

This summer, two architecture students; Imogen McAndrew from Edinburgh University and Freya Emerson from Newcastle University; joined Oxfam in Cox's Bazaar, Bangladesh. The students were working on a special project aimed at helping Rohingya refugee women. Here Imogen reflects on her time in the world's biggest refugee camp.

Sitting on the plane on my way to Bangladesh I felt a huge sense of responsibility. Freya and I had been invited to the country by Oxfam to work on a new project aimed at providing women and girls in the Rohingya refugee camps with safer, more suitable washing and toilet facilities. We'd never done anything like it before, and we both wanted to do the best job we could.

Freya and I touched down in Dhaka, Bangladesh then took a short plane ride to Cox's Bazaar. We arrived at around 9am at Oxfam HQ, Cox's Bazaar. This would be our base for the next week as we set about our task to help improve the privacy, security and sanitation of the washing and toilet facilities used by Rohingya women and girls.

It goes without saying that all women and girls deserve to feel safe when they're going to the toilet, and clean during menstruation. But the conditions in the vast refugee camps in Cox's Bazaar are extremely difficult; and Oxfam's own research had shown that the existing emergency latrines and washing facilities were having serious implications for how safe and dignified Rohingya women and girls were feeling.

Oxfam had recognised this challenge and were on a mission to change it, with a little bit of help from Freya and I. We were going to be working with Rohingya women through focus group discussions to come up with models and sketches of facilities which would work better for them. It was then our job to take their feedback and ideas and turn them into tangible designs which could contribute to the piloting of new ideas and further down the line provide examples of best practice for other camps.

Our work began with a visit to the camps. Every morning at 9am, a fleet of Oxfam cars would be waiting outside the office ready to take the aid workers into the camps.

On my first day visiting the camps it took me two hours just to get there. The Cox's Bazaar refugee camp is absolutely colossal: it has a similar population to that of Birmingham. It's split into various sub-camps managed by different NGOs to make it easier to operate.

The rain was hammering down and the car I was in drew to a stop. Up ahead, the road had come to an end. The Bangladeshi government is currently building new roads to improve access to the camps, but our road hadn't quite been finished. We got out in our waterproofs and began the two to three kilometer walk to take us into the heart of the camp.

Arriving at the camp I was struck by the red, undulating, earthy terrain, which stretched as far as the eye could see. Hundreds of makeshift houses made of bamboo and white tarpaulin were perched on the hillside. At the bottom of the hills, small ponds would gather, soon to fill up with the increasing rainfall as the rainy season drew closer.

Groups of women dressed in headscarves and long saris were carrying water and food rations, others were washing clothes on concrete wash pads by the water pumps and other women were squatting down cooking in front of stoves in their homes. Little children were running in and out of neighbours' houses and around their parents' legs, occasionally lifting their heads with huge smiles to shout "hello" at me and then giggle with their friends at my response.

I was led around the matrix of houses by an Oxfam worker stationed in the camp and was invited to look inside one lady's home. It was quite dark as the door was the only source of natural light but she had an immaculate dried mud floor with a small fire in one corner. There was a partition that separated the single space and drying clothes were tucked under the gridded woven bamboo structure. This small space was for a family of five.

After this initial walk around, I was guided into a large open plan hut, situated just off the main route into the camp. It was the Oxfam distribution centre and community space where I was to meet a group of 20 Rohingya women and girls who I'd be working with on ideas for new washing and sanitation facilities which better met their needs.

The session began with them all eagerly looking at me, and at my hand where I was holding a pen, waiting to see what I would do next. No pressure!

I started by asking questions through my translator such as "When do you feel unsafe? Why? What would make your experience in the toilet/bathing facility easier? Why?" The women and girls were very engaged: chatting amongst themselves and then reporting back via the translator.

I then began drawing either a 3D image or modelling something with plasticine; asking the group to feedback their opinions on whether or not my ideas could work and how we could make them better. The women got involved too, taking pens and paper so they could add their ideas.

Over the buzz of the chatter I reflected on how similar the women were to my own friends and family, despite our vast cultural differences. All these women and girls wanted were improvements to their hygiene, safety and dignity; things all of my friends at home would want too if they didn't already have them.

From these discussions, walks and other research, over the course of a week Freya and I identified a few key design features both for immediate implementation and more long term solutions to make facilities in the refugee camps more female friendly.

We came up with a few different ideas, not least because all of the camps were different. In some, the houses were two or three kilometers apart and in others they were so tightly packed they only had space for one person to pass in between them.

Our key goal was to design facilities that helped women who were menstruating. In the camps, the most common method for dealing with menstruation was using a reusable rag that must be washed and dried regularly. Many women didn't feel comfortable drying their rag in their home as they felt they had to hide it, which meant that it wouldn't dry properly and could harbour bacteria – a real health risk.

No matter who you are, sanitary items are quite private items, so we were faced with the challenge of providing drying spaces that were out of sight but that utilised natural sunlight to kill germs and bacteria that were residing in the cloth.

To overcome this, we suggested putting high shelves in individual toilet blocks with corrugated PVC roofing to allow sunlight to enter and woven wood mats to obscure the view from above.

In larger bathing blocks - which would be shared between the women of 10 families – we built on the women's own ideas that they should have their own pigeon hole shelves where they could collect their own individual rag. Again, we suggested a clear PVC roof with a woven mat on top.

Another reoccurring theme was the women's desire to have male and female segregated toilets. We explored different ways in the limited space to manipulate screens to separate male and female toilets to give optimum segregation on the route to and around the toilets. We also suggested new locks for the toilet doors to help them be more private.

Through the amalgamation of background knowledge and the women and girls' own input, we developed sensitive designs that improved women's security, privacy and dignity. We hope that some of our designs will be piloted in September.

After an intense, fast paced week, Freya and I were leaving Bangladesh. As our plane took off from Cox's Bazaar, I reflected on our work. I'd enjoyed the process of taking a pragmatic, resourceful approach to my designs and having to problem solve within tight limitations. I also felt hopeful that some of the improvements we'd suggested could be made relatively quickly, and would improve the women's lives.

But most of all I felt great empathy and admiration for the humanitarian aid workers that I'd met. I was blown away by Oxfam's organization of the camps and how well they'd brought order and calm to a chaotic situation. Even though I was leaving, I knew that the next morning at 9am, aid workers would be getting in their 4x4s and heading back into the camps, ready to take on another day's challenges as they worked to make a difference to the lives of the people living in the world's largest refugee camp.