

Final Internship Report

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Ghana

At a glance

I executed an impact analysis for a development intervention funded by the Bill & Melinda Gates Foundation. We looked at ways to reduce anemia in reproductive-age women fish smokers through behavioral changes, better technology and access to credit. Living and working in a small city in northern Ghana, I gained a ton of experience working in an unfamiliar culture and learned about my own resiliency and adaptability.

This summer I worked as an intern at Innovations for Poverty Action, an international NGO that pioneered the study of development interventions using randomized controlled trials (RCTs). I was assigned to the Invisible Fishers project, which studies ways to reduce anemia in reproductive age women fish smokers in coastal and lake communities. After the pilot stage of the project's interventions, which involved hygiene and best practices education, access to credit and market information and better smoking technology, I conducted an impact analysis to quantify the effects of the intervention. Details are sensitive, but I found it had a massive positive effects on secondary measures like hygiene, income and women's empowerment in economic decision-making.

Besides my main project, I worked with a senior research technician to improve IPA's data quality controls with machine learning. I wrote a ten-page paper outlining a workflow and identifying potential algorithms to flag human error and fraudulent entries. I also taught classes to local staff on using Stata and Python for data visualization.

Projects + Types of Work

For the Invisible Fishers project, I did a lot of detailed statistical analysis, drawing heavily on my applied math and econometrics classes. What challenged me was doing analysis with raw data, which had to be extensively cleaned, recoded and reshaped. This separated my experience from a classroom project, which typically uses neat, clean datasets downloaded from the World Bank or something along those lines. I produced two 40-page reports analyzing the baseline and endline data collections, using an impact analysis framework to assess the effect of the multilayered interventions.

I also taught daily classes to the local staff on using Stata for data analysis and using Python for data visualization. This meant preparing lecture notes, code samples and assignments so attendees could practice their skills on the side.

Before I began my assignments, I went into the field for three days to learn about the data collection process. I spent time with a field manager working on GeVaP, a project studying vaccine compliance in isolated villages. Learning about the complex logistical challenges of collecting reliable data in the field pushed me to start a collaborative project with a senior research coordinator, which was my secondary project alongside Invisible Fishers. We worked on machine learning algorithms for anomaly detection in the data collection workflow, which would identify multi-dimensional anomalies and flag them as potential human error or fraudulent data collection.

On a day-to-day basis I had a great deal of autonomy. But while I was technically working on my own, I collaborated heavily with my coworkers because my data analysis skills were useless without a context of local knowledge. They helped shape my projects in the right directions to be stakeholder-focused and informed by the actual lived experiences of people in and around our communities. In particular, my anomaly detection project was informed by conversations with field managers and research coordinators about the difficulties they faced collecting reliable data in the field.

Expectations vs. Experience

I had very few expectations going into my internship, because I knew it would be unlike anything I had previously done. Mostly, I was worried about how I would cope with such a dramatic lifestyle shift from Hanover to Tamale. In this sense, my expectations were

met because my adjustment was very turbulent. In the course of a few weeks, I had food poisoning twice, was hospitalized, lost 25 pounds and survived a serious car accident.

What surprised me the most was the difference between the ground level perspective of staff working on development studies and the academic birds-eye view I had seen in my classes. Studies I knew would eventually become tidy, elegant papers written by distinguished professors were chaotic and fraught with unforeseen challenges. The theory of how to execute an RCT that I learned in Econ 24 (Development) was often unrecognizable up close.

I learned about the challenges that come when professors from prestigious American and European universities try to design studies to be carried out in West Africa. My internship was in part a crash course on the complex web of incentives that shape the production of research, from the selection of topics to the smaller details of studies, which made me consider economic development academia much more critically and realistically.

Work Environment + Work Life Balance

My work environment was very welcoming and my coworkers were exceedingly friendly. I had no difficulties making friends in the office or adjusting to new relationships. My main challenge was working in a city that was predominantly Muslim, which meant meetings and lectures had to be scheduled around considerations for prayer and mosque congregations.

Some of my favorite moments from my three months in Ghana happened around the kitchen table in my office. My coworkers were especially happy to talk about the differences between the U.S. and Ghana and correct my misconceptions. I learned more about development from lunchtime conversations with my colleagues than in all my time at Dartmouth.

However, it was really difficult to find a social network outside work. In fact, I barely socialized beyond coworkers because there were very few expatriates in Tamale and even fewer places to safely socialize as an outsider. It was also quite dangerous to drive after dark, so I stayed in almost every night. I was able to spend a couple weekends traveling to the capital and to the main national park, but for the most part I was alone during my free time. I spent a lot of time on the phone with friends from home. I probably went through about 20 books over the summer.

This was apparently because of the specific city I was working in. There were other interns in the main office in Accra that spent their evenings going to bars and clubs and even taking dance lessons with locals and expats. For future potential interns/volunteers working for IPA, it's important to consider the specific office within a given country.

Personal Growth, Skills Learned + Cultural Differences Encountered

I connected very deeply with my faith in Ghana. I was raised Catholic but distanced myself from the Church before I came to Dartmouth, mostly because of the controversies. Away from the rapidity of Dartmouth I found time to reflect and pray and connected more closely with God. It was the main way I coped with the difficulties of being in Ghana and processing the unspeakable things I saw on a day-to-day basis. My favorite cultural experience was actually attending a Catholic mass in Ghana, which is usually a

very quiet and reflective affair in the U.S., but there meant a 2.5 hour dynamic dancing and drumming service with nearly everything in song.

I learned I was more resilient than I expected. I handled serious setbacks without major help from friends or family beyond some emotional support. I also became much more reflective while there, because I had long stretches of time with not much to do but read and think. And I came to understand I would have a difficult time explaining my experiences and relating them to others, and that I would have to accept an inability to communicate.

I came away from experience with a good deal of practical skills — cooking, riding a motorcycle, working in a multifaith environment — but the most important skill I learned was the ability to be much more cautious and thoughtful about what I say and why. Back home, I don't second guess myself in most interactions, but in Ghana I had to carefully consider my words and actions in an unfamiliar environment. I became more measured and deliberate so I could navigate my new context.

And finally, I learned how to apply my classroom skills to real-world problems. I've done hands-on projects at Dartmouth, but nothing came close to doing live analysis with raw data coming in from the field, with a rapid turnaround for demanding stakeholders.

Lasting Impact

This internship had a remarkable impact on my life. It ranks among the most important things I've done at Dartmouth. I reconnected with my faith, learned valuable professional skills, got accustomed operating in unfamiliar contexts and pushed myself hard to be resilient and self-reliant. But I'm actually more proud of the lasting impact that I had on the organization for which I worked and the community that I served. My time in Ghana enriched my own life but was more properly a term of service. Through my small contribution, new avenues may be opened up for anemia reduction research to vastly improve the lives of billions of women around the world. And through my work on anomaly detection, I hope IPA will continue to pioneer the future of development studies on new fronts.