Plantwise: Using data to prevent crop losses

Malvika Chaudhary, ICT4D 2017, May 15 2017
What is Plantwise?

Plantwise is a global programme, led by CABI, to increase food security and improve rural livelihoods by reducing crop losses.
Scale

2,300 plant clinics established...

6,800 plant doctors trained...

9.8 million farmers reached...

... in 34 countries across Africa, Asia and the Americas
Impact

- 79% of farmers’ yields increased after visiting a plant clinic.
- 70% of farmers’ incomes increased after visiting a plant clinic.
- Farmers’ use of pesticides decreased by 30%.
- 25% of Plantwise plant doctors are female.
Collecting data

- **Plantwise data collection app** available on Android and PC
- allows offline digitisation of plant clinic data with data upload once reconnected
- features geo-linked data
- delivers SMS prescription to farmer’s phone
Managing data

- The **Plantwise Online Management System** facilitates loading, harmonisation, analysis and downloading of data.

- **Offline data analysis spreadsheet** features built-in algorithms and customisation for analysis.

- **Validation spreadsheet** allows quality control and data use for pest surveillance.
Sharing data

- **Plantwise Factsheet Library app** available both in Android and iOS
- Downloadable factsheets of relevance to each Plantwise country
  - written by country experts in their local language
- Content can also be accessed offline
Mobile services and social media

- Plantwise content can be exported to other services that distribute information directly to farmers’ phones
  - e.g. via CABI’s mNutrition and Direct2Farm projects
- Plant doctors use WhatsApp, Telegram and Facebook to create self-help social networks
  - Communities usually include diagnostic experts
All of these innovations converge in plant clinics equipped with tablets (known as **e-plant clinics**)

**Tablets:**
- are cheap and portable
- enhance plant doctors’ existing workflow
- enable two-way exchange of data and information

**E-plant clinics are growing:**
- piloted in **4 countries** in 2015
- rolled out to **11 countries** in 2016
- planned roll out to **20 countries** in 2017
Benefits of e-plant clinics

- **Tablets enable 50x faster delivery** of plant clinic data compared to paper.

  ![Comparison of delivery times: 105 days vs 2 days](image)

- **Faster delivery of plant clinic data facilitates rapid identification of new pests**
  - e.g. banana skipper in Sri Lanka and fall armyworm in Ghana

- This enables NPPOs to respond to new pest outbreaks more quickly.
Future uses of Plantwise data

- CABI is leading the Pest Risk Information SErvce (PRISE), based on earth observation and Plantwise data.

- The aim is to provide pest risk predictions in time for farmers to take preventive action.

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