

From the moment I came to Northeastern, I knew that I wanted to be a civil engineer. So far nothing has made me doubt that decision. The American Society of Civil Engineers as well as the civil department as a whole have been extremely welcoming, and have made my freshman year a fabulous experience. So when I heard about the climate change dialogue to India I was intrigued. Civil engineering and University Scholars? It sounded tailor-made for me. India is someplace I've always wanted to visit, and this seemed like the perfect opportunity.

I knew as I was preparing for our trip that it would be nothing like my expectations. I was completely right. There would have been no way to accurately prepare for what we were going to see and do. The heat and the culture of India, as well as our diverse collection of academic visits, cultural visits, and different locations, combined to make this trip unlike any other one I've ever been on. To be honest, the first couple days were a bit rough. I knew some of the people on the trip, but there was a good number of Scholars and upperclass civils who I had never met before. In addition, the first few days of the trip turned out to be some of our most intense. Being brand new to India was both physically and emotionally overwhelming. We spent our mornings out sightseeing in the oppressive heat, then came back to sit in uncomfortable barstools for the afternoon academic sessions. At the end of each day I just collapsed, exhausted, into bed. However, some students mentioned that the intensity of the schedule might be a little much to Professor Ganguly. He was extremely accommodating and immediately revised our schedule, reaching a compromise that completed the necessary academic work but also allowed us some free time. From that point on we settled into a good rhythm, and my entire experience has been nothing but uphill from there.

Our main activities on this dialogue can be classified into three main categories: academic guest lectures, academic modules, and cultural excursions. In some cases, the academic speakers came to us. In others, we went to go visit universities or companies to see what work was being done. One significant aspect of our trip was our extended relationship with IIT-Bombay. We stayed in Powai for several days

and visited several different departments of IIT-Bombay, including the Center for Urban Sustainability, the Center for Technology Advancement in Rural Areas, the Climate Studies and Policy Program, and many more. I believe that most people really enjoyed these visits and got a lot out of them. For example, something unexpected happened when Monika Jain of the Center for Urban Sustainability came to talk to us. One of the subjects of her lecture was IIT-Bombay's Solar Decathlon team. For the Solar Decathlon, a team of engineers, architects, and marketing specialists come together to create a zero-emissions house that runs completely on solar energy. Fifty students and seven faculty spent two years and \$400,000 putting this house together, for the final competition this July in Versailles. A lot of the civil engineers on the trip were really excited by the idea of a Northeastern Solar Decathlon team and were eager to learn more. Nothing specific had been planned for us related to the topic, but an outpouring of interest from the civil engineers in particular led to more interaction on that front. A group of us ended up making a special trip over to IIT-Bombay to hear a presentation from the whole Solar Decathlon team. We plan to stay in touch with Monika Jain and start working towards a Northeastern team as soon as we return to Boston.

Aside from visiting several different civil engineering, environmental engineering, and climate change departments, we also had a good number of speakers who were from completely different disciplines. One of Professor Ganguly's favorite things to note is that "we are a very diverse group," so different people in the group connected more with some speakers than others. For example, the international affairs and political science students really enjoyed one of our first talks with Marisa Smith of the US Consulate in Mumbai. She answered questions on Indian policy, the upcoming election, the Foreign Service, and much more. Our visits to SwissRe and Infosys, as well as our talk with a Mumbai entrepreneur, were more focused on how businesses work in India as compared with the rest of the world. Lastly, the more science-oriented students were interested in our trip to Natural Remedies, a company that is providing innovative agroforestry techniques to rural farmers. Of course, interest in

these talks was not dictated by discipline. But having an incredible breadth of speakers really showed the class that climate change is a universal issue that affects almost everybody in India.

Another large portion of our trip was spent covering academic modules. These modules were the meat of our two courses, and each culminated in a full-day “war game” where we tried to reach compromises and solutions related to climate change while also protecting the interests of our own teams. Other than the war games, though, our modules tended to be about three hours long. We first covered the Climate Change Science course. In that course, we learned the difference between weather and climate, the factors behind climate change, the possible and/or probable future global effects, possible mitigation and adaptation techniques, and much more. This class was one of the places where the divide between civil engineers and other majors was the most obvious. I knew most of the basic background knowledge from my Environmental Engineering class last semester, and of course the upperclass civil engineers had taken several environmental classes in their time at Northeastern. However, a lot of the information was brand new to most of the University Scholars. Professor Ganguly worked well with the different levels of comprehension, though, and did his best to give everyone in the class a broad picture of climate change science, covering key details and leaving out tangential ones. The policy class was a lot easier. All of our speakers had already collectively given us an image of what Indian climate change policy looked like, so it was a lot easier to understand both Professor Ganguly’s and Professor Majumdar’s lectures. And for the war games, since we each had to research a very specific sector, country, or specialty, nobody really had a leg up. The war games were crucial in helping us to understand not only the pressing environmental and health problems facing India, but also the difficulty inherent in trying to solve them all.

Lastly, we had several cultural visits that were not climate change-related at all, but were just to help us experience India. No students on the trip had ever been to India before. So when it came to cultural experience, all of us were on the exact same level: we knew nothing at all. Professor Ganguly,

our ChariotIndia guides, and various regional tour guides showed us everything from palaces to Hindu temples to the slums of Dharavi. We stayed in hotels in both the city and the countryside. We rode elephants, attended weddings, haggled over purchases, and ate amazing food from roadside stands. Some of my favorite memories of the trip have been impromptu meals at various restaurants, or even just walking around the cities. As I'm approaching the end of our trip, I realize I will leave with the impression that India is a vast and complicated country, as diverse as one nation can possibly be. That was probably one of the purposes of this trip. Studying climate change in India has been an unbelievable experience, and I can't wait to bring all my new memories and knowledge back to my studies at Northeastern.