Royal Academy of Engineering

THIS IS ENGINEERING

OUR EXISTENCE CASE STUDY

ENGINEERS WITHOUT BORDERS UK

ENGINEERING IS VITAL for human development and key to addressing urgent global issues such as the effects of climate change, resource depletion, increasing urbanisation and rapid population growth.

Engineers Without Borders UK brings people, ideas and engineering together to respond to these complex issues. We work in sub-Saharan Africa, southern Asia, Latin America and the UK to ensure that the engineers of tomorrow have the necessary skills and information to apply their knowledge in a globally responsible way. We work with individuals, local partners, the education sector and the engineering community. Together, we are ensuring that people everywhere have equal access to the benefits of engineering.

To find out more, please visit www.ewb-uk.org

UK ENGINEERS WITHOUT BORDERS

LUCINDA HAZELL

Civil Engineer

Over 60% of the 1.25 billion people living in India do not have access to a toilet. Engineers Without Borders UK is working with Shelter Associates in the city of Kolhapur, where the homes of 40,000 people are not served by any sewers, an issue worsened by the monsoon rains every year.

Open gutters often overflow, causing rainwater to mix with toilet waste and harmful bacteria and diseases to spread. Engineers Without Borders UK volunteer Lucinda worked on combating this by identifying new and alternative ways to collect and treat the sewage as part of the One Home, One Toilet project.

WHAT WAS your favourite part of being a volunteer engineer?

Working in such a different environment and knowing that I really was doing something useful, making a difference to people's lives by improving their health and quality of life.

HOW DID you get where you are today?

I loved sciences and maths when I was at school, so I studied them as much as possible. I studied maths, biology, chemistry and physics at A-Level. I wasn't entirely sure what I wanted to do with these subjects but I knew I enjoyed problem solving.

I went on to study civil and environmental engineering at Imperial College London and volunteered one summer to work in El Salvador building seismic resistant houses. This was my first taste of engineering in a development context and essentially what inspired me to volunteer with Engineers Without Borders UK six years later.

WHAT DOES engineering mean to you?

The basics of engineering is problem solving. It is the application of science, maths and technology to make the world a better place.

I've been fortunate enough to see lives changed as a result of good, simple engineering and that's what it's all about.

Royal Academy of Engineering

THIS IS ENGINEERING

OUR EXISTENCE CASE STUDY

ENGINEERS WITHOUT BORDERS UK

NIALL NOLAN

Rainwater Harvesting Systems Engineer

Although Mexico city is built over five large lakes, the 21 million people that live there face serious water shortages due to sewage contamination of this vital resource.

Engineers Without Borders UK is working with Isla Urbana to install systems that capture the rain during the wet seasons and store it for use in the dry seasons when there is no rainfall at all.

These are known as rainwater harvesting systems.

Engineers Without Borders UK volunteer Niall was tasked with investigating the potential for rainwater harvesting systems to meet water demand in Tlalpan, an area in the south of Mexico City.

WHAT WAS your favourite part of being a volunteer engineer?

My favourite part of being a volunteer with Engineers Without Borders UK was working on a project that has a real tangible benefit to people's lives.

The opportunity to work directly on rainwater harvesting systems with Isla Urbana was really exciting as this project has not been done before.

HOW HAS volunteering helped your career?

When I finished my placement with Engineers Without Borders UK, Isla Urbana offered me a permanent job. Currently, I am helping to conduct the water quality studies of our systems at the various stages of the water's journey from the roof, through the cistern and into taps.

I have also worked on building a rainwater harvesting tool that we can use to estimate what the potential water savings are for a given system anywhere in Mexico. Without this volunteering opportunity, I wouldn't be where I am today.

WHAT DOES engineering mean to you?

I'd say engineering at its best is when people work together to find solutions to problems that we all face in trying to develop a good quality of life for ourselves, all the while doing it in a sustainable and ecologically and politically sensitive way.

I believe that the role of engineers in the future will be to look for different and smaller integrated ways to find solutions to problems which are friendlier on the planet and help us all live more sustainably.

UK ENGINEERS WITHOUT BORDERS