

A net improvement, upcycling sub-Saharan waste textiles.

Dr ME Ries

Dr PJ Hine

This project will take an environmental problem found in sub-Saharan Africa and make it part of a solution to a fatal disease endemic to that same region. The first problem is textile waste. The majority of used clothes from the developed world are incinerated or end up in landfill, and a substantial part of that in sub-Saharan landfill. This rapid consumption by the developed countries is creating an environmental burden on the developing countries. This not only creates pollution but is an excessive waste of valuable resources. The second problem is malaria. Sub-Saharan Africa bears the majority of the global burden of malaria, with nine out of every ten deaths due to this infectious disease taking place there. The poorest people in these regions are put at yet higher risk as they cannot afford to purchase preventive measures and are forced to live nearer the infected sites. This proposal will use the first problem to help solve the second. The aim of the project is to develop a method that can take polycotton waste and upcycle it into a source of high value cellulose and polyester; the cellulose will be processed into a cryogel to form a mosquito trap and the polyester into fibres for making long lasting insecticidal mosquito nets.