Evolution of Plantwise

Yelitza Colmenarez and Washington Otieno

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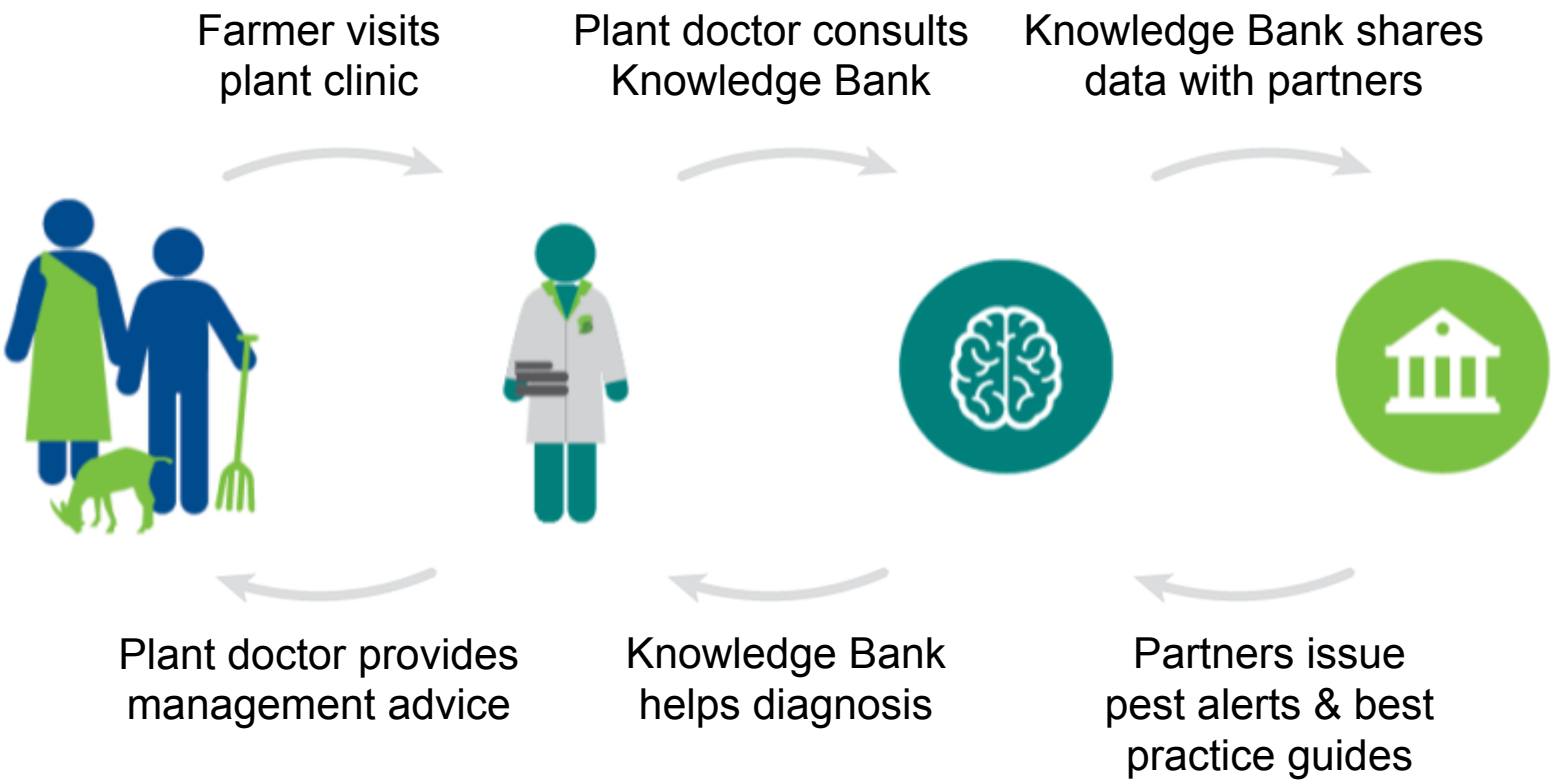
CABI plantwise

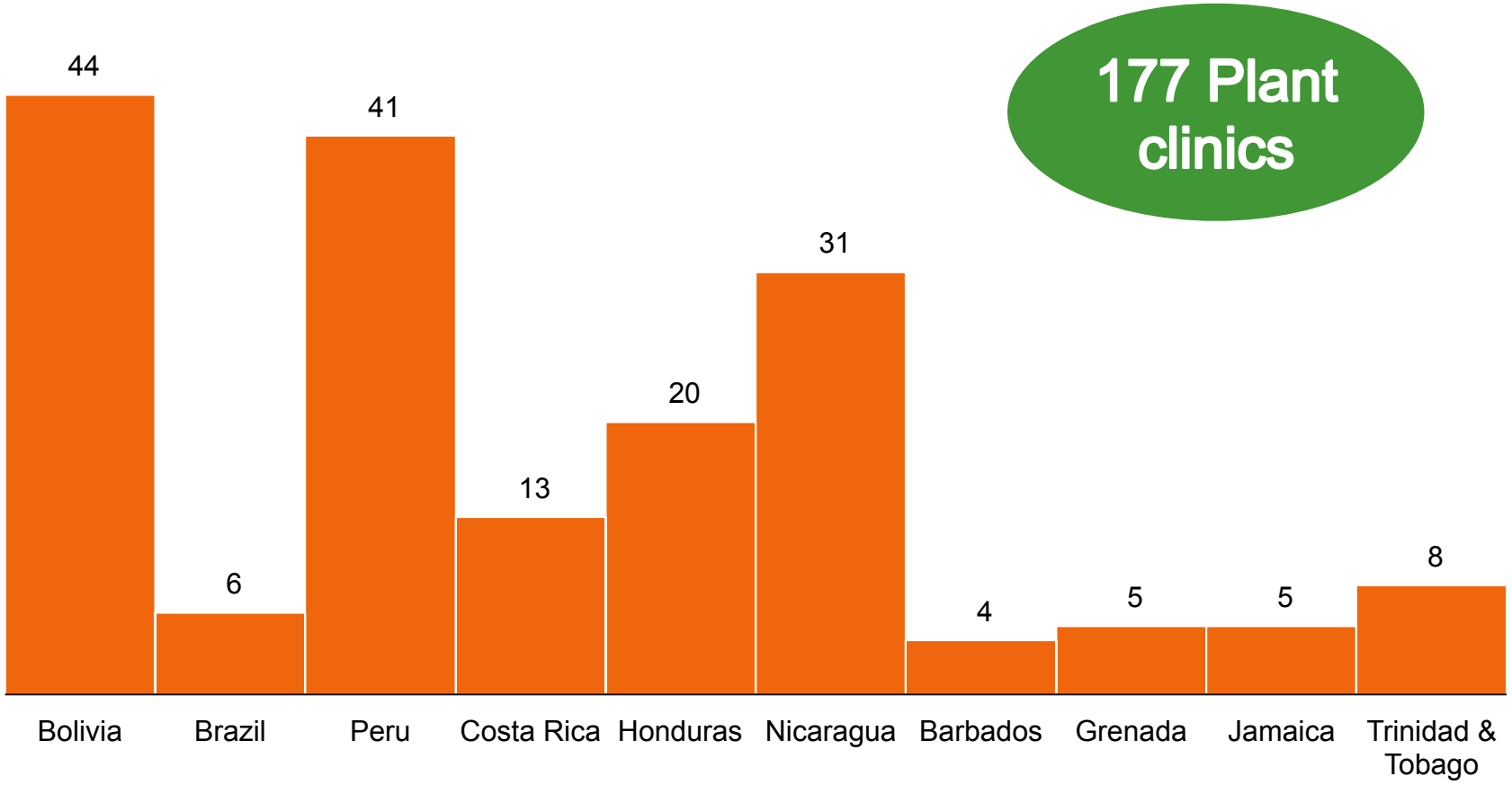
Plantwise Process: 2-way flow



Recent awards won

- Plantwise won two major awards in 2017:
  - St Andrews Prize for the Environment
  - Bond Development Award for Innovation

Plant Health
Plantwise in Latin America and the Caribbean



Plant Health
Plantwise in Latin America and the Caribbean

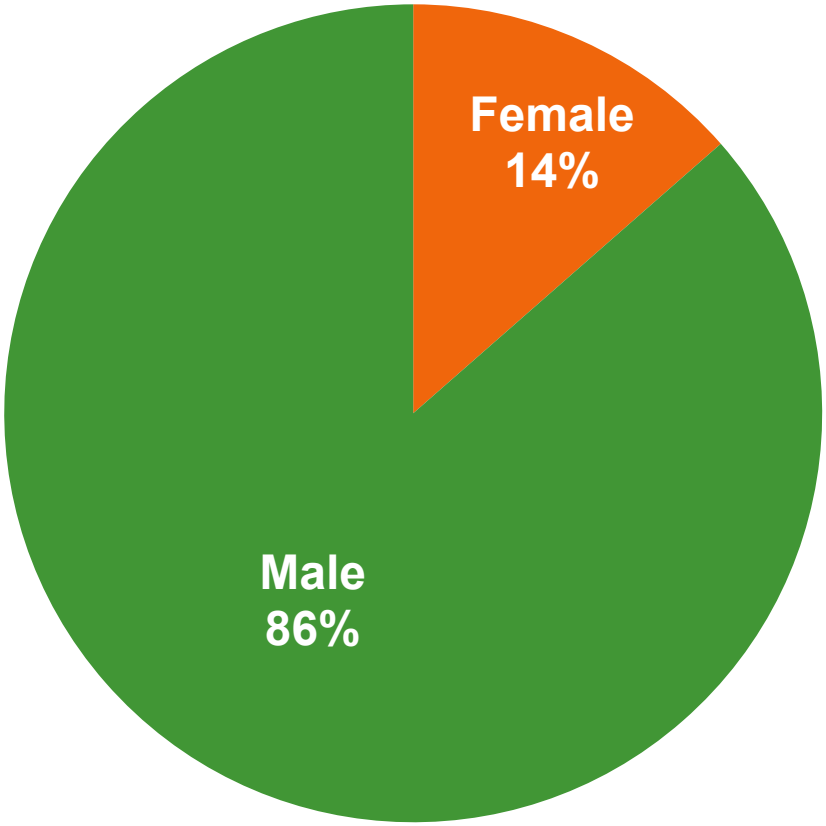
27,603 Farmer's queries recorded

Costa Rica	578
Honduras	883
Nicaragua	1,781
Barbados	726
Grenada	349
Jamaica	586
Trinidad & Tobago	1,601
Bolivia	15,687
Peru	5,258

Plant Health
Plantwise in Latin America and the Caribbean

1,230

Plant doctors trained



Gender of farmers reached

New directions for Plantwise

- Digital development and e-plant clinics
- Outcomes and impact
- Synergies with other projects
  - Pest Risk Information Service
  - Action on Invasives
- Engagement with private sector
- Enabling safer food
- Supporting food supply systems

Digital development and e-plant clinics

KB- an open access internet resource

- covering 2,500 crop pests in 80 languages
- Over 13600 factsheets available

POMS-restricted access

- > 340,000 records from plant clinics now processed through POMS
- hamonisation and basic inbuilt analytics

Digital devices and apps networks now play a key role in Plantwise

- E-plant clinics using tablet computers to;
  - access factsheets in KB
  - collect clinic data and upload to POMS faster
  - Efficient delivery of advice to farmers

Digital development & e-plant clinics (cont.)

Information exchange; Telegram and WhatsApp

- to aid diagnosis including use of technologies based on image recognition
- build capacity for greater self-reliance in agro-advisory services
- to enable pest alerts and rapid response

Aided identification of new/emerging pests/pest situations including: fall armyworm, tomato leaf miner, citrus greening, turnip yellow mosaic virus

Focus is now to demonstrate how ICTs link with impact of Plantwise

- Monitor and report innovative ICT uses as outcomes

Outcomes and impact

- PW **reach of 18 million (cumulative)** by 2017 mainly through **plant clinics** and other **complementary extension campaigns**

- Impact measured through two pathways
  - Plant clinic advice adoption
  - Plant health system change

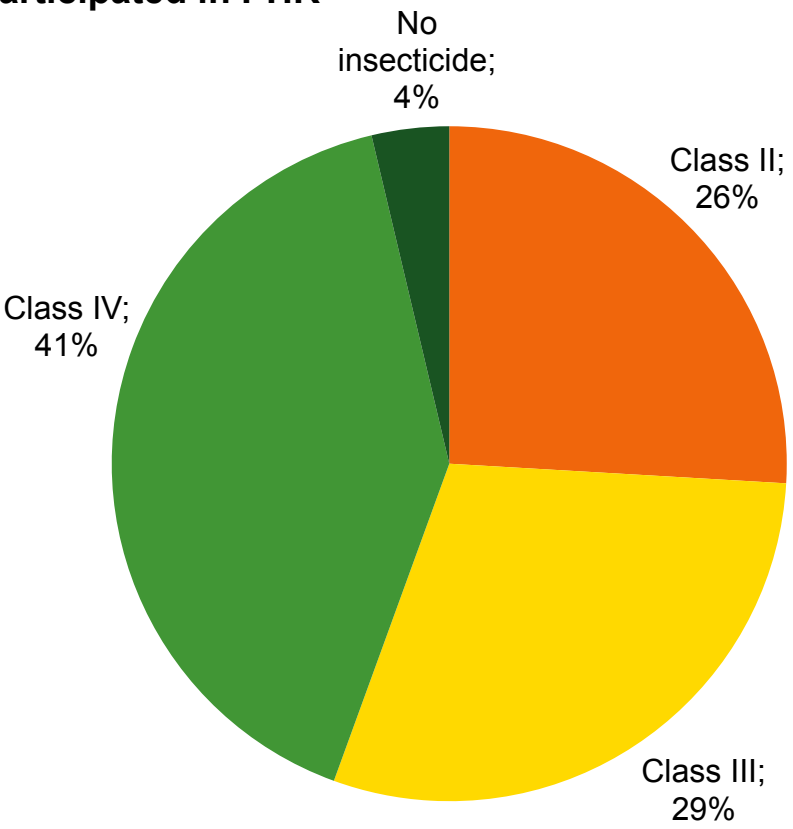
- Now demonstrated in terms of farmers adopting (90%) advice, **avoided crop losses** & **increasing productivity** (+27% for maize production in Rwanda; +20% for tomato production (Malawi))
- **Cost : benefit ratio of 1:2** for improved maize in plant clinic catchment areas of Kenya
- **Knowledge on pests and diseases was higher** among plant doctors in Kenya than those who did not receive receive Plantwise training

Outcomes and impact (cont.)

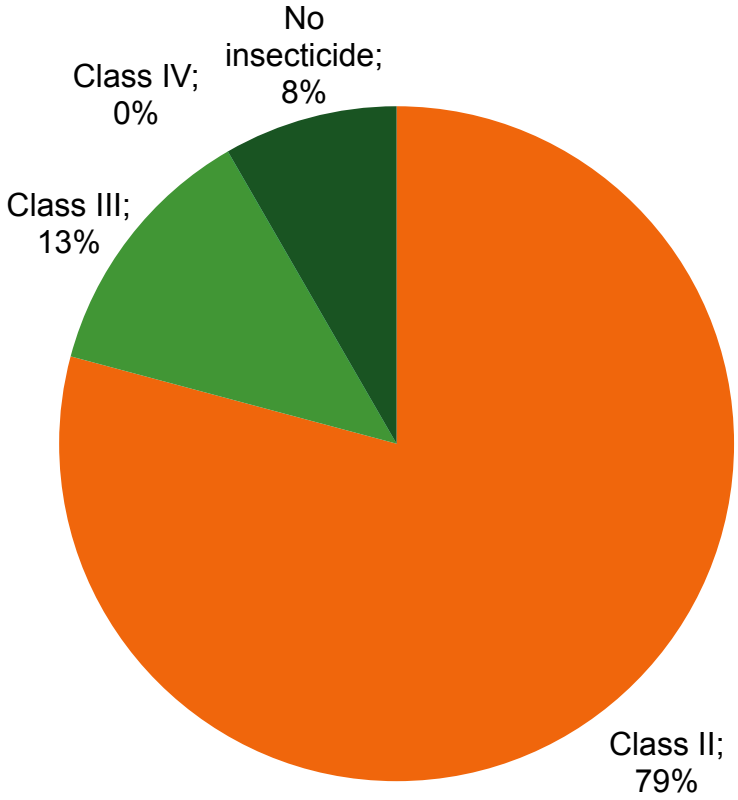
- Improved country systems for managing plant health e.g. in Ethiopia and Nepal showing:
  - increased **focus on plant health** in national extension services, strengthened agricultural information management and diagnostic services
- The improvements are in the areas of **timeliness, availability, affordability, acceptability** by farmers and **broader reach**

Case study: Reports of pesticides* used by farmers to control the psyllid paratrioza in Honduras

Pesticides used Reported by farmers who participated in PHR



Pesticides used Reported by farmers who did <u>not</u> participate in PHR



*according to WHO classification

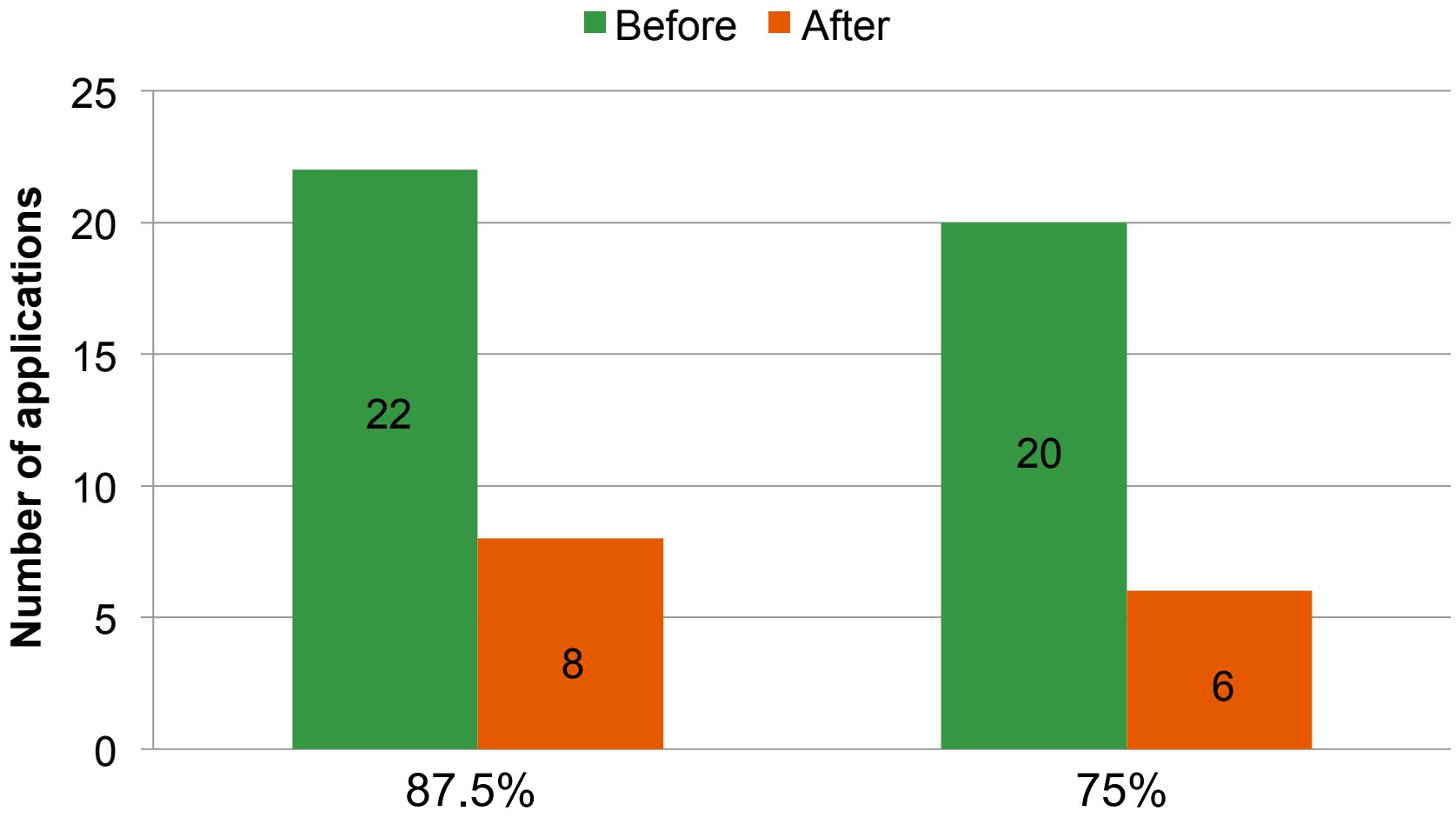
Case study: Nicaragua – Increase in yield

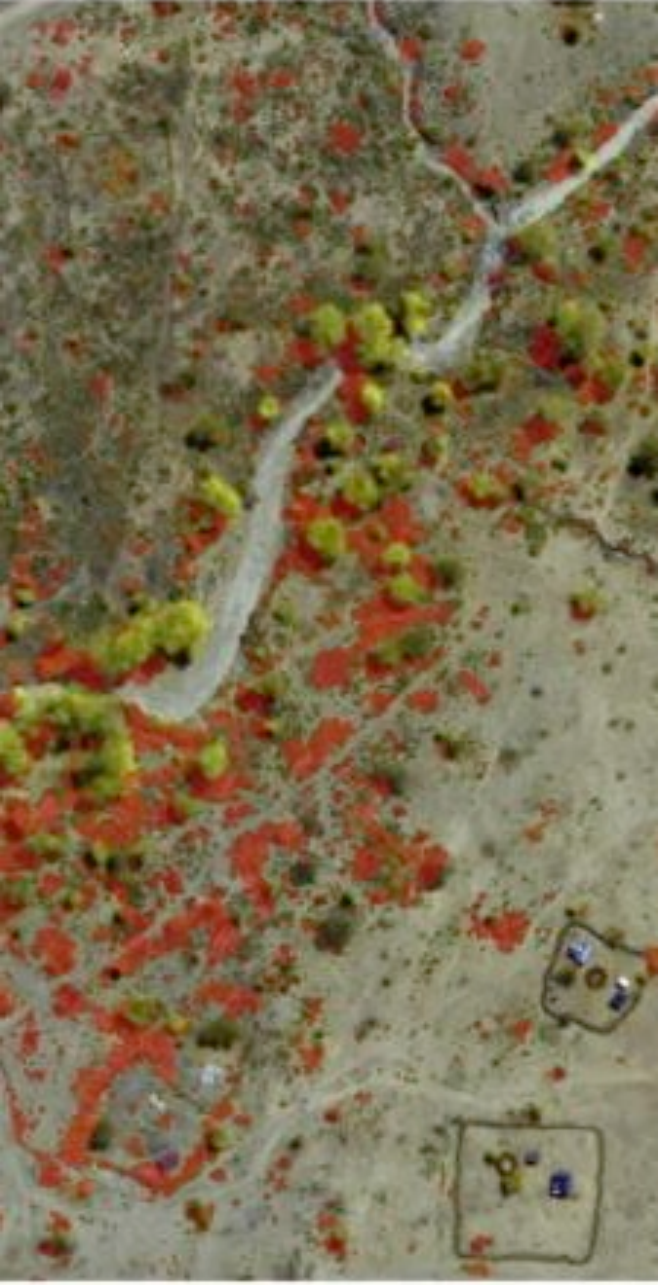
Detailed analysis of figures is still pending but farmers following the plant doctors' advice on bacterial wilt reported yields ~850 kg/ha higher than those not following the recommendations

Case study Tuta absoluta – Bolivia

- Significant reduction in pesticide applications
- Shift to less toxic pesticides

Following the recommendation given by plant doctors, 87.5 % of the farmers evaluated reduced the number of chemical application from 22 to 8 and 75% from 20 to 6 applications during the whole crop cycle





Synergies with PRISE

- Pest Risk Information Service for sub-Saharan Africa is a 5 year project funded by the UK Space Agency International Partnerships Programme
- Combines **earth observation technology**, plant health **modelling**, and real-time **field observations**
- Works with 3 UK based and 4 Africa based organisations as partners to create an **EWS to forecast the risk of pest outbreaks** using space infrastructure, **earth observation data** and **modelling** techniques
  - Initially Kenya, Ghana, Zambia (+3 others) but later scalable to other countries/regions?

Action on Invasives

- Applying lessons and experience from Plantwise to respond to invasive species
- Using collaborative infrastructure
  - National coordination structure
  - Partnerships for in-country implementation
  - National work plans and budgets
- Works to achieve effective control of priority invasive species through
  - National task forces
  - Advice via plant clinics and mass extension campaigns
  - Evaluation of practices to respond to threats
- Awareness for prevention:
  - Alerts to allow early detection
  - Systems for rapid response

Partnering with private sector

- **Engagement with private sector in Plantwise being pursued with the vision** to leverage the resources and expertise in order to increase the
  - **sustainability, scale and impact** of the programme in the long term

- Priority organisations are those that:
  - operate across the **whole range of small-holders** (commercial oriented, transitional and subsistence farmers)
  - focus on transitional farmers and work with farmer based organisations

- The aim is to embed Plantwise components in businesses that can help make Plantwise:
  - **more sustainable**, **increase its reach** and **improve its impact**

Biopesticides

- Building on Plantwise: recommendations to farmers that are IPM based necessitated the development of **biopesticide portal**
  - Resource with reliable information on availability and use of biopesticides
  - Increasing access by farmers to affordable effective low toxicity products for pest management

- Development of biopesticide industry requires regulatory support
  - enables private sector investment in developing biopesticide products and infrastructure for local markets

Biopesticides

Major benefit from biopesticide use:

- Safer foods with respect to chemical pesticide residues in food and better health of consumers
- Compliance with food safety standards
- Increased opportunities for access markets with stringent food standards

Supporting food supply systems

- Lessons from Plantwise show the need for demand by farmers for improved advisory service spurred by prospects for guaranteed market for farm produce
  - This would create some business around food supply systems in some countries
  - However, systems for public extension provide limited opportunities to develop business around services to small holder farmers
- Arising from innovations developed under Plantwise, CABI is testing the potential for creating business for educated youth around agro-advisory services through a **self-employed technical support system (STSS)** model

Supporting food supply systems (cont.)

STSS aims to identify youth that can be trained in agricultural advisory services with specific focus on agro enterprises and driven by innovations using ICT tools and applications

- It is envisaged that STSS would run private agricultural advisory services serving commercially oriented farmers producing for markets that require compliance with certain quality and safety standards

Thank you

We wish to acknowledge the support of our donors, as well as our national and international partners, who make Plantwise possible

UKaid from the British people

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