



## Pilot study of a biogas and CHP plant driven by Sargassum algae in Grenada, Caribbean

### Before departure

I have since I began my studies at KTH been interested in conducting my studies abroad and therefore, I saw KTH Field Studies as a great opportunity to do so. One of my friends introduced me and another friend to a company and told us they were looking for more students to collaborate with. So, we decided to give it a shot and applied for the travel grant. Grenada seemed like an amazing country with a climate and culture none of us had experienced before. The project we were assigned was interesting and I was really excited to start. I was tired of my normal studies and the weather in Stockholm, so I was looking forward to some temporarily changes!

Before departure we were figuring out our accommodation situation and booking flight tickets trying to plan our travel. We did not have to apply for any Visa and there were no super special vaccination requirements to enter the country. I did however take some extra vaccines to ensure my health during the trip. We realized there were four other students from KTH going to Grenada the same time as us so we solved a shared accommodation to bring down the cost which otherwise would have been much more expensive.

Previous students had visited Grenada and told us to bring as much clothing and general products as possible since the prices in Grenada are high and they have a limited selection of clothes and products. So, I started to plan my packing early to make sure I brought all the things I would need.

### Upon arrival

We arrived in Grenada in the middle of Mars so half of the time of the bachelor's project had already passed. When we landed, we had not pre-booked a taxi but found one easily when we arrived. The other students we were living with had already arrived, so they met us up at our accommodation and showed us around the area.

The next day we met two involved partners of the company we were working with. They shared their knowledge about the previous projects and gave us a nice introduction into the Grenadian culture.

We stayed in Grenada, Grand Anse for a total of 10 weeks. We started our project by doing literature studies and then established contacts to be able to explore similar facilities and operations in Grenada.

### Financials

Grenada is a more expensive country than Sweden when it comes to food. The supermarkets had expensive food and the restaurants were about the same price as mid-fancy restaurants in Sweden. To keep the cost of food down we cooked a lot. We didn't plan so many meals but went to the supermarket and saw what was available for a good price that day since the supply of food varied a lot.

To travel around the island, we either booked a taxi or took the local bus. I really appreciated the local bus system since it was cheap, had many departures and made it possible to go around the whole island without renting a car. Different busses cost different amount depending on the region, but the

general price was between 2,5 XCD – 6 XCD. Sometimes we used their uber system called Haylup which was convenient when you wanted to go shorter distances and go directly to a location without having to walk anything.

The travel grant of 15 000 SEK covered the expenses of the flight. The cost of the accommodation and food was covered with the help of my private economy and CSN. The additional cost of food and accommodation was around 30 000 SEK for the 10 weeks I stayed.

### **Accommodation**

The accommodation was solved with the help of a contact person living in Grenada that was involved with the company we were doing our project with. I rented a lovely house together with 5 others. I recommend living there if you want to go there and have some people to share accommodation with. It was located near all supermarkets around Grand Anse, two minutes' walk to the best beach on the island and the area felt safe. In my experience Grand Anse was the safest place to stay as a tourist.

### **Project**

The project I have been working on have involved the planning of building a biogas cogeneration system driven by biogas produced by the Sargassum macro algae. We investigated the main components of the plant and what parameters that are critical to ensure optimal use in Grenada.

A normal day involved a lot of literature research. We often went to St. George's University to write on our report during the days. Some days we also went to visit already existing micro plants and the planned production sight.

### **Country**

I really loved Grenada, it was a lovely country and the people living there where some of the most helpful and kind people I have met. From the moment I arrived they were welcoming and caring. I felt at home fast and I think that's because the community was small, and everyone greeted everyone. However, I must say that I was more careful at night and rarely went out on my own since I recognized some difference in the view of the women compared to Sweden.

### **Leisure and social activities**

During my spare time I went on a lot of hikes to visit some of Grenada's waterfalls. They have a big rainforest that I recommend exploring if you are going there. They have a lot of events all the time in this country and not only on the weekends. The people living here really knows how to have fun. During our stay there were among other things a big reggae festival that we attended.

To explore the close located islands of Grenada such as Carriacou and Tobago Cays we rented a boat for some days since we thought that was a nice way to get around. I strongly recommend visiting other parts of the Caribbean when you are already there! There are also good places to do snorkelling and diving close to Grenada such as the underwater sculpture park and flamingo bay.

### **Sustainability**

It was hard to maintain a sustainable lifestyle when you had arrived especially when it came to throwing garbage. They currently have no system for handling and recycling different types of waste, so everything goes in the same trash bin, glass, metal, plastic, cartoon, electronics and so on.

Since a lot of food is imported it is also hard to make sustainable choices when you are in the supermarket but there are some locally produced groceries that we tried to choose from. The project we conducted mainly worked towards the sustainable development goal 7 (affordable and clean energy) since it contributed to the research of implementing a power plant that produces clean and renewable energy.

### **Other recommendations and observations**

My recommendation when going to Grenada for field studies is to explore the rainforest and the country as much as possible doing hikes and attending local events. If you have the opportunity one of the highlights for me was to explore other parts of the Caribbean too especially Tobago Cays!