



PRISE: a Pest Risk Information Service

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| Locations | Ghana, Kenya, Zambia plus two other sub-Saharan African countries |
| Dates | 01/12/2016 - 31/12/2021 |
| Summary | Pests can decimate crops and are estimated to cause around a 40% loss. These insects, mites and plant pathogens can impact on food security and impede supply chains and international trade. A Pest Risk Information Service (PRISE) aims to solve this problem by using data to help farmers manage pests in up to five countries in sub-Saharan Africa. |
| The problem | <p>Pest outbreaks are devastating. Especially to those who rely on the crops they can grow for their food and livelihoods. Pests don't respect political boundaries and their movements are increasingly unpredictable due to climate change. They are a huge problem around the world and hamper the pursuit of Sustainable Development Goals 1 and 2.</p> <p>Despite a general consensus on the threats from pests and diseases to global production, monitoring and evaluation of the damage caused is very poorly understood.</p> |
| What we are doing | <p>Innovation can provide new solutions. This project will help to improve the livelihoods of smallholder farmers by reducing crop losses caused by pests across six sub-Saharan African countries.</p> <p>To forecasting the risk of pest outbreaks, we will use a novel combination of earth observation technology, satellite positioning, and plant-pest lifecycle to deliver a science-based Pest Risk Information Service (PRISE) for sub-Saharan Africa. Expansive, novel crowd sourcing observations will also be established to strengthen and validate the system.</p> <p>Ministers of Agriculture and their extension experts in Zambia, Ghana and Kenya will be actively engaged and involved in this pest forecasting system, which collects and combines disparate datasets, manipulates data using computational and modelling expertise, and leverages well-established international development networks.</p> <p>In-country data collected from the field will be fed into the model, and also used to ground-truth results, which will allow the team to continually improve it. Risk messages and mitigation measures will be communicated to users and we will monitor and evaluate the service to assess its impact.</p> |

Risk forecasts will be integrated into existing plant health systems, using networks in current programmes and projects, to trigger appropriate action to deliver large scale alerts, advice and inputs to farmers.

Capacity development and involvement of each country's private and public sector organizations, will also enable business plans to be developed for long-term sustainability.

Results so far

Country stakeholder workshops have been held annually, and as a project we also hold an annual planning workshop, to review our progress and plan for the coming year. A formal launch of PRISE at the British High Commission has taken place in Ghana and Zambia with Kenya taking place in 2019.

To date, pest alerts have been disseminated to Plantwise plant doctors in Kenya, Ghana and Zambia, based on predictions from the system. We have received feedback on these alerts, and conducted field trials to validate the pest models, both of which we will use to improve the accuracy of the system and the pest risk alerts.

We have also gathered insights from our country partners on who are our additional audiences for PRISE alerts, and exactly what information in what format via which dissemination channel PRISE should focus on in coming iterations.

Our partners Kings College London are conducting Land Surface Temperature trials to validate the satellite earth observation data and calibrate the environment parameters within the pest risk models. This work is currently taking place in Kenya with Zambia soon to commence.

Watch a video about PRISE.

Donors

UK Space Agency, Co-finance from Plantwise

Partners

Assimila - Project consortium, King's College London - Project consortium, Centre for Environmental Data Analysis - Project consortium, Plant Protection & Regulatory Services Directorate (PPRSD), Ghana - International partner, Kenya Agricultural & Livestock Research Organization (KALRO), Kenya - International partner, Ministry of Agriculture, Livestock and Fisheries, Kenya - International partner, Zambia Agriculture Research Institute (ZARI), Zambia - International partner

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