



Experiences from a coastal fishing village in Fiji

Before departure

I carried out the field study for my Master's Thesis project in Naidiri Village in Fiji. I was looking for a thesis project that is related to community-based sustainable development, where the community is involved in the sustainable solutions. I came across the NGO, Corals for Conservation (C4C) in another KTH Field Study report as two KTH students had conducted their bachelor's thesis with them before. Upon investigating more about C4C, I found out that they work with coral restoration as climate adaptation solution. Since the destruction of coral reefs due to climate change and other stressors is a big environmental issue which few solutions, I saw this as an opportunity for a meaningful thesis.

When I reached out to C4C, Dr Austin Bowden-Kerby, the founder of C4C, was very welcoming and open to the idea of me conducting my Master's Thesis project with C4C as long as I could obtain my own funding. When I mentioned that I wanted to do a community-based project, he pointed me in the direction of Naidiri Village, with whom he has been working for several years on coral restoration activities in their locally-managed Marine Protected Area (MPA). The NGO, the people and the potential project seemed to align well with the kind of project I hoped to do for my Master's Thesis, hence I went ahead to plan the thesis with Dr. Austin, and I found my supervisor at KTH, Zahra Kalantari, who has been very supportive and encouraging of the project right from the beginning. Since I had to fund myself for the project, I applied for the KTH Field Studies travel grant which was much needed for the flight tickets and accommodation expenses in Fiji.

Having grown up and lived only in cities my entire life, I was not sure what to expect from living in a village setting, that too in a foreign country. I was prepared for it to be a much slower pace of life, with basic amenities and minimal connectivity. I prepared for it by ensuring to pack essential medicines, toiletries, coral-safe sunscreen, etc. I have grown up in Singapore, so I was prepared for similar weather (warm and humid), so I packed clothes accordingly. I also had to buy snorkelling equipment as that would be a large part of data collection activities, as I wanted to collect data on coral and fish abundance from their MPA. I did not need any visa as I could live up to 4 months in Fiji visa-free. I had planned to stay 8 weeks in Fiji, experiencing the village life and collecting the required data. Out of the 2 months, I planned to live a few weeks on Dr Austin's family farm as I planned the data collection and analysed data after, and few weeks in the village for data collection.

Upon arrival

I arrived in Fiji on 05 March 2024 at Nadi International Airport. I took the airport bus from Nadi to the town of Sigatoka, where I was picked up by Dr Austin Bowden-Kerby and his grandson. They took me to their family's permaculture farm/ homestay – Teitei Homestay – where I was warmly welcomed by his family. This is where I met Charlie, who was volunteering with C4C and would be assisting me with data collection in Naidiri Village. The plan was to stay for 1-2 weeks at Teitei, and visit the Naidiri to plan where we would live and take an initial look at the reef in their MPA together with Austin and Charlie. We stayed at Teitei for 2 weeks, during which we visited Naidiri twice, and met Manoa, a local from Naidiri who had founded the MPA in 2009 and led the youth in Naidiri to continue taking care of the MPA and carry out coral and mangrove restoration activities. Manoa helped to work with the village chief to gain permission for Charlie and me to live in Naidiri and identified Susana's home as an ideal place for us to live.

We had planned to live in Naidiri for 2-3 weeks, collecting data, then spending another 2 weeks back in Teitei as we analysed the data, and leaving the last 1-2 weeks flexible to go back to Naidiri to collect more data if needed. However, when we arrived in Naidiri, it was evident after the first few days that we were living in an amazing community that welcomed us with open arms and took a lot of care of us (especially Susana, who we came to know as Lewa (Mother) Su!). As such, we continued living in Naidiri for the entire duration and I extended my stay in Fiji from the planned 2 months to 4 months!

Financials

It was generally less expensive to live in Fiji than in Sweden, especially the accommodation costs in a village. However, there were some things that were more expensive that were imported such as peanut butter (with no sugar added), chocolate, jams that were not sugar loaded, coffee, plant-based milk, etc. So if your luggage limit allows, I would recommend bringing some of these foods with you. However, fresh seasonal fruits, vegetables were not costly in the markets, and sometimes we even got freshly caught fish and harvested root crops from our neighbours that went fishing and farming!

Accommodation

As mentioned earlier, we got assistance for accommodation from Dr Austin and Manoa, the village environmental representative. We lived with Lewa Su who took great care of us and we paid her a weekly rent that was quite low. The housing was basic but very clean with running water and electricity. Hence, we did not have any issues. Our host and neighbours were all very kind, and we experienced the true communal life that Fijian villages are known for.



Myself, Lewa Su and Charlie during Palm Sunday celebrations



Living room and outside view of our accommodation (simple yet clean and spacious)

Project

My initial project plan was focused on the coral restoration activities carried out by the community in collaboration with C4C. This would include collecting quantitative data on coral and fish abundance inside and outside the MPA to compare the differences and hence show ecological impact of the coral restoration. It also included interviews with community members to understand socio-economic impacts.

However, as we collected the ecological data from the reef and I spoke with community members, the project's focus shifted from just coral restoration to understanding the MPA as a holistic nature-based solution (NbS) for marine and coastal ecosystems, where fishing is not allowed and coral restoration is also carried out. Furthermore, since I lived in the village for so long, experiencing the life of the local community, I could carry out an ethnography study to better understand the local indigenous culture, knowledge and methods, and their perspectives of the MPA and its impacts to their community. I could also use participatory research methods to include the community as part of the research and the project could contribute towards capacity building of the community.

In terms of collecting the coral and fish data, Dr Austin had provided us with a transect and underwater writing material (we realised that we can just use a white plastic chopping board and pencil to write underwater! We did not have to invest in expensive underwater paper, etc.), and Charlie had a GoPro. We would plan the data collection time the day before based on tide conditions as we could only be out to collect data from mid to high tide. It was not possible to swim through the reef at low tide in the maze of corals. Charlie and I, usually accompanied by Manoa, would choose 2 locations either inside or outside the MPA to collect data before heading out with our equipment. Manoa would lay out the 10m transect, I would collect data every 20cm on what is present on the seabed at that point (e.g. type of terrain, if it is coral, algae, etc., coral form), and Charlie would take a video on the GoPro along the transect to identify the fish type and numbers along the transect later.

A lot of the interviews were unstructured, where I learnt more about the community and their perspectives through daily conversations and *talanoa* (Fijian culture of discussions which could be either informal or formal). However, I did conduct some structured interviews towards the end of my stay in the village. I decided to interview participants towards the end of my stay as it would give me time to build trust and hopefully be able to collect more information.

I also spent a lot of time together with the community, in daily activities like fishing, farming, cooking, playing netball, etc. And joined preparations and larger events in the village such as church ceremonies, fundraisings, and a funeral. This allowed me to truly immerse in the community and understand their culture better.

As part of the participatory methods, I conducted several activities. Firstly, as Manoa joined us for data collection activities, I was able to teach him how to collect such ecological data, and he could train other youth in the village. With these skills, they could assist other researchers in the future with data collection, could possibly be hired for such skills by the researchers, and can represent themselves instead of being represented in other research activities. I also organised to bring some of the women in the village snorkelling in the MPA. Although the women used to fish in the area where the MPA is today, they had not been in the MPA after all these years. They were very happy to have been inside and seen the corals and fish in the MPA that external actors like researchers, tourists, government agencies, etc. have raved about. It also built a stronger sense of ownership towards the MPA. Finally, I organised a tour guiding workshop for the village youth together with Tourism Fiji. This was to improve tour guiding skills of the village youth and discuss together what information they could share with tourists about the MPA and the village, as the community is trying to expand tourism in their MPA for snorkelling and village tours. This can help to bring more income to the community.

Some other activities we carried out was painting of a mural together with the community to attract more tourists, and gathering the children to draw ideas for a logo (although they mostly drew landscape drawing of corals and fish in the ocean).

Overall, my thesis project resulted in highlighting the importance of local indigenous knowledge and methods in developing and implementing NbS in marine and coastal ecosystems. It used the example of Naidiri to showcase the success of a solution that was led by local indigenous knowledge and methods, and complemented by science, to show that that former needs to be included equally in our research priorities.

Manoa and some of the village youth joined in on zoom to listen to my thesis presentation. However, I am currently looking for funding to be able to return to Naidiri to disseminate my results in a way that would be relevant to the community, such as raising awareness about marine conservation and highlighting the success of their MPA. They could use this awareness material to present in other villages and schools in the region. I hope to continue my involvement with Naidiri as I write grant applications for them, guide them in business management and marketing for tourism expansion, and work with them to raise more awareness in the region, and possible work on sustainable development projects in other areas such as waste management, food security, etc.



Preparing food for funeral in the village



Learning how to weave traditional voivoi mats



Fishing with community members



Tour guide workshop with local youth



Night snorkelling



Snorkelling with women in the village



Catching octopus



Eating fresh coconuts in the coconut plantation



Photo with the mural we painted together



Snorkelling with the Naidiri Youth Group

Country

Fiji is a very beautiful country with mountains and forests in the middle of the main island (Viti Levu) and crystal clear waters and coral reefs along its coasts. Generally the people are very loving, kind and polite. I was very lucky to live right next to the ocean, getting to snorkel in the crystal clear coral reefs on most days (except on very windy or rainy days). People are also very kind Fiji has majority indigenous Fijian population, followed by 40% Fijian Indians. Their culture has many similarities to my own, as I'm Singaporean Indian, hence it was not very shocking. The village life is very communal and slow-paced (affectionately called Fiji time), very different from city life where we live more individually at fast-pace. This was very different as it was difficult to plan things and ensure it happens on time, and there wasn't always private space. However, I usually embraced it and went with the flow which made the experience very rewarding as the community accepted me as one of their own and gave me a lot of love. The communal culture is similar to that of my ancestral village in India, hence it did not come as a shock either, even though I was not used to it.

However, some cultural practices and rules in the village were new and took some time to get used to it. For example, females have to wear a sulu (a cloth / sarong wrapped around the waist) when walking around the village, the head is considered sacred in indigenous Fijian culture hence we should not touch anyone's head or wear a cap/ hat inside the village. These rules only applied inside the village boundaries, not outside.

Leisure and social activities

Since we were living in a very rural village, social and leisure activities were also very different from the city. We would snorkel to collect data on many days, and after the data collection had been completed, we would snorkel recreationally as well. We would go for walks and runs around the areas as well. I would join the community in fishing and farming activities when I had time. I also joined the local village girls for netball practice at times when they were preparing for the local inter-village netball tournament. We had movie nights sometimes, when we would gather some of the village kids to watch animated movies together. Drinking a local drink called kava is also very common both for formal ceremonies, and as a social activity that we participated in.

Charlie and I travelled to a few other parts of Fiji such as the second biggest island, Vanua Levu, and another small island of Moturiki where C4C works with another local village. However, travel was limited without a car due to limited public transportation.

Sustainability

Living in the village was very sustainable as it was very basic living with minimal use of resources. The fruits and vegetables were usually bought as fresh produce from the local market. I was not vegetarian during my time in Fiji as I ate the locally caught seafood. However, I would still consider this sustainable as I knew exactly where my food is coming from, and the fishing and farming was done by the local community using artisanal/subsistence methods, not using large monocultures and overfishing methods.

However, waste management was an issue as there is no recycling, nor is there any formal waste collection by the municipality. The community would collect their waste at the back of the village and burn it from time to time. This waste included plastics, and burning of these in the open can cause long-term health and environmental impacts. I was trying to minimise my waste, but it was difficult as there was always packaging involved in some food products, etc. The flight from Sweden to Fiji is also very long and causes a lot of carbon emissions. I tried to make this long flight worth it by staying as long as possible in Fiji.

My project is connected to several Global Sustainable Development Goals (SDGs). One is SDG 13, Climate Action. Climate change is a major cause for destruction of coral reefs it causes ocean temperatures to rise, which causes coral bleaching. Coral reefs are known as 'Rainforests of the ocean' as they are the most biodiverse marine ecosystem, having at least 25% of marine biodiversity. When coral reefs die it significantly reduces habitat for fish to grow and breed. Hence, it causes fish populations to dwindle, impacting the food source and livelihoods of coastal villages like Naidiri. Hence, the MPA studied in my project is a climate adaptation solution. The no-fishing rule and coral planting efforts work in synergy towards restoring fish and coral populations in the face of climate change.

SDG 14, Life below water, is also connected to my project. Other human-induced stressors like pollution, illegal fishing practices, and overfishing have also caused fish populations to reduce in coastal villages in Fiji as well as other Pacific countries. The MPA is a solution to overcome these stressors and conserve and sustainably use the marine resources.

SDG 2, Zero hunger, and SDG 8, Decent work and economic growth, are also related to the project as the MPA allowed fish populations to increase, which improved food security for the community with more availability of fish to catch. It also increased income as people are able to sell the seafood that they catch. There has been diversification of income sources as well with introduction of tourism in the village due to the MPA.

Other recommendations and observations

Fiji is a very beautiful country, with amazing people. If you are open to a very different cultural experience with basic living conditions, but very loving community, I would highly recommend living and doing a project in a Fijian village such as Naidiri.

More information about Naidiri Marine Biodiversity Park:

www.naidirimarinebiopark.org

Facebook: <https://www.facebook.com/naidirimarinepark/>

Instagram: <https://www.instagram.com/naidirimarinebiopark>

YouTube: <https://www.youtube.com/@NaidiriMarineBiodiversityPark>

LinkedIn: <https://www.linkedin.com/company/naidiri-marine-bio-park/>

