



## FemEng in Botswana

### IET Travel Award Sponsorship Report

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#### FemEng in Botswana

FemEng is a student-led female engineering society at the University of Glasgow which aims to inspire, support and empower women in engineering. International outreach projects are one of our main initiatives each year, with previous projects in Rwanda, Malawi and Kenya. Looking to complement the success of previous projects, FemEng in Botswana was created in November last year. This project saw a team of 8 female engineering students travel to Botswana for 3 weeks in June this year to collaborate with the Digital Learning Academy and UofG World Changer, Eunice Hanna, to achieve common goals and successfully fulfil our main objective of encouraging women and children to pursue an interest in engineering. Across 3 weeks we reached over 1000 school pupils, while also engaging in industry visits, media interviews and a meeting with the British High Commissioner to Botswana. This project was entirely student-led and therefore relied solely on sponsorship from those such as the IET, which made the project and its success possible.

#### Outcomes Achieved

The FemEng in Botswana team successfully delivered a range of skill-based engineering workshops to schools in communities in Botswana which provided insight into various engineering disciplines. Workshops focused on biomedical, aeronautical, electrical, mechanical, civil and product design engineering. The workshops themselves were comprised of simple and cost-effective materials but gave the pupils an opportunity to work creatively in teams and understand the engineering concepts behind each activity. Not only did these workshops allow young people to acquire basic engineering skills, but the sustainable impact of our project addresses the socio-economic inequality of women in engineering, with hopes to help remove the barriers to social inclusion and increase the number of women taking further education in STEM-related fields. We expect to have established a long-term relationship with our partners in Botswana, which FemEng can continue to build upon for a number of years.

## Project Management

Throughout this project, I have had the privilege of being Project Manager, which has given me the opportunity to manage a project on an international scale. My role began in October, by determining the project destination and identifying possible contacts at UofG and in Botswana. This was followed by team selection through an application and interview process. From the beginning of 2023, I led the development of a project execution strategy supported by action plans in all areas of the project, discussed in weekly team meetings. This role has given me confidence unlike that of which I've gained through any other experience and has further prepared me for a career in engineering. The successful delivery of the project has demonstrated the feeling of accomplishment and satisfaction, despite the many uncertainties and challenges faced by the team. Ensuring that the project ran successfully, for the sake of myself, the team, our partners, the pupils in Botswana and sponsors, was one of the most enjoyable yet challenging responsibilities I have faced. Myself, alongside the women in my team, have now established a project which will continue to expand and develop for several years. I'm tremendously proud and full of admiration for my team, as each individual passionately displayed enthusiasm and commitment throughout the project which contributed greatly to the overall success.

## Delivery

While in Botswana, we delivered workshops in Nata Senior Secondary school, Masunga Senior Secondary School and Jamataka Primary School, for all genders, with a particular focus on the importance of women in engineering. In total, we reached over 1000 students, ranging from age groups 17-18 to 9-13. This included a presentation to the teachers from each school, where I pitched our objectives to them and agreed a suitable approach for their school.





## Networking

We had the opportunity to attend an industry visit at UV Botswana, a company located in Francistown, Botswana which designs and manufactures mining vehicles, as well as an opportunity to converse with female engineers at Sustainable Energy Botswana. This enabled us to discuss the importance of the implementation of initiatives such as this and establish connections for the future of the project. Our partner throughout this project, University of Glasgow alumni and Botswana national, Eunice Hanna, has recently founded the “Digital Learning Academy” which is an institution offering accredited, outcome-based education courses online, striving to bridge the skills gap, allowing Botswana people to develop the skills required for jobs in fields such as engineering in Botswana.

We engaged in media interviews for local newspapers, companies and radio channels. This brought further attention to the gender gap in engineering and highlighted the positive effect of this initiative on a national scale. We also met with the British High Commissioner to Botswana, Sian Price, to discuss the impact of our project, the need for more women in engineering and the future of FemEng in Botswana.



## Impact

The workshops received excellent feedback from teachers and students, with some female students stating that the workshops have increased their confidence. Others told us that they were unsure what to pursue upon leaving high school but now hope to go into a particular discipline of engineering as the workshops have sparked an interest. The school boards have expressed their wish to be involved in this project again.

## IET Travel Award

I'd like to express the gratitude of myself and the FemEng in Botswana team to the IET for supporting our project. The IET was the first to grant us with funding, during the early stages. The support of a professional engineering institution provided our student-led project with a strong backing and likely encouraged engineering companies to get behind us. Without funding such as this, this project would not have been possible. There are now over 1000 school students in rural areas of Botswana who have had the opportunity to learn about engineering and the related possibilities for their futures. As we had hoped, there are

a large number of girls now enthusiastic and curious about engineering. As well as benefitting communities in Botswana, FemEng students have benefitted from the opportunity to travel abroad as part of an international team project, experiencing a different culture while furthering their academic and professional engineering experience. It has allowed us to apply our passion for engineering while inspiring young people to build a brighter future through studies and careers in engineering.

