

The Community Influence of Sponge and Coral Aquaculture in Zanzibar

I. Abstract

I enter Jambiani, the site of my study, in an asymmetrically dented taxi with my knees tucked into my chest, fully enclosed by supplies and luggage. Said shows me where the *daladala*¹ stops and tells me he is confident I will find the way through winding paths to Marine Cultures, the NGO I'll utilize as a case study. He advises me not to worry as I prepare to explain my proposal to analyze the impacts of growing sponges and corals as alternative livelihoods. We stop to purchase two blue plastic jugs of water that soon glug over every bump and groove in the unpaved road. My eyebrows twist themselves into furrows above the bridge of my nose as I mull over my abstract impression of the more figurative road bumps in the weeks to come. "You are strong like elephant" - as if reading my mind, Said's parting words permeate through my chest and into my heart, though my skull seems to stop them from passage into my cerebrum.

II. Introduction

"*Nimefurahi kuonana na wewe. Jina langu ni Hanifa, mimi ni mwanafunzi Mmarekani na ninasoma bahari, hali ya hewa, waspongi, na matumbawe,*"² I introduce after the exchange of greetings, sweating a bit extra despite several internal rehearsals. Aysha's gentle laugh and nod of affirmation draw my shoulders away from my ears. She wears a billowing patterned skirt the color of a shallow lagoon, with a soft *kanga* over her head and shoulders. She is comparable to me in stature, yet I feel a thread of intimidation spread through my limbs. Her wisdom, dedication, and resilience are more than evident; there is a powerful energy to it that my words cannot properly articulate. Aysha's introduction informs me that she has been growing sponges for six years, is a single mother, and was the first farmer to become independent from Marine Cultures. We sit with crossed legs on colorful mats against the coral-cement walls of her home. Ali translates as she shows me the improvements to her home provided by her careful cultivation of pore-bearing animals.

III. Background

The tide rises as I walk along Jambiani's coast. The swell of the sea advances swiftly over the plateaued shoreline. The cerulean expanse stretches into the sky, blurring the line between water and air. I listen intently to the story of Marine Cultures and descriptions of their aquaculture projects. I sprinkle curious inquiries into the gaps between informative explanations from the director or the project manager. In the background, seaweed farmers carry their hard-earned harvest back to their homes for drying; the murky green-brown tendrils

¹ Public bus

² English translation: I'm happy to meet you. My name is Hanifa (Swahili name), I'm an American student studying the ocean, climate change, sponges, and coral.

deposit droplets in the sand through the spaces between woven basket fibers. Young boys with pointed sticks creep between the waves searching for octopus prey, their shorts clinging to their spindly thighs. Fishermen tend to their boats and haul the day's catch to the shore: mostly *changuu* and red snappers, some roundhead parrotfish, and a handful of freckled peacock groupers. Growers of coral and sponges return soaked from a morning of tending to their farms. Weathered wooden boats with taut sails drift noiselessly around their anchors, witnesses to the diligent toil of those who rely upon the sea. As the morning sunlight intensifies to afternoon heat, oblivious travelers emerge barefoot from bungalows, while the sun dodges every thickening rainy season cloud.

IV. Methods

The sponge farmers suit up for a day's labor: dive boots, tool clips, utility knives, mesh bags. Each lets a mask and snorkel dangle from her fingertips. Together, we journey out to sea while the tide is low; our boots squelch through mucky sand and seaweed debris. The women move gracefully but swiftly, knowing the tide has only given them a few hours of shallow water, and that within a few days last night's new moon will be a waxing crescent – the end of spring in the tidal cycle. When we reach the retracted water line, we wade through the shallows, careful to dodge clusters of unforgiving urchins. As we approach the farms, the sea floor continues to drop until waves hug our waists and threaten to pull us under. Chatter and laughter surges into the air atop the ocean breeze. My heart leaps when I comprehend a word or phrase and can contribute to the conversation. Each *shamba katika bahari*³ consists of soft floating ropes, cement anchors flocked by needle-spined urchins, and buoys crusted with algae, the only visual clues to the farm's location. Between the buoys stretch lines of sponges, circulating water through their cavernous insides.

V. Results

Perched on a workbench, our drip-drying legs dangle over the edge. Nassir insists that I take some home cooked fish, rice, and seasoned nuts for a snack. Our fingers add sea salt to the sticky white rice. The mustard shade of the recently harvested sponges matches the hue of wet coastline sand. We meticulously pick shells, rocks, and lingering bits of algae out of each sponge with a thin, wooden stick. Their porous bodies will soon be subjected to intensive *harita* wash, an acid soak, and innumerable squeezes that will strip life from them. The individual from across the world who will purchase this bath article likely will never think of its brief year in Zanzibar's coastal cradle. Nassir's patient expertise guides me through the cleansing process, and for once I do not require translation from Ali. "*Tumemaliza!*" we say in unison when we have completed several rounds of cleaning. One sponge does not pass Nassir's final inspection and is handed to me. In response to my puzzled countenance, Nassir speaks a word she hopes I'll understand: "*zawadi*" – gift.

³ Farm in the sea

VI. Discussion

My two colleagues and I sink into our perpetually damp couch, seated, sweating, stressing. The *wali na maharrage na mchicha*⁴ we eat at the Hungry Lion every evening dissolves in our bellies. We sweat our frustrations and relay stories of interviews fallen-through, *Kiswahili* blunders, unproductive meetings, and implausible miscommunications – we celebrate failures that were at least humorous. Bek tells us she’s discovered a new cave bug species, much different than the “beetle” she so intelligently identified yesterday. Nora recounts a saga of sweaty sand sampling and teaches us that *mmomonyoko* is the word for erosion in *Kiswahili*. My contribution is news that hundreds of sponges were saved from *majani*, a villainous green algae, but that the battle would continue the next day. Our discourse gravitates toward the distress caused by a suffusive sensation of inadequacy and insignificance. The weight of it quiets our voices, slows the keyboard tapping and notebook scribbling. Eventually, the capacity to compose coherent data analyses escapes through our glassless windows. We lose our minds to a deck of cards, run into walls when the power goes out, shower in our own sweat and tuck into bed nets speckled with bloody mosquito carcasses.

VII. Conclusion

The sinking sun inches closer to the edge of the sky as I walk toward it through Jambiani’s five villages for the final time. Coconut palms stick out above coastal whispering pines and a sprinkle of Indian almond trees along the road. A gentle breeze rustles the branches and swirls leaves around my ankles. I smile slightly as I replay the last interviews and goodbyes from this afternoon, already battling a formidable tide of emotion. Turning backwards, I reflect on the four short weeks of my time in this now familiar place, still unable to put my appreciation into befitting articulations. I have obtained results suitable for a research report; but more notably I have received the responsibility and privilege to share narratives of adaptability and perseverance – stories untold outside of the community. The sponge and coral farmers have shown me the importance of a refusal to doubt one’s capabilities in the face of external criticism. They embody a resistance to the false belief that life’s trials yield only defeat. Adaptation of thoughts and actions go much further than reliance on situational change. Immensely humbled, I let the sun beams draw sweat from my shoulders that drips purposefully toward the small of my back. In a concluding gaze, I notice the shadow in the sandy gravel: a female figure in a long skirt, limbs lengthened, with rogue tendrils of curly hair. She appears formidable and resilient, strong; she could be a sponge farmer. It takes a minute or two to realize that the silhouette connects to the strapped sandals on my dirty feet. Overwhelmed with gratitude, awe, and something just short of disbelief, I turn slowly to the direction of my journey. The road ahead blurs as my eyes fill with saltwater, this time not from the ocean.

⁴ Rice, beans, and spinach