



Position

Lecturer

Institution

Lilongwe University of
Agriculture and Natural
Resources

Country

Malawi

Education

PhD, Agriculture,
Norwegian University of
Life Sciences

Mentor

Dr. Moses Limuwa Majid,
Monitoring and Evaluation
Specialist, Lilongwe
University of Agriculture
and Natural Resources
(LUANAR)

Research Area

Crop protection and pest
management

Trust Kasambala

2019 One Planet Laureate Candidate

The high levels of poverty among smallholder farmers in the villages Trust Kasambala visited for field research during her first job created in her the passion to help solve their problems. She knew from her biology specialization that for such farmers, if rains failed there would be no food, if soil fertility declined crop yields would go down, and if pests and diseases attacked the crops disaster could strike.

She decided to focus on finding environment-friendly ways to deal with insect pests, recognizing that modern approaches brought with them damage to the environment by eliminating friendly pests, among other things.

Her master's degree in tropical entomology from the University of Zimbabwe expanded her knowledge and refined her skills, while the postgraduate attachment in insect science at the International Centre of Insect Physiology and Ecology exposed her to cutting-edge science aimed at developing and disseminating environmentally sound approaches for controlling insect pests.

Kasambala's focus on sustainable pest control is underpinned by her awareness of what she terms as "the big focus on increasing yields through plant breeding, improving soil fertility, and using synthetic fertilizers with little focus on the biological part of the environment or making the whole process resilient, increasing farmers' vulnerability."

She gives an example of hybrid maize, which requires high fertilizer use but is very prone to insect pest damage in storage, denying farmers good market prices.

She is conscious of the high dependence on agrochemicals such as inorganic insecticides, all of which are hazardous and kill beneficial organisms such birds and spiders, and from which the farmers are not protected and so are suffering from the effects.

She wants to develop ecofriendly pesticides to control harmful pests and reduce the effects of chemicals, and has already done some exciting work in that area.

During 2013–2017 she led the Malawian team that identified several pesticidal

plants that were effective in controlling insect pests of stored beans, i.e. *Dysphania ambrosioides*, *Lippia javanica*, *Tephrosia vogeliil*, *Tithonia diversifolia* and *Azadirachta indica*.

Kasambala has always had an affinity for biology and she originally intended to apply it in nursing. Spending time observing the workings of a clinic on her grandfather's advice showed her that she was not a fit for that, though. She cherishes the time she spends educating farmers on natural products from their localities that they can use to manage pest and weed problems.

She is particularly enthralled by farmers' reaction when they come to appreciate what she is showing them: "We have farmers identify insects that are friends or enemies. The wow part is when they realize that they have killing friendly insects."

To become an expert in tropical insect science focusing on non-chemical pest management and conservation of biodiversity in agricultural systems is Kasambala's dream. She has a plan to establish a pest-management center with plant clinics spread in all the 28 districts of Malawi, providing diagnostic services and climate-smart products, as well as conducting research with farmers. She expects to manage and lead the research component and for the research consultancy and the advisory services to generate funds to run the clinics. Also close to her heart is attention to the gender component of pest control.

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In Malawi 70 percent of farm labor is done by women but it is men mostly who are involved in spraying chemicals and suffer the most from ailments associated with their use, while women and children also are vulnerable to pesticides because women store them in the living space or use the containers for household purposes, while children use the containers for toys.

For Kasambala, the One Planet Fellowship will put the spotlight on her as a scientist, providing her visibility and recognition, especially because it is associated with AWARD, a well-known brand. She believes the Fellowship will enhance her research and interpersonal skills, and the networking opportunities will point her to the resources she will need to realize her dream.

She is planning on having her entomology class involved in community development work, where they will visit communities, listen to their problems, develop solutions, implement the solutions, and monitor the use of the technologies season to season.

Trust Kasambala is one of the growing number of candidates selected to participate in the One Planet Fellowship. The One Planet Fellowship is a career development initiative that is building a robust pipeline of highly connected, inter-generational scientists equipped to use a gender lens to help Africa's smallholder farmers cope with climate change. The One Planet Fellowship is funded by the Bill & Melinda Gates Foundation, the BNP Paribas Foundation, the European Union and Canada's International Development Research Centre (IDRC). African Women in Agricultural Research and Development (AWARD) and Agropolis Fondation are jointly implementing the Fellowship.

Do you have any further questions? Send an email to: oneplanet.award@cgiar.org