanzibar, see Tobisson et al. (1998).

Despite Kapteni and Abdi's skill in finding fishing grounds, it did not come to use in their *ngwanda*. The divisions of labour were sharp: the *mashua* skipper had full authority over choosing fishing grounds, the roles of Kapteni and Abdi were to set up lamps, attract shoals, and wait for the *mashua* at site. Similarly, the role of the *baharias* did not demand any specific knowledge or fishing skills. The Clubhouse fishermen's claim that *dagaa* fishing was 'simple' reflects how it required less individual skill than other techniques. Rather than navigating winds or seasonal grounds, it was a collective effort where even inexperienced men could join as *baharias*.

5.1 *Dagaa Fishing as Just a Job*

To understand how and why *dagaa* industry has developed, we must consider the intention and material results (Howard, 2018: 72). Seeing intention as based on *satisfaction* (Searle, 1983: 11), *dagaa* can be understood as *all* about making a profit. The younger *baharias* that I met framed it as 'just a job' that they did not plan to stick with for too long. One engages in *dagaa* fishing because of the money it could bring.

This satisfaction was further seen in how seasonal patterns were ignored. The *dagaa* season usually stops during full moon since the clear light from the moon distracts the *dagaa* shoals from gathering around the lights of the fishing boats. However, recently some fishermen have started to ignore this seasonal break.

This unsustainable and almost desperate fishing for survival reflects what Marxist scholars describe as a *metabolic rift*; a rupture in the ecological balance between man and nature caused by capitalism's need for profit-driven extraction (Foster, 1999).⁴

"People say that one might as well sleep on the sea and fish for *dagaa*," Bwana said. This portrayal of *dagaa* fishing as 'simple', and 'just a job', reveals a distinctive way of perceiving the ocean. In contrast, handline fishing was spoken of with passion: the excitement of seasonal grounds, the skill of navigating winds, etc. *Dagaa* fishing, by comparison, was closer to trawling: hauling vast quantities of fish through a clear division of labour. Each man tied to their specific task was driven by the pursuit for profit, exemplifying how capitalist value restructures social, economic and ecological relations (Huber, 2017, as cited in Howard, 2018: 69).

⁴ Marx developed the theory of a 'metabolic rift' to describe the soil crisis following the revolution of fertilizers and soil chemistry to generate faster rate of improvement within capitalist agriculture (Foster, 1999). While traditional agriculture usually returned nutrients to the soil, the emerging capitalist agriculture transported crops and nutrients to bigger cities where it was accumulated as waste, instead of being reinvested in the soil (Clausen & Clark, 2005). This development, together with the use of fertilizers, led to the exhaustion of the soil through depletion of natural fertility and nutrients. In Marx's critique to this large-scale capitalist development, he claimed that the pursuit for profit led to an irreparable *rift* in the *metabolic interaction* between man and the environment. The metabolic rift implies an alienation from man's recycling and sustainable relationships to the environment (such as returning the nutrients to the soil), which is replaced by the capitalist interest of increasing in scale and accumulate profit (p. 426). Clausen and Clark (2005) has further expanded this theoretical concept to include human-ocean interactions to understand overexploitation of marine resources, and how the relationship between man and the ocean is affected by profit-driven agendas.

The ocean appeared less like a landscape to interact with, and more of an *industrial site for day labour* to clock into. *Dagaa* were considered as *cash in the ocean*. While other fishing activities had to adjust to the Kaskazi monsoon, *dagaa* fishing did not require any adaptation to this annual wind. It was carried out in the same sites, using the same techniques, night after night.



Photo1: Attracting shoals, other boats are sighted at the horizon

Source: Author



Photo 2: Before bedtime

5.2 Dagaa Fishing as Alienated Livelihood

It is 03.14. The ring net is hauled, and apart from a few meters lit up by the torches of our two boats, it is pitch black. The dark waves transition into turquoise as they pass into the light and hit the side of our boats. It is impossible for me not to react to the pungent smell of fish and gasoline mixed together. A wave of nausea engulfs me. Our deck is filled with dagaa splashing against each other, trying to breathe: an intense noise that slowly decreases as they die, one by one. After 10 minutes, they are all still. We had a good catch tonight.

Before the marketization in the 1980s, fish prices were fixed (Mkumbukwa, 2014: 156). Prices now fluctuate according to market demand, competition, and seasonality. During the Kaskazi monsoon in my stay, the *dagaa* species were very small, leading to a low price per bucket. The catch was sold for TZS2,000 per bucket, a meagre price of less than one dollar. After expenses were covered, the profit was shared equally between the two boats. Kapteni and Abdi got TZS 20,000 each (less than USD9). The *mashua* crew split their share between 16 persons. Hence, people at the Clubhouse were frustrated: no one could make a living from that price. If anything, it motivated fishermen to break seasonal patterns, and put further pressure on the *dagaa* sea stock. This threat of overfishing needs to be considered through the lens of social and economic relations (Hardin, 1968).

People used to care about fish for their children's future, now they just fish and fish. They need it for bread and money. They don't care for the future or for the fish anymore. It's just to make a living. The ocean can never rest. (Bwana, a fisherman interlocutor, 2022)

This is a loss of future concern. As per Clark and York (2011: 26): "Capitalism is increasingly placed in opposition to the requirements that sustain/support natural cycles and ecosystems." The above situation is a precarious political economy, where intentions of fishing is more concerned of keeping a roof over their heads, rather than thinking of their interactions with the ocean (cf. Howard 2018: 70). Following the marketization in the 1980s, the prices of food and commodities increased along with a devaluation of the local currency (Keshodkar 2022: 46).⁵ The alienation becomes inevitable as the need for cash *now* becomes urgent.

Abdullah, raised in Dar es Salaam, dropped out of his last year in high school to move to Zanzibar to make money and send remittances to his family. With no previous experience of fishing, he found a job as a *baharia*, to bridge the income gap between tourist seasons when he worked as a tourist guide. During my whole stay, he was saving up for a new phone: but he continuously had to send his savings to his mother. This was a struggle that motivated him to work even more, and skip the Friday prayer. However, he did not tell his mother about this lifestyle.

Sometimes I make money, [so that] I can buy a phone and TV. Before you buy a TV, your mother calls you: "Hello, I'm so sick, I don't have money, I want to go to the hospital." [I say] take mine, I'll send you. So, it takes a long time to buy something if you want to buy something. They [the family] need my money. (Abdullah, a baharia-cum-tourist guide, 2022)

This quote from Abdullah highlights yet another intention of *dagaa* fishing: the yearning for commodities. Studies have pointed out how young Zanzibaris are influenced by their close interaction with tourists, thereby fostering desires that diverge from traditional values (Keshodkar, 2013), such as that of Abdullah skipping the Friday prayer. Described as a 'leisure class,' tourists promote

⁵ The local currency has devaluated from USD1 = TZS40 in 1986 to USD1 = TZS 2,300 in 2020 (Keshodkar, 2022: 46).

commodities and consumption as something to strive for (ibid.). Moving freely across the archipelago, they stay in luxury hotels and consume large expensive fish. This influence was clear when talking to Abdullah, who was caught in a conflict of sending remittance to his family, and saving up for commodities. Meanwhile, he had dreams of starting an international spice business. Other young men working as *baharias* had similar situations. Rather than being motivated by the practice of *dagaa* fishing, the desire for commodities, and the lack of alternative livelihoods, attracted these new actors to become *baharias*.

5.3 Class in Dagaa Fishing

[If we] get 4 million [TZS], 2 million goes to the owner, and the remaining 2 million [goes] to the captain and the baharias [and expenses]. From that 2 million, the fishermen get about 30k, and the captain maybe 50k, or something like that (Divine, a baharia, 2022)

In 2002, banks stopped giving loans to Zanzibari fishermen to purchase vessels, arguing that they could not pay them back. From that point, fishermen had to either secure government grants or finance the boats themselves. In the wake of this shift, boat owners emerged as central actors in the Zanzibari fishery. These owners purchase vessels and employ fishermen on informal contracts, while rarely participating in the activity themselves (Nassir et al., 2022). As I encountered it, many fishing communities outside the Urban/West region shared dhows communally; while in urban areas, the skippers used to rent vessels from private actors and assembled crews themselves, employed on verbal agreements.

This produces a stratification: boat-owners, skippers,⁶ and *baharias*. The income from a catch is divided equally between the *ngwanda* and the owner of the *mashua*, before being distributed among the fishermen. Each skipper pays their respective boat owners. As the *baharia* Divine reveals in the introductory quote, the boat owner may receive forty times more than the skipper, while the *baharias* receive even less. Moreover, income is seasonally dependent. During Kaskazi, I was told, a *baharia* usually earned between TZS5,000 and 10,000 (USD2–4) per trip.

As groups attempt to appropriate surplus through other people's work, classes emerge (Howard, 2017: 148). Although the relationship between traders, boat owners and fishermen can be nuanced by social obligations exceeding financial transactions (cf. O'Neill & Crona, 2017). Yet, from an economic perspective, the labour of fishermen can still be understood as exploited. "The boat owner is home, enjoying life," Abdullah told me when I asked about their role. The only times I encountered boat owners were at landing sites, speaking briefly with skippers before leaving. Class can be seen as a relation, depending on the extent to which people can control their bodies at work, the conditions of labour, and the distribution of surplus (Howard, 2017: 150). While the boat owner moved freely between places, the crew and the skipper had to clean the nets and the boat at landing sites. And this after approximately sixteen hours at sea.

⁶ On both *mashua* and *ngwanda*.

Kapteni described his relationship to the boat owner as positive, as he was allowed to take days off when he needed rest. Still, he explained that the owner of his boat sometimes took up to two-thirds of the profit, depending on the income. If there was a fault with the outboard or the boat, he was expected to have it repaired. As Kapteni could not afford to purchase a boat himself, he was bound to the fact that his body, labour, and income depended on his relationship with the owner.

Whereas the skipper rented the boat, steered, and navigated, the *baharias* constituted an additional lower class. Paid primarily for hauling nets, they were merely the muscles. Abdullah characterized the role as “waiting, hauling, and making sure not to fall overboard.” If the profit from a catch was low, the *baharias* could sometimes leave a sixteen-hour shift empty-handed. But the most obvious feature of the position of *baharias* was insecurity. They were picked up by the skipper in the afternoon and dropped off the next morning when the work was done. If they became sick or overslept, they might be replaced by someone else. These insecure employment and payment conditions of the *baharias* align with what Standing (2011) terms the ‘precariat’: an uncertainty of not knowing if one will have work or earn money from a catch the following day. The precarity contributed to *baharias*’ alienation to the ocean and *dagaa*, as it encouraged Abdullah to skip the Friday prayer, similarly breaking seasonal patterns.

Despite their different positions, both skippers and *baharias* lack alternatives to gain control over their labour, and secure their livelihoods. Their labour is commodified as they cannot afford to invest in the business. Although the conditions of skippers and *baharias* differ, they are united as an exploited, boatless proletariat class (Howard, 2017: 74). Through the lack of autonomy in these classes, their body labour is exploited at sea, while surplus is accumulated on shore by boat-owners.



Photo 3: Catch of the day

6. Socio-ecological Dilemma of Overexploitation

Dagaa fishing offers a convenient alternative for both fishermen facing declining catches of larger species, and inexperienced *baharias*. Yet, within the political economy of capitalism, the human-nature relationship becomes distorted, privileging the pursuit of profit over ecological sustainability (Clausen & Clark, 2005), causing intense pressure on natural stocks. Reports from Lake Victoria show a move to urge *dagaa* fishing to be moved offshore to avoid overfishing in near-shore waters (Kashindye, 2015: 34). Similarly, studies from the coast of Kenya report tendencies of overfishing on *dagaa*, and call for closing seasons during spawn periods (Kamukuru et al., 2020: 102). This aligns with the Clubhouse fishermen I met who perceived *dagaa* stocks to be dwindling.

The diminishing stocks illustrate how the pursuit of income can pit social needs against ecological limits.⁷ The exploitation of *dagaa* is not merely a matter of choice: it is driven by economic pressure. In a capitalist market, demand may override local ecological limits (Howard, 2018: 69). Under these conditions, fishermen have been pushed to decimate higher trophic levels of fish stocks (Clausen & Clark, 2005: 430). As larger species diminish, they turn to fishing further down the food chain – not out of preference, but because alternatives have dwindled (Howard, 2018: 69). Dependent on the capital market, fishermen try to make a living, albeit contributing to the metabolic rift, and creating new ones (Clausen & Clark, 2005: 427) by fishing for species down the food chain. As Howard (2018: 77) writes of overexploitation, *dagaa* fishing is “... a market whose competitive dynamics mean that people often need to catch more and more fish just to stay even.” This precarious situation has led *dagaa* fishermen to act as if *dagaa* was inexhaustible. As Ali, a *baharia* in his thirties, puts it:

It is overexploited, but it doesn't affect the amount, [I] still get the same amount now as five years ago. [It is] the same now as in the past. The problem is fishing big fish. That's a big problem because we do not [find any]. But there is always dagaa (Ali, a baharia, 2022)

There was always *dagaa*, he claimed. Just like it always had been mackerel in the Urban/West district, until it was not anymore. Ali's claim can be understood as perpetuating the worldview of unlimited goods (Trawick & Hornborg, 2015). Rooted in neoliberal capitalism, this worldview frames economic growth as something created, rather than transformed through resource extraction. Promoted by economists and politicians worldwide, the idea of unlimited growth is reproduced by workers through their vulnerable position. Similarly, *dagaa* fishermen are forced to

⁷ This contradiction reveals the disruption between society-nature that can be traced back to the Cartesian dualism of mind/body; identified as underlying humanity and capitalism's destructive relationship with the planet (Moore, 2017). Critiques have been raised against the metabolic rift concept for reproducing this dualism, instead of transcending the dichotomy and embracing nature as a 'totality of totalities'; including capitalist relations and society (ibid: 313). Although we should adhere to society as part of “nature”, I follow Malm's (2018) claim that the dichotomy is crucial to understand the destruction that *dagaa* fishing implies. Moving beyond the dichotomy would deceive the analysis of the impact capitalism has on human's relationship to nature.

fish more frequently merely to maintain “... their place relative to everyone else” (ibid: 5). Fishermen’s opinions were divided on whether *dagaa* stocks were already depleting, but in the Clubhouse, many worried of the ecological impact of the activity: “*It is the food of the big fish*,” Bwana declared harshly; alluding to the fact this depletion consequently meant the depletion of the bigger fishes.

Scientific studies confirm this concern: a simulation study in Lake Victoria showed that intensified exploitation of *dagaa* could drastically affect the ecosystem and lower the mean trophic level of biomass (Ndegwa et al., 2019). As bigger fish prey on *dagaa*, its extraction in Zanzibar may affect the recovery of the bigger fish that has already decreased in the region. Pauly et al. (1998: 863) describe this process as ‘fishing down the food web’; where increasing pressure on lower-trophic species destabilizes marine ecosystems. Clausen and Clark (2005: 435) similarly warn that such practices dismantle ecological systems.

Similar tensions challenge the Zanzibari government’s BE agenda, which promises poverty alleviation, economic growth, and ocean health simultaneously (RGoZ, 2020). Such goals rest on a fragile balance; and a further intensified exploitation of *dagaa* risks undermining both livelihoods and marine biodiversity.

7. Artisanal Fishing in the BE

The government doesn’t plan, and the government doesn’t know anything about fishing (An older fisherman Interviewee, 2022),

Whereas a metabolic rift is visible in how fishermen haul *dagaa* for money, their actions can be understood as the performance of the political economy’s relation to marine resources: *dagaa* is cash, and cash is needed as prices of food and essential consumer goods have increased (Tobisson, 2013: 170). As the BE is developing in Zanzibar, it is visible how the whole initiative rests upon a metabolic rift where marine lives are seen as economic value to be extracted. Mislead by the worldview of unlimited goods, it promotes economic growth through marine activities without considering the ecological cost (Trawick & Hornborg, 2015).

The Zanzibari government’s *BE policy act* (2020: 9) states that one way to counteract the risks of overfishing is through enabling deep-sea fishing, and encouraging fishermen and local investors to engage with it. As I encountered it, there seemed to be a communication gap between the government and the perspective of local fishermen. The introductory quote is from an older fisherman, who responded brusquely to my questions on the surplus of fishermen; and plans on deep-sea fishing. According to him, the government needed to incorporate closing seasons, and restricting the number of fishermen.⁸

⁸ Before the market was liberalized, fishery was restricted by quotas on the catch; as well as on the number of active fishermen (Mkumbukwa, 2014). As the market opened, protected marine areas (MPAs) were

Here, disagreements point to a broader tension: while fishermen emphasize regulation and ecological limits, the BE agenda is largely driven by financing schemes that prioritize investment and growth. Financing the BE is done through investments by the World Bank (2022), other multilateral organizations, private actors, and the Zanzibari government itself (RGoZ, 2020). Often when multilateral organizations are involved in development projects, they tend to promote *scientific capitalism* (Ferguson, 2006), where neoliberal capitalism is framed as a non-moral necessity for economic growth in a nation. This is seen in how the IMF structural adjustment programs in Tanzania favoured privatization, international trade, and tourism; while contributing to the deterioration of welfare systems (Keshodkar, 2022: 45). A similar rationale underpins Zanzibar's BE, which emphasizes attracting private investors (Ministry of Blue Economy, 2022: 7); and transforming the artisanal fisheries sectors into an export-oriented commercial business (ibid: 48). As Ferguson (2006: 79) notes, this can be understood as a technique of 'getting the politics right' in favour of capitalism, rather than improving the life of the Zanzibaris and the marine lives.

The Zanzibar Investment Promotion Agency (ZIPA) has authorized investments worth USD377.5m to lease 17 islets (ZiBi, 2025). These leases are promoted as opportunities to build eco-friendly luxury resorts; or to expand fish and seaweed farming for both local and export markets (The African Dreams, 2025). While such projects may generate some local employment, they also represent territorial claims that restrict fishermen's traditional access (Roszko, 2021: 10). Increased luxury tourism is likely to push market prices upward even further. Equally problematic is the plan for fish farming, since farms often depend on fishmeal, such as anchovy, for feed (Fréon et al., 2013). Again, as Ferguson (2006: 78) notes, scientific capitalism prioritizes export over local use due to higher yields in the former. In this logic, *dagua* can become a target for the fishmeal market. Such a shift would directly compete with food security for local Zanzibaris, while also threatening the *dagua* stocks even further.

7.1 Dagua as Food Security

Even if bigger fish stocks had been depleted in the Urban/West district, they could still be found elsewhere in Unguja. These fishes were often sold at markets in Stone Town. When strolling down the market, I walked past tables of big red snappers, octopuses, and tunas: sold to the highest bidder at auctions. The customers for these types of fish were not the regular local Zanzibaris as they were too expensive for them. Instead, these species were bought by restaurants, hotels, and wealthy people. Tourists have now become the major consumers of the fish Zanzibaris had eaten for centuries.

established, together with a demand for fishing licenses and a local monitoring of fish landings in the fishing communities. However, these controls are said to be deficient since one can escape them by paying some extra or returning a favour to the controller (Torre-Castro, 2006: 10). Barely any of the fishermen I spoke to had a license: none of them thought it was necessary.

As a protein substitute for these species, *dagaa* has become vital for food security in Zanzibar. Seeing food security as a *question of distribution* (Clausen & Clark, 2005: 437), the distribution in Zanzibar should be understood as unequal. Most people did not even like eating *dagaa*, but it was what people most often could afford, Bwana told me. Some 30 years ago, his family never ate *dagaa*, but used it as a bait for bigger fish species. In other words, the market for *dagaa* as food security has not been established solely due to the demand for *dagaa* per se, but because the bigger fish have decreased in the ocean; and/or has become too expensive on the market. Yet, this narrative is rarely acknowledged by authorities.

The government has claimed that the demand for *dagaa* on the market is due to the health benefits of the small pelagic fish (ZIPA, n.d.). Although *dagaa* might be good for health, it was certainly not the reason people bought it—according to what I heard, this was because people could not afford the bigger fish.

For Bwana and his fellow fishermen at the Clubhouse, however, the story was clear: a rising demand from hotels and restaurants had pushed up prices of larger fish, thereby displacing local access. Marine resources reallocated from their prior users can be described as a form of *ocean grabbing* (cf. Bennett et al., 2015). This dispossession of resources (big fish) from local inhabitants further has an impact on the social-ecological well-being (2015: 62). It causes fishermen to fish down the food chain. Given the increasing pressure on *dagaa* stocks, and the ecological limits, one must ask how secure *dagaa* really is as a foundation for food security.

7.2 BE's Fishing Industry

The BE is said to support socio-economic development and a sustainable stewardship of marine resources, with major investments in ecotourism and fishery. This plan to scale up is carried out by promoting fishery as a business opportunity for private actors (ZIPA, 2021), but also by educating local fishing communities in 'blue knowledge' (RGoZ, 2020: 26), and lending boats to fishing communities claimed to be more suitable than the 'rudimentary' tools used in the communities (Owere, 2022).

In the World Bank's (2022) operational brief 'BE for Resilient Africa program', it is proclaimed how the blue initiative requires financial scaling up through private investors. To attract private actors, it is declared that nations "... may need policy reforms to create an enabling environment and leverage official development assistance and guarantee products to buy-down risk for the private sectors to invest in the higher-risk BE sectors" (2022: 13). While scholars criticized blue initiatives for advocating 'selling nature to save it' (Barbesgaard, 2018: 131), an encouragement for governments to help buy down the risk for exploiting resources is rather *putting nature on sale to save it*. The BE is not merely framed as economically correct (Ferguson, 2006) to benefit the state and its people, but also *ecologically correct*: the marine ecosystem will benefit if the ocean is sold to private actors.



Photo 4: Big fish, sold to hotels and restaurants

The same brief accounts for how *weak* governance—reflected in corruption and insufficient enforcement—is causing most challenges to the environmental commons (World Bank, 2022: 8). But if weak governance is bad, one might wonder what *good governance* means, and whom it serves (Ferguson, 2006: 84). As Ferguson points out, what is framed as good governance by adjustment programs and other economical programs does not necessarily imply that it is good for the people (ibid: 85).

Parallel to tourism and seaweed investments (ZiBi, 2025), the government has used IMF-funded money to provide interest-free loans for fishing equipment through the Cooperative Rural Development Bank (CRDB). These loans finance 800 fibre reinforced plastic (FRP) boats, along with outboards, fish finders, and GPS units (JICA & OAFIC Co., Ltd., 2024: 20). Several fishing communities I visited had already received these FRP boats, decorated with the text ‘Ministry of BE and Fisheries in Zanzibar’. But the loans did not include the promised equipment. Fishermen had to self-finance outboards, diesel generators, and fishing gear to make the boats usable.

Moreover, these boats puzzled many. To start with, they were about the same size as the *ngwanda* used for *dagaa* fishing, despite the BE policies promoting deep-sea fishing. Also, although fibre boats were faster, none of those I spoke to thought

they were any safer than wooden boats that go behind reefs. Barely anyone dared to go further out in the ocean with these boats: it was too dangerous. This caused confusion of what the BE strived for. Many fishermen were upset: some dismissed the initiative as a scam, while others argued it was little more than a way for the government to attract funding and cash for themselves.



Photo 5: FRP boats supplied by the Ministry of BE and Fisheries

While this may reflect a misunderstanding of their intended purpose, the very fact that small-scale fishermen were unaware of it, points to their exclusion from meaningful participation. This raises questions about the inclusivity of the BE's promises. A more critical reading would suggest that the government's priority is not in supporting artisanal fishermen, but in attracting private investors to expand the *dagaa* industry. In this sense, the BE embodies a metabolic rift: the state seeks economic growth rather than resilient human-nature relations. Here, scientific capitalism privileges markets over people, promising sustainability while intensifying dispossession.

Dagaa fishing has been presented as an investment opportunity (ZIPA, 2021). But as long as the activity is limited to coastal waters, the expansion would increase the already saturated number of fishermen, and exacerbate the pressure on *dagaa* stocks. Further, expanding the market means *dagaa* could move from feeding locals, to fuelling international trade. Such expansion can force fishermen to target lower levels of the food chain for yet another resource they can no longer afford to consume themselves.

8. Conclusion

Dagaa fishing in Zanzibar offers insights into how ecological limits, economic necessity, and political agendas intersect at sea. For the fishermen I encountered, *dagaa* fishing was not regarded as skilful practice, but was endured as a precarious labour. The industry's expansion reflects both the depletion of larger species, and the growing threat of overexploiting *dagaa*: a situation that is fuelled by monetary pressures of an increasingly expensive market economy, where households depend on cash for survival. This alienated form of fishing illustrates a metabolic rift in human-ocean relations.

By situating *dagaa* fishing within Zanzibar's global political economy, I have argued that capitalism does not merely pressure ecosystems, but reshapes the very meaning of fishing as a livelihood. The ocean appears less as a landscape of skill and memory, and more as an industrial site of day labour. This transformation compels us to pay attention to what kinds of human-ocean relationships are being cultivated under blue initiatives; and whether they can sustain life, both human and marine, into the future.

The BE is framed as an opportunity, yet my interlocutors experienced it as exclusionary. Fibre reinforced plastic boats, and investor-friendly reforms were far removed from their immediate concerns about livelihoods, food security, and ecological balance. Instead of alleviating precarity, the programs risk intensifying dispossession, and deepening dependence on fragile resources.

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