



Department
Of
Chemical
Engineering

July 12, 2021

Dear Sir/Madam,

I am indicating in this letter that I would be more than happy to participate in the project *Ethiopian Manufacture of Drip Irrigation Control Systems* as described in the proposal to the US Embassy. My skill set is in technology development and manufacture.

I am a Senior Technician in the Chemical and Biological Engineering Department at the University of Sheffield, specialising in electronics and IT. Prof. Gregory Beaucage came to Sheffield as a Fulbright Global Scholar in 2018. I have contributed to his project which was focussed on the development of cell-phone controlled soil moisture sensors. Prof Beaucage and Max Yan, a PhD student in the department, approached me with a design for a moisture sensor. I worked closely with Max to modify and develop the design over a few months and was able to build a prototype which met the specifications of the final design. This prototype included a low-cost solar cell, a rechargeable lithium-ion battery and WiFi capabilities. I travelled to Lesotho with Max and Prof. Beaucage to meet with University students and technicians at National University of Lesotho to complete the knowledge transfer part of the project. We were able to manufacture the sensors and successfully field tested the devices in drip irrigation study fields in Lesotho.

Sincerely,

Horace McFarlane

Senior Technician

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