



A field study on outplanting *Acropora* corals into Damselfish territories at Plantation Island Resort in Malolo Lailai

Before departure

At the end of my second year of my studies, I decided that I wanted to do something practical for my bachelor thesis and a minor field study was the ideal way of doing so by giving me the opportunity to also do it in a different country. The minor field study was executed in Fiji, a country located far out in the Pacific Ocean far off the coast of New Zealand. Fiji is a country known for its coral reefs which are badly affected by climate change. Therefore applying for a minor field study in Fiji was a good way of getting practical knowledge and experience of working with the oceans and the state that they are in due to a series of anthropogenic stressors. It would also give me the opportunity of implementing my education and getting the chance to help with issues in another country. Doing our project (I have done this Minor Field Study with a classmate who I wrote the thesis with), in Fiji would give me the chance to live and learn their culture, experience their nature while helping with restoring the coral reefs from the harmful effects of climate change caused by us. Our project with the results we got, could hopefully give an additional strategy to coral outplanting when outplanted corals stress from predation. Before our Minor Field Study, I had never been on a longer travel and never outside of Europe. This was also part of why I applied, to be able to grow as a person.

Our project was done as an internship with an organization, Corals for Conservation (C4C) that works with restoring coral reefs. More particularly they work together with a resort (Plantation Island Resort) at Malolo Lailai. To find our project my classmate had previously contacted the organization about doing an internship in the summer which was not possible at the time. However, she reached out to them again about if there was any chance we could come and write our bachelor thesis with them. This time they answered that they could take us as interns and that they would have a project for us to do with them. We got interviewed and were told about the conditions of the internship and what kind of project we could do and after that we were officially accepted by the organization. The most important preparation before I left for Fiji was getting vaccines. Since I haven't travelled outside of Europe before there were some vaccines that I lacked that aren't needed in Sweden or when traveling in Europe. As for the language, Fiji has English as one of their official languages which meant that no preparations were needed.

Upon arrival

Our Field study was conducted during 9 weeks in Fiji. Our internship with the organization started almost immediately after we arrived since our accommodation was sorted with the organization at the resort. We went directly to the island upon arrival and were met at the airport by one of the other interns who then helped us get to the island. When we arrived by ferry, we were met by our contact person, who was project manager at the organization who then showed us to our accommodation. The first week we were introduced to the work that the organization does and showed how we can help, before our own project was initiated which we were occupied with until we left.



This was the ferry that we had to take to get to the Island from the mainland on our first day.

Financials

Since Fiji is a small country, they need to import a lot of goods which is why the country was sometimes as expensive or more expensive than Sweden depending on what food you were buying. However, when looking generally Fiji is less expensive than Sweden is. We were very lucky to have had

accommodation and staff meals included in our field study since we were part of an internship, and therefore we saved a lot of money on that.

Accommodation

The organisation that we did our internship/project with are cooperating with the resort, which is why all interns are offered free accommodation and meals as resort staff. This was arranged by our contact person together with the general manager of the hotel. We lived in a small house on the resort with 3 other local girls who were also interns/staff for the organisation.

Project

Our project was about outplanting corals into the Damselfish's territories. This was done to investigate whether corals outplanted in the territories had a bigger chance of not stressing and bleaching rather than those outplanted outside of Damselfish territories. When outplanted inside the territories the fish protects the corals from predators while also ensuring healthy algae growth on the corals, which the corals live in symbiosis with. Our project was one of many that Corals for Conservation are doing, to research outplanting strategies to save coral reefs that are undergoing bleaching. The project was created by our contact person in cooperation with the founder of the organisation and designed while we were there in more detail. While we were doing the experiment, she was always available for us to ask questions and she also helped us set it up. On a typical day while doing our experiment we would go into the office in the morning, look at the schedule to see when high/low tide would be and decide from that what time would be the best to go monitor the experiment. We then did office work, meaning wrote our thesis, until it was time to go out into the water. The monitoring was then done by freediving on the reef in front of the resort where we collected our data on our replicates. On the days which we were helping with the general work of the organisation we would typically be in the water either morning or afternoon. In the water we would help with nursery monitoring, cleaning, and other experiments. When not in the water, it was office work where we would write on our thesis. When we had gotten our results and our internship was coming to an end, we presented our project to the managers of the hotel and our colleagues. Unfortunately, it's hard for us to continue with this project, however hopefully we have left something behind for the organisation to continue with and hopefully they are able to pursue our results. We will send our thesis to the organisation now that it is done so they can use our findings further.



The picture is of one of our replicates that we outplanted. It is a piece of Acropora coral on a piece of cement.



A picture of me cleaning one of the nurseries.



Us with the hotel managers and our colleagues when we did our final presentation.

Country

Fiji is an amazing country with the friendliest population I've ever met. Everyone was so nice and welcoming, especially at the resort. It was a bit unusual as a Swede to meet people who are so open and friendly as we tend to be so closed and reserved. However, it was a nice change but also the biggest culture chock I would say. The culture was different from Swedish culture which we were able to take part of thanks to us living with locals which meant that we could share experiences and cultural differences both in conversations but also in activities. Besides the incredible people we got to meet, Fiji has amazing nature which we were so lucky to get to live in for two months. Fiji has some of the best coral reefs that we got to dive in every day – something I will never forget and always be grateful for getting to do.

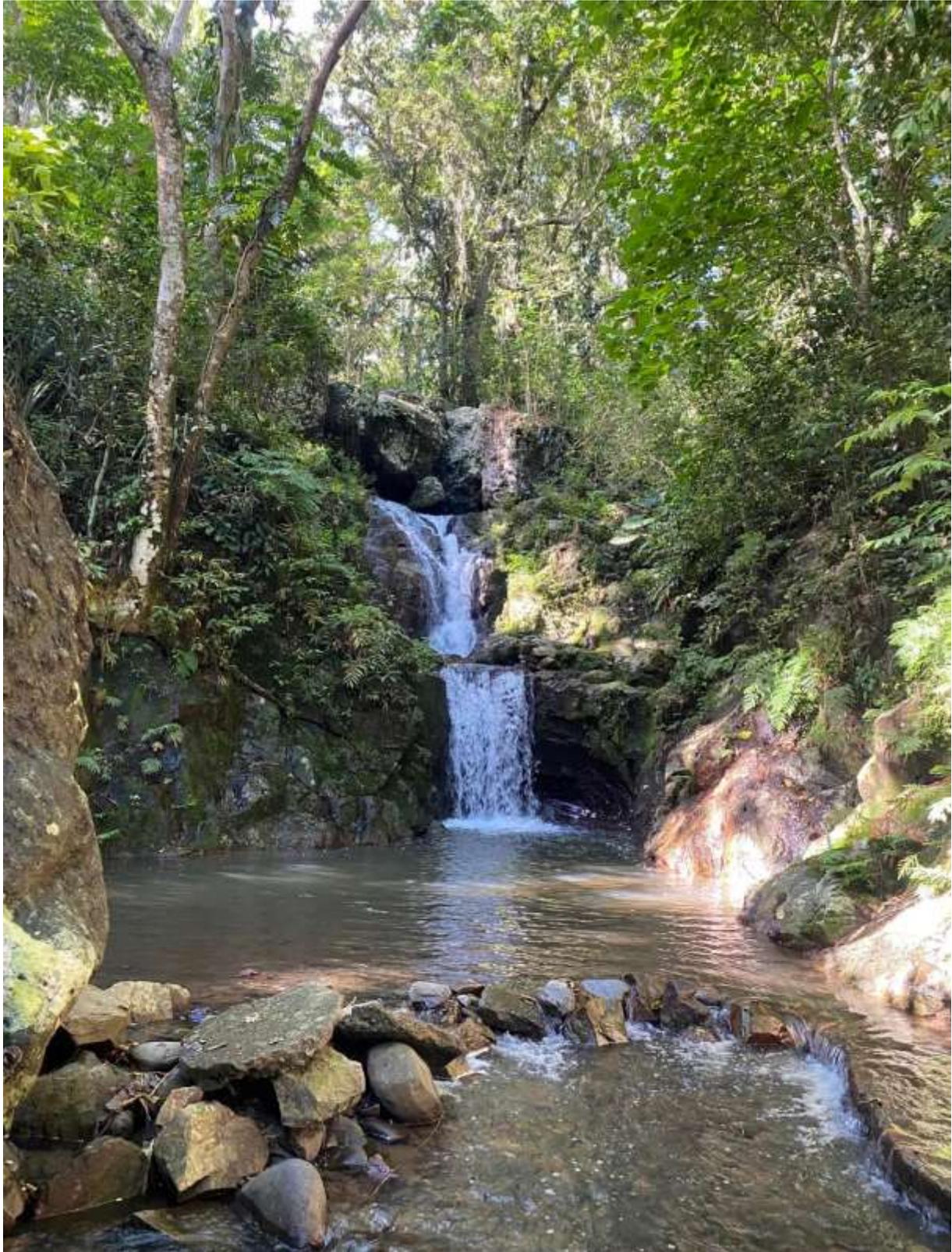


The incredible environments that we got to work in every day.

Leisure and social activities

We got our free time as days saved up, so we had mini vacations. On these mini vacations we took the opportunity to leave the island and explore Fiji and the mainland more. On our first vacation we went into the nearest town for a few days, which was Nadi. When we were there, we explored the town, visited a waterfall, went to the beach, and met up with other students from our class who also did their

minor field study in Fiji. On our second mini vacation we went to the capital, Suva and to a resort on the coral coast, for a few days. When we didn't have our mini vacations, we worked 6 days a week which means that we had 1 day off a week, which we usually spent just relaxing and enjoying the Island and the resort. In Fiji rugby is the biggest sport however we never got to go to an actual game, though we did see some playing as there was a pitch on the resort and some on the TV. Besides us and the locals that were working with the organisation there were two other international interns which we became very good friends with. One of them we spent a lot of time with doing stuff after work and on our days off. Both the international interns and the local interns were very approachable and friendly, so we always felt welcomed and that it was very easy to socialize.



The waterfall we visited.

Sustainability

Our project was related to the sustainable development goals in many ways, but we found that a few of them were more relatable than the others. Since our project was about saving corals, which are a part of huge ecosystems and home to many different species, our project was highly relevant to the goal of

life below water. The project could also be related to the goals fight climate change and decent work and economic growth. Since climate change poses as the biggest threat towards coral reefs, it is one of the most important ones to work with and decent work and economic growth is relevant because tourism is one of the biggest income sectors for Fiji where the tourism is very reliant on the coral reefs.

Since all our work was on the island and everything was walking distance, our travels were very sustainable. When it comes to our project, it was set up right in front of the resort on the reef which meant that we didn't need any means of transportation to monitor our experiment, we could simply just swim out to the replicates whenever we needed to. When looking in general though, Fiji is very limited in its transportation, where on the mainland public transportation is either by taxi or by bus. Although, like I said, we didn't really need to use public transportation that much since we stayed on the island which was small, and everything was within walking distance. I think this made our daily living much more sustainable than it is here at home since you must use some sort of transportation to get to places here. We were also very careful about not taking too much food at staff meals to avoid throwing away any food, and if there was something that we didn't like we ate something at home instead wasting food.

Other recommendations and observations

My only recommendation is to do a minor field study if you get to opportunity to. It was the most incredible experience I've ever had, and I have gained so much knowledge about Fiji and about marine life. Not once during my travels did I feel unsafe or unwelcome in Fiji and if I had the chance I would do it all again.