



## Minor Field study of ocean plastic pollution in Cape Town, South Africa



### Before departure

When I researched my program before deciding to study at KTH, I also investigated what opportunities there was for different kinds of exchange studies and came across MFS. I knew instantly that this was something I really wanted to do. The opportunity to use the knowledge you acquire through your education in real projects and learn onsite was very appealing to me. I discussed the opportunity to write your bachelor thesis abroad with my classmate Agnes and together we decided that we would apply.

I knew early on that I wanted to do a project that related to the ocean and challenges facing marine life. I have been around the ocean growing up and I started snorkelling from a very young age and took my divers certificate when I was 14 years old. In 2019 I went on a scuba diving trip in Egypt where I stayed on a boat in the middle of the Red Sea for an entire week. Even though we were miles from shore, we encountered plastic waste on almost every dive. That experience peaked my interest in the problem, especially in regards to the main sources of ocean plastic pollution and what can be done to prevent plastic from reaching the ocean. Therefore, when Agnes suggested South Africa and Cape Town, I thought it would be interesting conducting a field study in a relatively large city with an extensive coastline on the southern tip of Africa.

Travelling to South Africa didn't require much preparations in regards to vaccinations and administration. Since our stay was less than 90 days we didn't have to apply for a South African Visa and though there is malaria in the northern parts of the country, Cape Town and the Western Cape are considered malaria safe, so we didn't have to worry about that. I had already taken Twinrix for hepatitis A and B some years earlier so the only vaccine I ended up taking before departure was Dukoral for cholera. Some websites also recommend that you take the vaccine for typhoid but the risk for contracting the bacteria in Cape Town was considered low so we decided not to take it.

South Africa's criminality rate is very high and some say Cape Town falls within the top 20 most dangerous cities on the planet. However, most crimes aimed at tourist are pick pocketing and muggings. I contacted my bank before travelling to South Africa on advice of what to do if your phone or wallet gets stolen. The most important advice I received was to have a backup Bank ID installed on some other device or if you still have a bank card reader so that you still can access your bank account. I also downloaded the Eskom app so that we could follow the load-shedding, the scheduled power outages, that occurs daily in all of South Africa.

### Upon arrival

We arrived in Cape Town in the middle of February and aimed to stay for the 56 days, however, after five weeks I fractured my collarbone. After several discussions with doctors in Sweden and difficulties receiving further care in South Africa, I decided to end my MFS early. I went home after 44 days, just over 6 weeks. This was a difficult decision to make as I originally tried to make things work, even though I could barely use my right arm and were in constant pain. Agnes decided to stay for the remaining 2 weeks. Our project was an independent study so we didn't have an organisation that we worked with. This meant that we could begin our project as soon as we got acquainted with the city. After a few days we conducted our first interview and also had a few others booked. The biggest chock the first week was the extent of the load-shedding which would, some days, be several 4 h blackouts during times when you would usually cook lunch and dinner. However, we soon discovered that there was a reason for extremely long and frequent power outages. During our first week, The Ocean Race and Formula E were both hosted by Cape Town which meant that load-shedding was suspended for the wealthier areas where the events were being held, and other areas, such as the one we were staying, had to compensate and endure more extensive load-shedding. It was a strange introduction to the extent of the social and economic inequality in South Africa. We still decided to visit The Ocean Race village in V&A Waterfront where the 11<sup>th</sup> hour racing team had set up an exhibition regarding different threats to marine life. Preventing plastics and other pollutants from reaching the ocean was one of the main problems being lifted in the exhibit which was an inspiring way to begin our study.



### Financials

I would say that generally it is less expensive in South Africa since the local currency Rand is about 0,6kr so even if the cost of something in Rand felt quite expensive it was much less in kr. However, it was still hard to maintain our budget since the cost for food and transportation were eventually quite high. In our first Airbnb we didn't really have a functioning kitchen and because of the constant load-shedding we usually couldn't cook. This meant that we had to eat at restaurants which is less costly than eating out in Sweden but since we had to do it so often it became very expensive. We also had to work a lot from cafés during the day since they had wi-fi during load-shedding, which meant additional costs. Buying food from grocery stores is a bit cheaper but not by very much. We didn't have

that much left of the scholarship money after plane tickets and accommodation, I think it covered food for the first weeks. What is also important to note is that Cape Town is a very popular tourist location which is why the city usually has higher prices. We discovered this when we went on our trip to Port Elizabeth where the cost of food was maybe 20-30% cheaper. In my personal experience I found it harder to save money in Cape Town than in Sweden, mainly because of the load-shedding but also since we had to travel by Uber everywhere. The public transportation wasn't considered safe for us and usually we couldn't really walk anywhere so the recommended means of transportation was Uber. Even though the trips were generally cheap, around 30-50 Rand depending on how far you were going, in the end it added up to quite a lot. We also did a lot of activities in our free time which was expensive. I had, however, taken some extra shift before departure at my job to able to afford such activities.

### Accommodation

We stayed in three different Airbnb:s during our time in Cape Town. This was mainly because we couldn't find an affordable Airbnb that was available for the entire period. We received help and guidance with where we should look for accommodation since many areas aren't considered safe in Cape Town and even in the safe areas, some streets should still be avoided. We were also told that you could find apartments and houses to rent on the website Property24 but we ended up going with Airbnb anyway. Our first and last Airbnb were in Bo-Kaap, a neighbourhood known for its colourful houses and it being the historical centre of the Cape Malay culture. Most residents in the area are Muslim and it is viewed as one the most multicultural areas of Cape Town. I really enjoyed living in Bo-Kaap, we met many helpful and kind people and got an insight into the everyday lives of families. Our first Airbnb was however located a bit from the centre of the neighbourhood and I honestly didn't feel very safe in those parts, especially after dark. We were also advised to not really walk anywhere by the locals. The last Airbnb had more security and was closer to the centre which felt safer. We also stayed for a shorter period in an Airbnb situated on one of the main streets of Cape Town. All and all I think the cost for accommodation was around 12 000kr per person for 8 weeks which was more expensive than I expected.



### Project

Our Minor Field Study aimed to investigate sources of ocean plastic pollution in Cape Town and identify ways to work with the issue more proactively. Most of our data collection consisted of interviews with non-governmental organizations and private companies that in some ways worked with the problem. We also participated in a beach cleanup, observed the waste situation in different areas and investigated the availability of recycling for households. The usage of single use plastic was also observed. Some days for us was spent in cafés doing research for our literature study and trying to get in contact with interesting organizations. Other days could be quite intense with a beach cleanup in the morning, followed by an interview and then travelling to the other part of town to do another interview and get a walkthrough of the organizations work in keeping a harbor clean. Through our literature study we tried to find previous methods used to increase the second-hand value of plastic in order to make reuse and recycling more financially sustainable and compare if these methods could be applied in South Africa. We didn't have a presentation in the end since our study was independent but we have promised to send our finished thesis to some of the people that participated in our study.



### Country

Cape Town and South Africa is in many ways a place of wonder. The scenery of Cape Town with mountains stretching out into the ocean is a sight to behold. Endless beaches where the west side of the Cape Peninsula has cold water flowing from Antarctica and the east side has warmer currents which generates a great diversity in ocean life. The city is a popular tourist location with two world heritage sites on UNESCO's list, Robben Island and The Cape Floral Region. The vibrant cultural life that resonates within the communities of Cape Town originates from different African tribes mixed with the Cape Malay culture and European influences. Most restaurants had western and European menus consisting of mainly burgers or pizza, however, we managed to find a few restaurants that served more traditional African food. We tried Kudu (which is a kind of antelope), ostrich and crocodile which was often paired with a kind of bean stew. The Cape Malay cuisine was also one of our favourites, it reminded of Indian cuisine but with its own twist. We also ended up going to some Ethiopian restaurants which has become a personal favourite for me. The picture on the right shows how you would eat the different stews with injera, a kind of flatbread.



The people we met during our stay always showed great kindness and hospitality. Their eagerness to help and interest to learn more about us and our study surprised me since I don't think many Swedes would be as interested in helping strangers. Another thing that we had to get used to, since we lived in

the Muslim area Bo-Kaap, were the Call to Prayer that happened five times a day, the earliest being before sunrise so about 05:30 in the morning. The biggest cultural shock I experienced however, was the extent of the social and economic inequality. When driving along the highway you could have luxury villas on one side and on the other side there would be so called townships where people live in poverty. You could be in the richest parts of town and a few blocks away there would be people living on the side of the road in tents built by tarp and cardboard. There were also security officers on almost every street corner in the richer parts since the risk of being a victim of a crime is incredibly high.

### **Leisure and social activities**

There are plenty of things to do and try when you're in South Africa. During our spare time we visited museums, went on hikes and tried different activities. We both enjoy indoor climbing so we got a membership at a local climbing gym which became our main way of exercise. Cape Town is also neighbour to the Cape Winelands, where many great vineyards and estates originating from the 17<sup>th</sup> century are located. We went on a wine tasting tour to three of the oldest vineyards. As mentioned before, Cape Town is home to two world heritage sites, we visited both. The first, Robben Island is really a must in order to not only gain a greater understanding of the oppression of the apartheid regime and the movement leading up to Nelson Mandela's release but also to learn more about the island's importance historically. The Cape Floral Region, which includes several national parks such as Table Mountain National Park and Cape Point, is the other world heritage site. One Saturday we rented a car and drove around the entire peninsula, visited boulders beach to see the African penguin colony and went to the Cape of Good Hope, the most southwestern part of the African continent. The mesmerizing scenery, nature and wildlife was breath-taking and one of my favourite adventures.



One weekend we decided to take a mini vacation and travel to another town to celebrate Agnes birthday, so we went to Port Elizabeth in order to visit Addo Elephant National Park and go on a safari. The day before the safari we wanted to try something called sandboarding, which is like snowboard but on sand dunes. This was when I fell and fractured my collarbone and had to be rushed to the hospital in Port Elizabeth. I ended up having to stay the night in the hospital but was released in the morning. So, with lots of pain medications in my system I managed to still go on the safari we had booked. It was incredibly painful but having experienced lions, elephants, buffalos, zebras and giraffes up close in the wild made the pain worth it.



### **Sustainability**

In regards of travel, it was difficult to choose sustainable alternatives. As previously mentioned, the public transportation was not considered safe for us to use and we had to travel everywhere by car. In our last Airbnb we had recycling as a service but in our other apartments we couldn't figure out how to recycle or even if it was available. In most food stores we noticed that all fruit and vegetables were wrapped in plastic and the cashiers would usually pack your groceries with extra plastic bags around the items. Often, we would bring reusable bags with us when going shopping and try to choose foods without plastic if it was available.

Our projects main sustainable development goal was number 14, Life below water, specifically 14.1 which aims to reduce marine pollution from land-based sources. We also worked toward goal 11, Sustainable cities and communities, and goal 12 Responsible consumption and production.

### **Other recommendations and observations**

Most South Africans use WhatsApp and didn't use email as much. We realised it was much easier to get in contact with people for our study by finding their number and calling/texting them on WhatsApp instead of emailing. Also, don't be afraid to write several messages, a lot of the times when people didn't answer us for a longer period it was because they had forgotten. Download the Eskom app, it is necessary to follow the load-shedding. Be careful and keep yourself updated on the security situation in the country. Apply for MFS and start early. Try to find an organisation to work with. We found that doing an independent study was quite difficult since we didn't have much guidance and help. Even though it was a great experience to shape the study ourselves, I still recommend at least having someone onsite that is involved in the project. KTH also requires a receiving organisation for the insurance which we didn't know until our application had been accepted. Our contact person couldn't sign on behalf of his company as he was helping us privately so we ended up having to change contact person in order to be insured. Furthermore, have the emergency number for the insurance

company in your phone. If you have to seek out medical attention you need to call them in order to know what expenses they will cover. I was first scheduled to go into surgery but the insurance company notified me a few hours before, when the hospital had already begun some preparations, that they did not deem it necessary and therefore, they wouldn't cover it. I also recommend getting an extended travel insurances from your regular home insurance. After the insurance from KTH said that they wouldn't assist me with travelling home early since they thought I could get further care in Cape Town while they failed to help me get said further care, I contacted my own insurance who immediately decided I had to go home and booked business class tickets and assistance. Finally, try to hike and climb every mountain you can. Rent a car and drive to Cape Point. Don't go sandboarding, or do, but if you do, make sure to not fracture your collarbone. Go on a safari. Skip the burger restaurants and head straight for the African cuisine.

