

Candidate Brief - Research Assistant

Main information

Salary: UGX150,000 per day

Fixed term: 3 days per week, for 10 weeks: 21 April to 25 June 2020

About the role

Are you an engineering graduate who is passionate about protecting the environment? Do you have experience of independently managing projects? Do you want to do research that could make community buildings more affordable?

HYT Uganda is recruiting for a research assistant, to help us improve the environmental impact of cement-stabilised soil blocks. [HYT Uganda](#) is an award-winning, Uganda-based charity which is transforming communities with its unique but proven approach to construction and training for employment. The role will be based in Jinja, but will require travel in the Jinja/Kampala area.

Cement-stabilised soil blocks are a more environmentally friendly alternative to fired clay bricks and concrete blocks, that can help reduce deforestation and climate change. By mixing in a small amount of cement with soil, forming into blocks and then leaving to set, soil can be made stronger and more durable. However, there is still the potential to improve these blocks by reducing the amount of cement required. In this research project, we will test whether rice husk ash (RHA), an agricultural waste, can be used to replace cement without losing strength. As a research assistant you will assist HYT Uganda with aspects of sourcing materials, making blocks, testing blocks, recording data and analysing the results. Your managers will be Mrs Maurica Nambatya and Mr Ed Brett of HYT Uganda, and also Dr Alastair Marsh of University of Leeds. This is a fantastic opportunity to make a positive difference to society through engineering research, and will give you valuable experience for future roles.

More details about the project can be read [here](#).

What does the role entail?

As a research assistant, your main duties will include:

- Assisting HYT Uganda staff with sourcing rice husk ash from different sources in the Jinja/Kampala area.
- Assisting HYT Uganda with developing the mixing procedures for making new types of blocks, and developing testing procedures.
- Working independently to design mixes for batches of blocks, and oversee technicians making these blocks.
- Liaising with external companies to arrange testing.
- Rigorously recording and storing data from making and testing blocks.
- Writing up findings and observations
- Regularly updating HYT Uganda staff

Is expected to have:

As a research assistant, you will have:

- A Bachelor's degree in an Engineering or Physical Sciences subject
- Fluency in both English and Luganda
- A strong understanding of structural mechanics
- A familiarity, or willingness to learn about, earth materials and cement stabilisation.
- Be able to systematically record data in spreadsheets (e.g. Microsoft Excel)
- Be able to do basic analysis and plot graphs to present results (e.g. Microsoft Excel)
- Clear and open communication skills
- Be able to work well in a team, as well as independently
- Be able to meet deadlines and have strong time management skills
- Be able to plan a project, and think in advance

In addition, it is desirable to have:

- A driving license
- Experience of working on a construction site
- Experience of research
- A research degree

Other requirements:

This role is open to applicants from Kampala or the surrounding area. However, the role will require you to stay in Jinja from Monday to Wednesday nights, in order to ensure that each day's work can start promptly.

How to apply

To apply, please submit a C.V., and a cover letter describing:

- Why you would like to work in this role
- What skills and knowledge you would bring to this role
- Any experience that would be helpful for this role

Please send both the CV and cover letter electronically to a.marsh@leeds.ac.uk, with an email title containing "HYT Uganda – research assistant application". Applications will close at midnight on Friday 13th March.

For any queries about this application, please contact:

Dr Alastair Marsh a.marsh@leeds.ac.uk

Mrs. Mauricia Nambatya n.nambatya@hytuganda.org