

**Country for the project**

The Philippines

Degree programme

Engineering Mathematics

MFS in Manila Philippines, A Demonstration of Murphy's Law

Before departure

I actually had no idea what the Minor Field Study scholarship was until we received an email about it in September last year. The subject line of the email was "Do you want to conduct your bachelor's or master's thesis abroad?" and I immediately thought, "Absolutely!" I attended an introductory lunch seminar and was further intrigued by the stories of other students who had conducted awesome projects before me. However, I faced an issue as no one from my program had ever done this before. To be fair, no one from my program had ever written a bachelor's thesis whatsoever, since we are the first Engineering Mathematicians at KTH. Interestingly, it seems that most of the other students who had done an MFS were not from any super theoretical program, like mine.

I told my friend that I was interested in the opportunity but didn't plan to apply because the application process was long and I didn't think I was a good fit for the MFS program. He called that "stupid" and threatened to "toffla mig" (meaning hit me with a slipper, apparently a common way of showing disappointment for Kurds) if I didn't apply. His point sunk in, and I decided to go for it!

As a mathematics student, it was difficult for me to determine which project and country would be suitable for me. A project within mathematical statistics seemed appropriate, and I thought that an MFS would be a great application of statistical inference. I also decided early on that building a model for resource consumption and generation would be cool and easily related to the global sustainable development goals. I determined that I needed to go somewhere relatively well-developed (such as India, South Africa, or Thailand) to gather data from different organizations and institutions since I wouldn't have any instruments of my own.

I ended up choosing the Philippines because I happened to attend a CISV (Children's International Summer Village) camp in 2011, which included a delegation from the Philippines. Although this was over 10 years ago, I still had contact with the delegates and their leader, Mish, who became my contact person for the project. The fact that Filipinos also speak English really well was also a plus.

In November, I was notified that I had been accepted into the MFS program, which was thrilling news! I immediately began making preparations, which included getting vaccinations for Hepatitis, Typhoid fever, and Cholera. I also needed to find a place to live, someone to sublet my apartment, obtain a visa, and make a list of important things to bring with me. I should have received a vaccine for Japanese encephalitis, but it was too late to get the shots. This worried me a bit during the trip, but since I was staying in a city rather than in the countryside, it turned out fine.

Upon arrival

I arrived in the Philippines in the beginning of February. Now here is when things started to go sideways - hence why I call this a demonstration of Murphy's law. From the moment I arrived, there was almost exactly one catastrophe a week. The very moment I got off the plane (not even in the Philippines - this was in Bangkok), my phone died from the humidity, rendering me without my main travel guide. Exactly a week later, my credit card suddenly stopped working. This turned out to be because I had taken out too much cash when replacing my phone the week before. A week later, I got

stomach ill and had diarrhea for 10 days straight (a classic Asia story, and I had expected it to happen at some point). The week following that, I had to finally start catching up with my studies after being sick for a week.

What happened next was very personal and sad. I received notice of the death of a family member and was crushed. At this point, I just wanted to go home. I would have been sad if this had happened when I was home, but having to go through this while being away was awful. So the next week, I had to make arrangements to go home for the funeral, which was two weeks later. Fortunately, I was allowed to do this without repaying my scholarship given that I returned to the Philippines afterwards. Since I was subletting my apartment in Stockholm and had paid for my accommodation in Manila and return flight in April, it made the most sense for me to do this.

Two weeks later, I flew to Stockholm to attend the funeral, as well as spend some time with my family. I returned to Manila a week later. These flights were fortunately also paid for by the “Student UT” insurance that one gets from KTH when going abroad.

When I came back to the Philippines, I only had a few weeks left of my time there, and those went pretty smoothly apart from a power outage in my apartment, which meant I had to stay at a friend’s house for a few days.

Financials

In the Philippines, everything is definitely cheaper than in Sweden. However, the main expense for me was transportation. Due to the hot climate, it’s rare to see people walking in Manila, and sidewalks are not even available in most areas. As a result, I had to rely on either municipal traffic or taxis whenever I needed to go somewhere. For safety reasons, I chose the latter most of the time.

Food was also much cheaper, but I had very little opportunity to cook in the apartment I was renting. As a result, I relied on eating out. From week three onward, I paid for more expensive places to avoid getting sick again. I think the result was that I paid almost the same for food that I would by cooking my own meals in Sweden.

Another important thing to keep in mind is that while the scholarship provides a lot of money, it can be very expensive to cover additional costs such, visas, vaccinations, and gifts. Personally, I also had to purchase a proper bag, a reliable laptop charger, a universal power adapter, and several other items for the trip. Additionally, replacing my phone was definitely a costly expense! That was one of few things that was definitely not cheaper in the Philippines.

Accommodation

I rented a condo in Mandaluyong, a city in Metro Manila, through a tenancy mediation site that my contact person recommended. The condo was larger than my apartment in Stockholm but had the same rent. It also provided access to some common areas, which was a nice bonus. Additionally, the place had very high security, which made me feel safe and secure. We were recommended to live on a higher floor for extra security. I took that quite literally and my apartment was on the 36th floor.

Project

Before departure, my project was pretty loosely defined. And this was intentional. I knew I wanted to study resources, but I was open to the idea that I might not have access to a lot of data. I started looking into water resources, but had little success obtaining data sets from water supply companies in Manila. The food supply chain also did not respond. My best bet turned out to be the energy department, which provided me with great datasets on historical generation and consumption all across the Philippines.



Initially, my plan was to study only Manila, and preferably the different cities within it. However, the data I was provided did not have these details, but rather the larger energy grids across the Philippines. As a result, I decided to focus on studying the Luzon grid, which is the island that Manila is located on.

Due to the personal issues I encountered during my field study, I did not have much time to analyze the data while I was still away. When I returned to Sweden, my supervisor helped me narrow the project's ambition to something more manageable in the time I had left before I needed to submit my first draft. So the project turned out to be developing and comparing a few predictive models to forecast renewable energy generation on Luzon. It's only a part of what I had in mind when leaving, but there's a lot to study and say about that topic. So, I am happy with what I have produced!

Country

Filipino culture differs significantly from Swedish culture. Despite having taken a course in intercultural competence and feeling prepared, I soon found myself drained after a few weeks there. Due to colonization and the past caste system, Filipinos still have a colonialist mindset. Although I found people to be kind and hospitable, I grew tired of being treated like royalty simply because of my skin color. This made it difficult for me to discern whether the friendships I made were genuine. Additionally, I felt too introverted to be comfortable with so many people approaching me and asking for selfies on the streets every day.



Leisure and social activities

I didn't bring many things with me, as I planned to spend most of my free time exploring during my stay there. This was true for the first few weeks of my trip, as well as the weeks following my second arrival. However, when I experienced some issues, I really missed my books and sketch pads that I keep at home. So I bought some art supplies and downloaded ebooks to keep me occupied during that time.

Once I felt better, I went out to explore the noteworthy sights in Manila. I even used playing Pokemon Go as an excuse to go outside and see monuments which turned out to be really fun! I hung out with my friends from camp and they showed me around where they lived and I also went to see a friend's family in Pampanga which is a town a couple hours north of Manila.

Sustainability

I don't think my stay in Manila was sustainable. I traveled across the globe twice and had to take taxis even for short distances. I also used more electricity than most people because I found the heat unbearable without air conditioning. Additionally, not knowing how to recycle properly made me feel like I was living unsustainably. Overall, I did not consider my stay in Manila to be sustainable.

However, the project itself was closely related to sustainability, as I was trying to forecast sustainable energy sources for the region. The project aims to project indicators for Sustainable Development Goal (SDG) target 7.2: "*By 2030, increase substantially the share of renewable energy in the global energy mix*"

Other recommendations and observations

I named this project "*a Demonstration of Murphy's Law*" for a reason. It seems that everything that could go wrong, did go wrong. However, you know what? It turned out fine anyway. Before I left, I thought, "What could go wrong?" But each time something did go wrong, I fixed it and everything was fine. Through this experience, I have grown as a person and learned a lot about different cultures, my field of research, and myself. No matter how much preparation you do, things can always go sideways, but don't be discouraged. People mean well, and if you ask for help, you will receive it.