



CABI & Research Communication

Presentation to GRA

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CABI



our mission

CABI is a not-for-profit international organization that improves people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment



what does CABI do?

CABI addresses issues of global concern such as food security, through science, information and communication



CABI's mandate

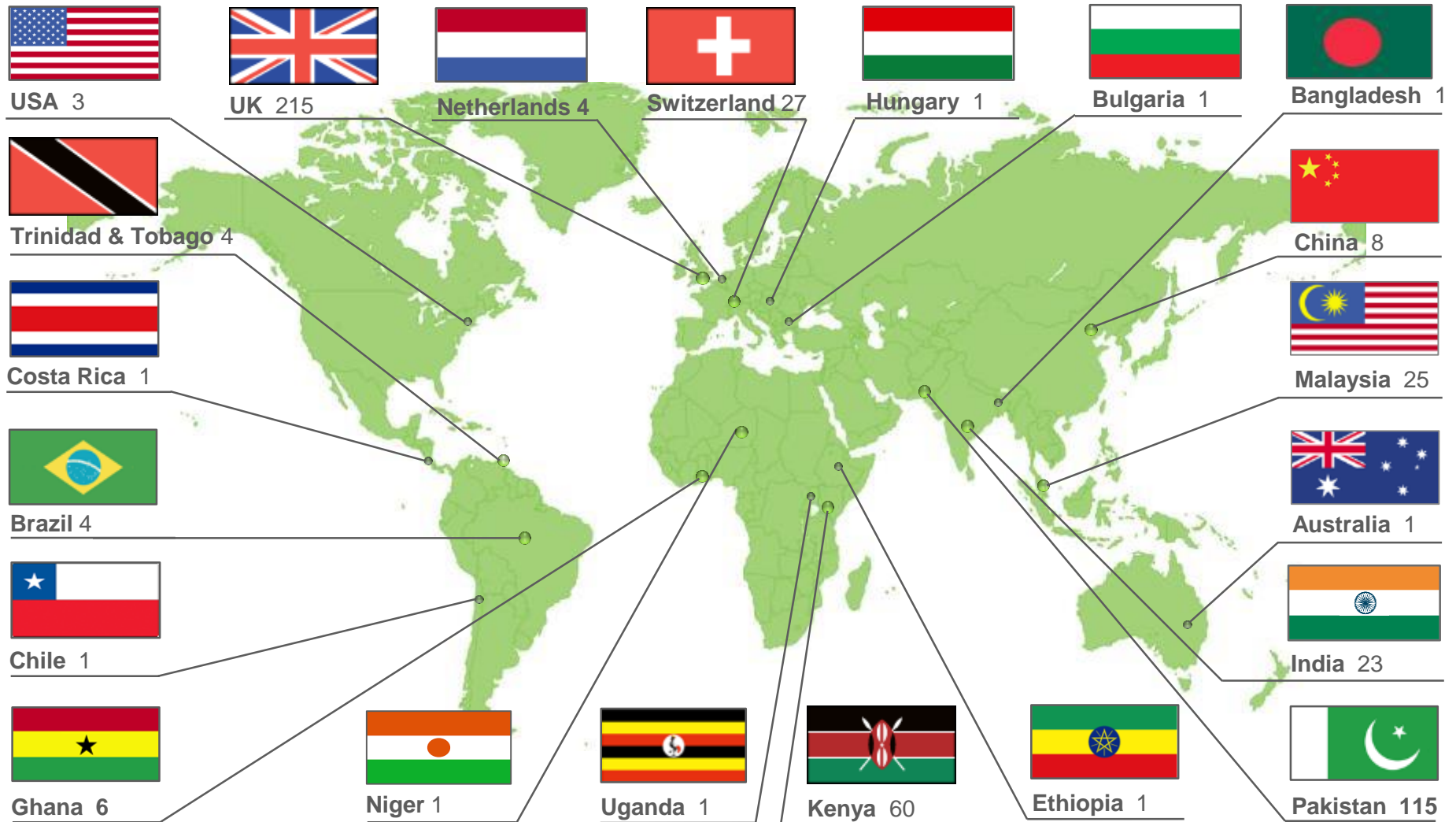
“promote the advancement of agriculture and allied sciences through the provision of information, scientific and related services on a world-wide basis”



our member countries

Global reach

We have 500 staff across 21 locations worldwide





Knowledge and information

CABI publishes high quality **scientific resources** within the applied life sciences worldwide, including crop production and protection, animal production and health, forestry, environment, public health, etc

CABI focuses on **research into use**, working in partnership with relevant stakeholders to improve food and nutrition security as well as protect biodiversity and the natural resource base upon which rural livelihoods depend

With ICT innovations – mobile, e-clinics, apps – reach will accelerate

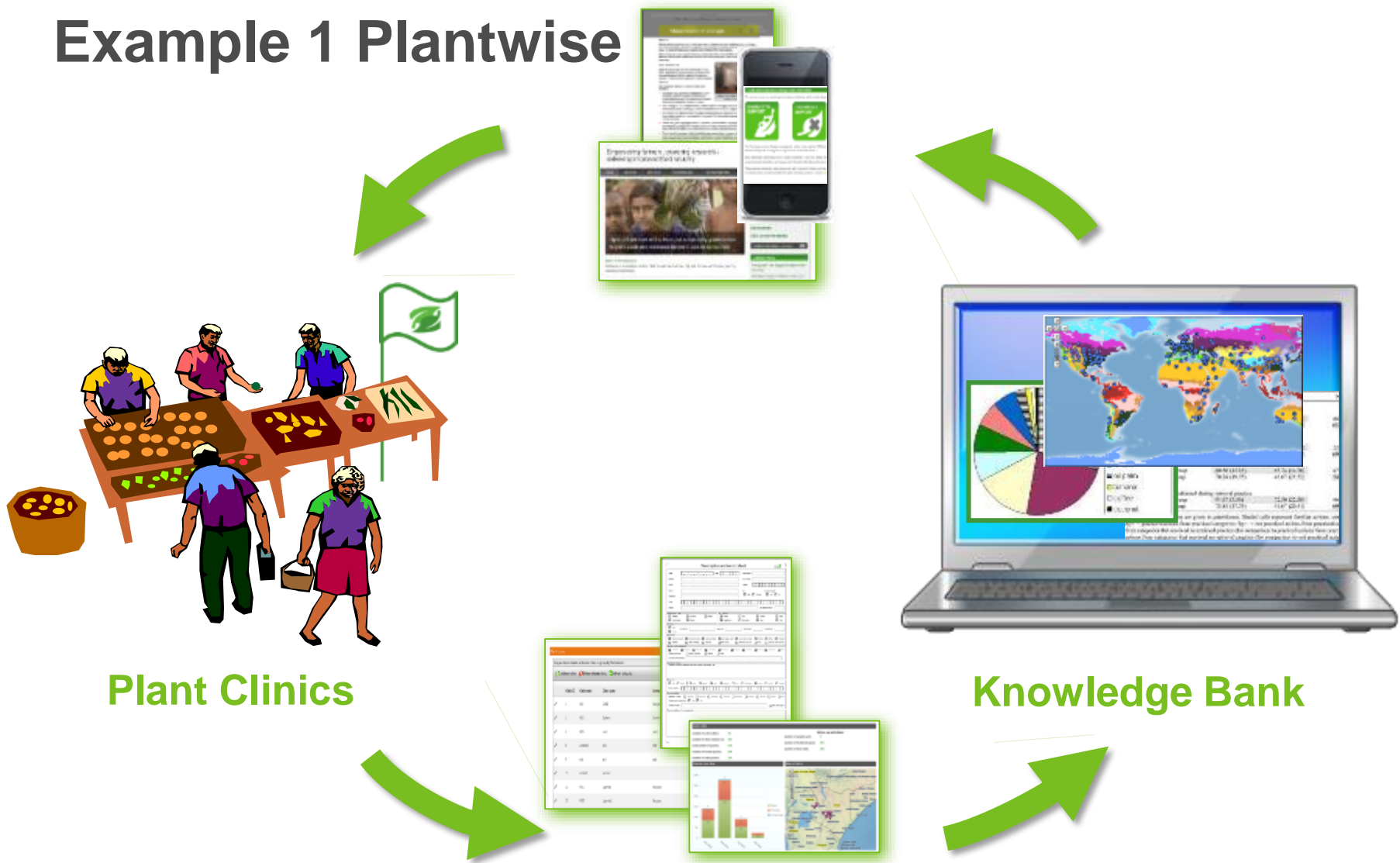
Big/Open Data insights, esp. supporting Trade



Knowledge management, communications and use

- We create, manage, curate and disseminate information
- We use ICTs to make information available to support farmers
- We integrate strategic communication into projects
- Two-way process using range of communication tools tailored to in-depth understanding of the audience
- Behaviour change not just information dissemination, education, or awareness-raising
- From the beginning of the programme cycle NOT exclusively as a dissemination function at the end
- Ensuring that research makes a difference - impact for donors!

Example 1 Plantwise



Plant Clinics

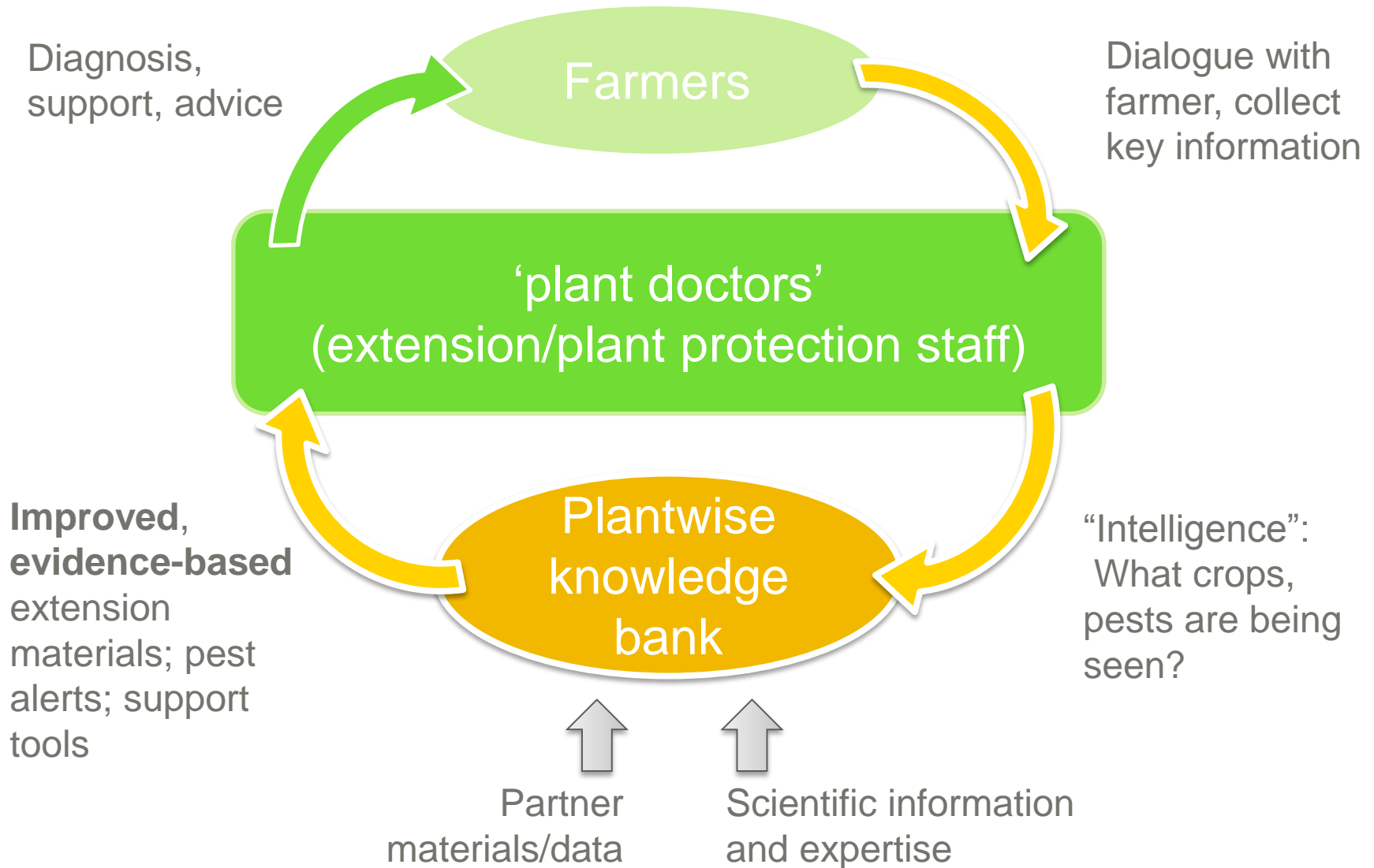
Knowledge Bank

Example 1: Plantwise

- Plantwise trains plant doctors to take research from the laboratory to the field
- Plantwise Knowledge Bank offers tools and insights:
- Over 75,000 plant clinic records from 20 countries deposited in the Plantwise Online Management System
- An image-led diagnostic tool to help diagnose a problem
- Over 9,000 factsheets to provide practical information on pest management – 138,000 visits
- Global map to provide distribution information on over 2500 pests, each with source references
- Open Data Institute 2014 Open Data Award for Social Impact
- Launch of a Factsheet Library app, free for all with an Android device

www.plantwise.org/knowledgebank

Information flow



34 Plantwise countries 2015

Caribbean & Central America

- 🌿 Costa Rica
- 🌿 Honduras
- 🌿 Nicaragua
- 🌿 Barbados
- 🌿 Grenada
- 🌿 Jamaica
- 🌿 Suriname
- 🌿 Trinidad & Tobago

South America

- 🌿 Bolivia
- 🌿 Brazil
- 🌿 Peru

West Africa

- 🌿 Burkina Faso
- 🌿 Ghana
- 🌿 Sierra Leone

Eastern & Southern Africa

- 🌿 DR Congo
- 🌿 Ethiopia
- 🌿 Kenya
- 🌿 Malawi
- 🌿 Mozambique
- 🌿 Rwanda
- 🌿 Tanzania
- 🌿 Uganda
- 🌿 Zambia

Central & West Asia

- 🌿 Afghanistan
- 🌿 Pakistan

South Asia

- 🌿 Bangladesh
- 🌿 India
- 🌿 Nepal
- 🌿 Sri Lanka

East Asia

- 🌿 China

Southeast Asia

- 🌿 Cambodia
- 🌿 Myanmar
- 🌿 Thailand
- 🌿 Vietnam

2012

280,000
FARMERS
REACHED

1,335
PLANT DOCTORS
TRAINED

413
PLANT
CLINICS

127 PARTNERS IN
24 COUNTRIES

2013

600,000
FARMERS
REACHED

2,077
PLANT DOCTORS
TRAINED

720
PLANT
CLINICS

168 PARTNERS IN
31 COUNTRIES

2014

NEARLY
2 MILLION
FARMERS
REACHED

3,591
PLANT DOCTORS
TRAINED

1,413
PLANT
CLINICS

201 PARTNERS IN
33 COUNTRIES

2020

30 MILLION
FARMERS REACHED

 plantwise.org

Figures are cumulative



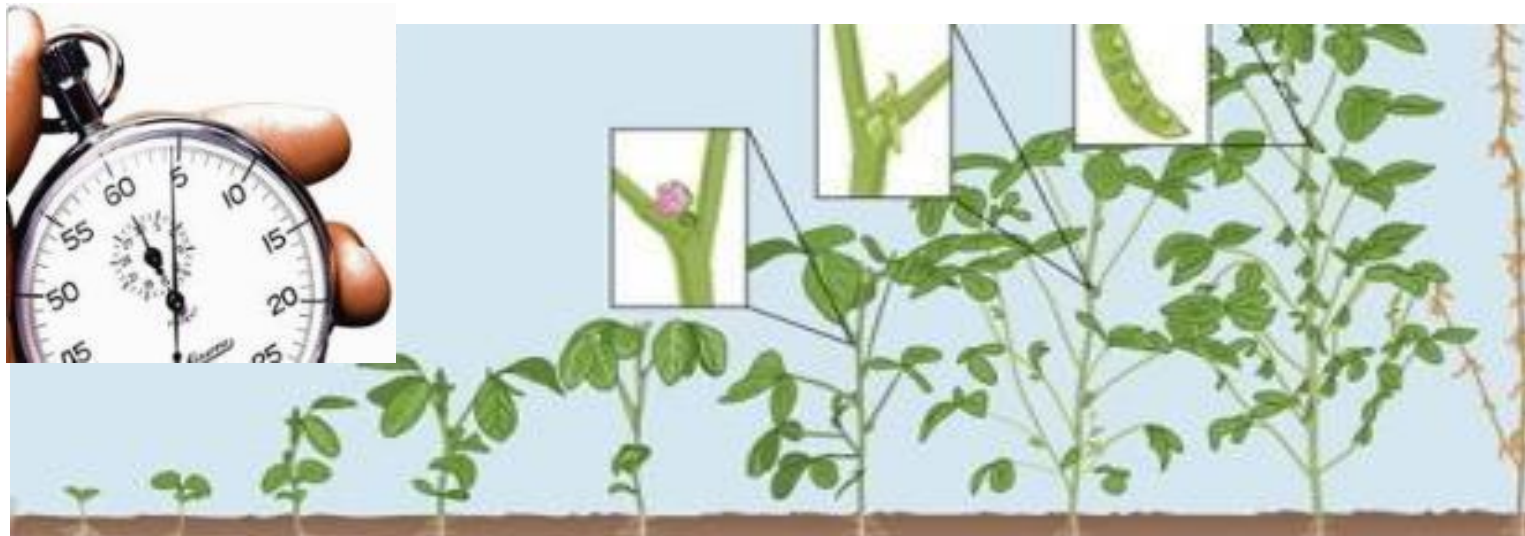
Use of mobile technologies – project goals:

- Understand how mobile technologies can improve the current clinic model
- Use of tablets
- Improve the quality and speed of data collection and processing
- Improve the quality and breadth of advice available at clinics
- SMS messaging
- Increase clinic attendance
- Broaden reach of extension messaging

Success of Kenya Pilot 1

Speed of data management process

- Data comes in on the same day as clinics
- Can be on POMS in 2 weeks (average time for paper is 3 months)
- Quick enough to respond to new/emerging threats
- Harmonisation takes half the time, since form uses drop-down menus





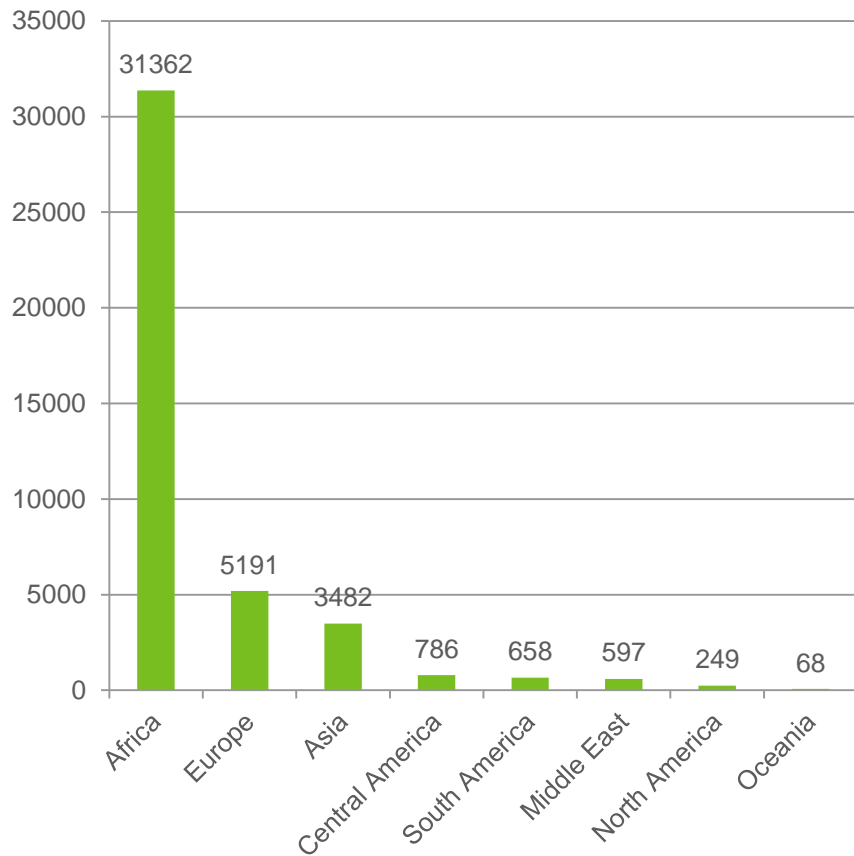
Success of Kenya Pilot 1

Ministry response

- Coordinates nicely with e-extension initiative and Kenyan approach to “digital government”
- Excited about getting pest information quickly enough to act
- Pilot data includes *Tuta absoluta* (not yet officially reported)
- Identified problem with maize smut and uncertified seed from e-clinic data
- Planning to showcase the e-clinics at Agritech-Africa International Conference

Success of Kenya Pilot 1

Sessions



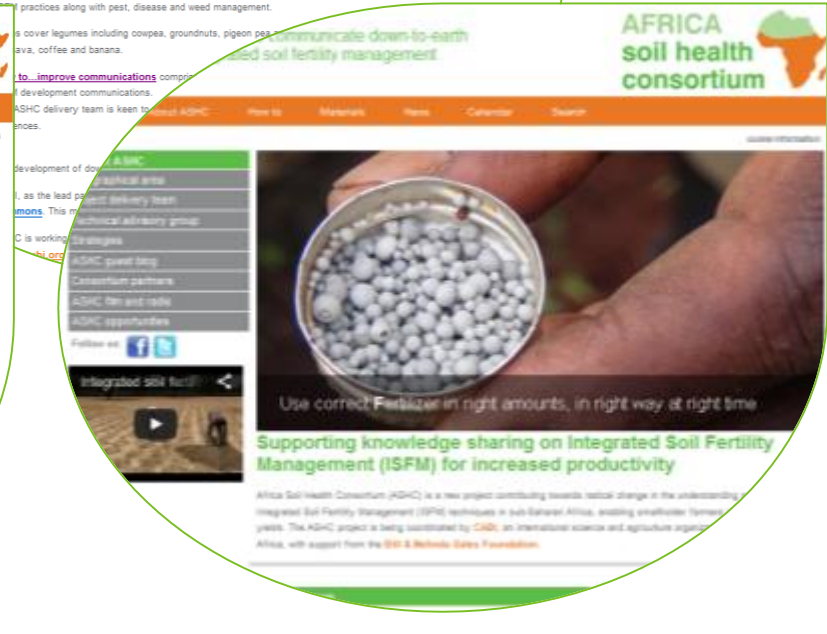
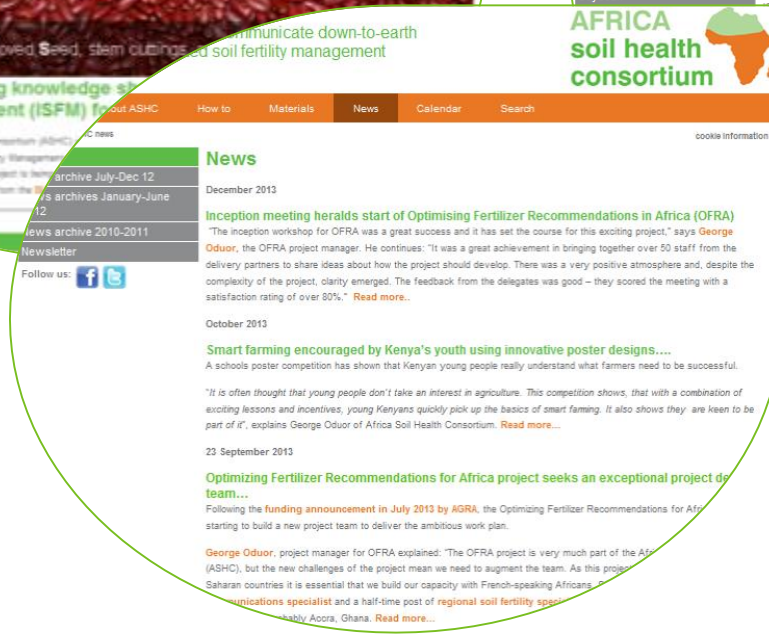
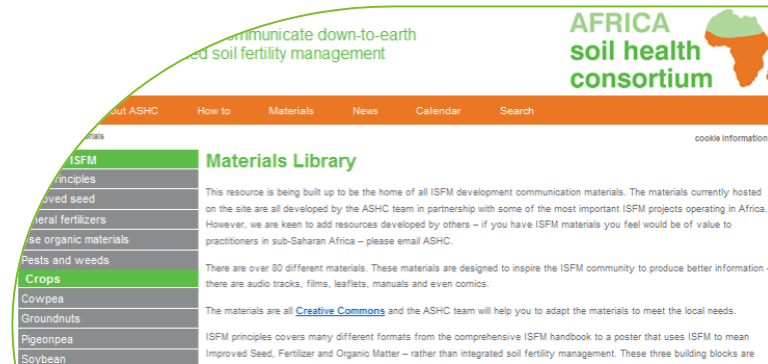
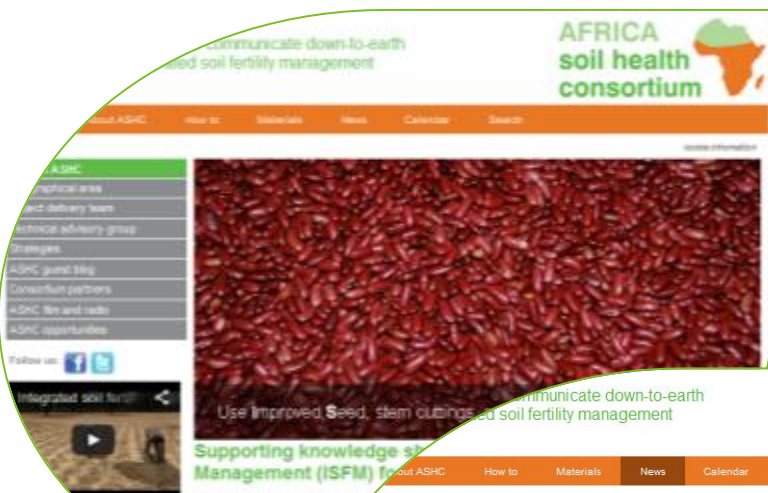
Plantwise Factsheet app

- 930 users (535 who have used it in the last month)
- 42,393 sessions
- Beta testing successful, feedback gathered
- Minor tweaks (improved language support), then official launch next month

Relevance to GRA

- Available Plantwise repository with relevant content, Google translate and smart search functions and already in global use
- Process for development of Pest Management Decision Guides tried and tested, part-automation under development
- Process for development of “farmer factsheets” tried and tested, developed app through API mechanism for online and offline use (Google Play Store)
- Experience with Google Analytics to track what people do on websites, and some information about who they are and where they are from
- Ability to filter and present information and data effectively to different user groups: “improved user centred experience”


Example 2: Africa Soil Health Consortium




Example 2: Africa Soil Health

AFRICA soil health consortium

Handbook for Integrated Soil Fertility Management



Edited by Thomas Fairhurst



...that can react with the soil and release P for plant uptake. Phosphate rocks are highly acid and P availability is low. The use of PR for direct application is preferred in comparison with most rock-based fertilizers, which increases the risk of soil acidification.

- The very fine powder that must be produced to ensure sufficient solubility may be difficult to handle and apply (but some PR, e.g. Miplegro, is available in a pellet form).
- The soil must be sufficiently acid (generally pH < 5.5) to provide a reaction with the PR and release P for plant uptake.




Photo 4.10: Both shoot and root development are better in the plant on the right that received P fertilizer.

Photo 4.11: This maize plant has already started flowering at a height of 20 cm, indicating very poor soil fertility and slow P deficiency.

Photo 4.12: N deficiency in banana in highland Algeria.

Photo 4.13: A healthy and an N-deficient highland plant growing in a glasshouse.

...if it is better for the farmer to grow two crops in an acreage or a smaller (one 0.25) & used to evaluate the productivity of acreage soil as the area needed under management of each crop to produce the same amount of crop.

$$LDR = \frac{Y_1}{Y_2} \times \frac{C_2}{C_1}$$

The advantage:
The disadvantage:
...needed to produce the same yields when the crops are planted on soil reactions, nitrogen-gain relatively better plants when compared to nitrogen systems.

...of DFR on the response to nutrients in terms of grain yield and N fertilizer response to added nitrogen fertilizer in a farmer's field. Because of the effect of other DFR components on the response to N in an application, and use of germplasm that is more responsive to fertilizer, DFR by adapting factors that improve response to fertilizer N (e.g. utilizing responsive germplasm, improved plant population) ... profits by increasing the N fertilizer application rate in addition to the application (e.g. moving from point B to point C).

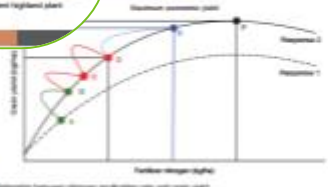
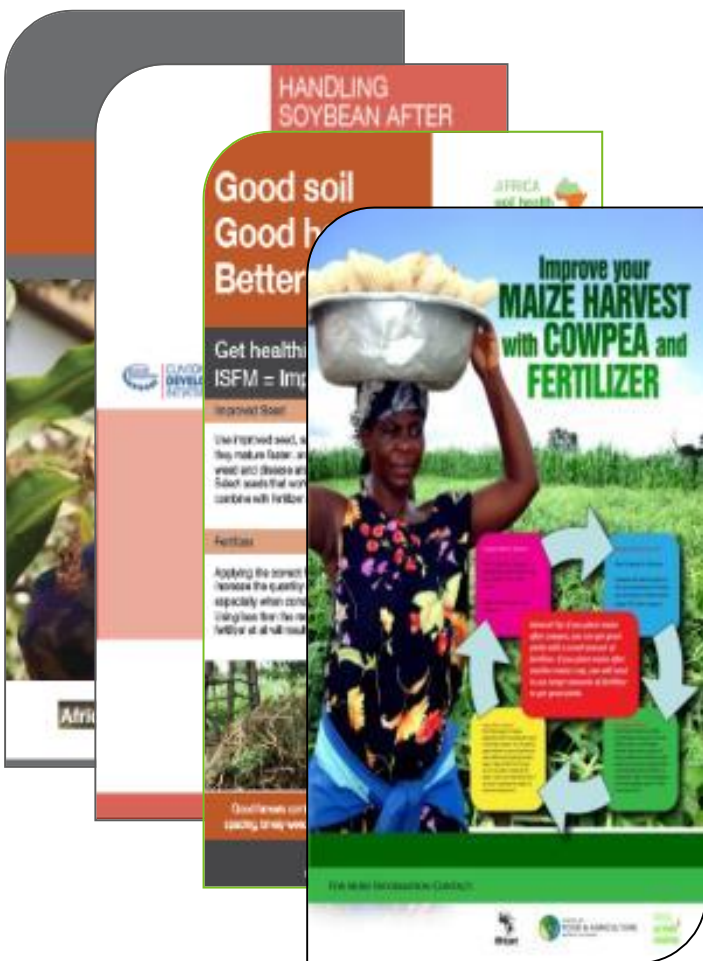
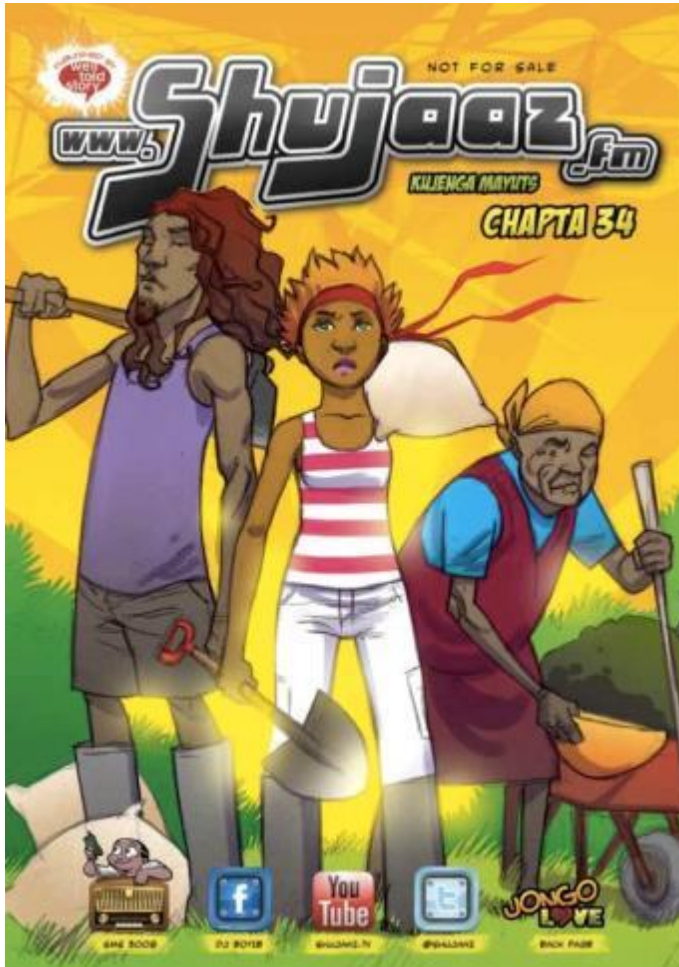


Figure 3.10: Relationship between nitrogen application rate and grain yield.

Client-oriented information materials



Innovative communications channels - youth



Relevance to GRA

The screenshot shows the ASHC website interface. The top navigation bar includes 'About ASHC', 'How to', 'Materials', 'News', 'Calendar', and 'Search'. A search bar is located on the right. The main content area displays search results for 'How to...develop print material for low-literacy farmers'. The results include a summary, languages (English), target audience (People developing extension materials in low literacy environments), partners (Write-shop participants at ASHC write-shops in Ghana), country (Made in Kenya), format (Handout- 8 x A4 pages), comments (E-mail your comments to ASHC), reference number (ASHC 0319-L3), and commissioning details (Commissioned from Laurinda Cheng, under the supervision of Louise Malloux). Download links for PDF (37KB) and Word (26KB) are provided.

Producing farmer-friendly printed information



In July 2012 ASHC facilitated two workshops with partner organisations in Ghana. Each was asked to define what they thought constituted farmer-friendly material. One of the quotes was a farmer's representative, Abokei Dinyi. He said: "I want messages that are down to earth..."

ASHC has combined the findings of these workshops to suggest a checklist for the production of down-to-earth printed materials.

Technology

- Realistic expectations of what can be achieved.
- Include an honest assessment of the impact a technology will make.
- Include a clear explanation why this.
- An understanding of the impact of a technology on a farming family – not just on the farm production but the unintended consequences (e.g. Stover no longer used as cooking fuel can create a burden of collecting firewood).

The screenshot shows a checklist titled 'Checklist' for producing farmer-friendly printed information. It includes a form for 'Name of resource' and 'Proposed NTR technology'. The checklist contains several sections with questions and checkboxes:

- Production:**
 - 1. Has the material been produced in a range of conditions to evaluate and facilitate the production of a range of cheaper NTR materials?
 - 2. Has the material been produced in a range of conditions to evaluate and facilitate the production of a range of cheaper NTR materials?
- Content:**
 - 3. Do the messages in the material address the needs of the target audience?
 - 4. Do the messages in the material address the needs of the target audience?
 - 5. Do the messages in the material address the needs of the target audience?
 - 6. Do the messages in the material address the needs of the target audience?
 - 7. Do the messages in the material address the needs of the target audience?
 - 8. Do the messages in the material address the needs of the target audience?
 - 9. Do the messages in the material address the needs of the target audience?
 - 10. Do the messages in the material address the needs of the target audience?
- Design:**
 - 11. Is the material easy to read and understand?
 - 12. Is the material easy to read and understand?
 - 13. Is the material easy to read and understand?
 - 14. Is the material easy to read and understand?
 - 15. Is the material easy to read and understand?
 - 16. Is the material easy to read and understand?
 - 17. Is the material easy to read and understand?
 - 18. Is the material easy to read and understand?
 - 19. Is the material easy to read and understand?
 - 20. Is the material easy to read and understand?

Documentation of material development process guides and tools - see the 'How to...' section of the ASHC website

<http://www.cabi.org/ashc>



Ways in which we could collaborate with the GRA?

Publishing an open-access global knowledge hub on greenhouse gas emissions in agriculture: **raising awareness** through communications, case studies and papers

- Identifying **best practices** to allow implementation of management plans
- Building **sustainable strategies** for climate smart agriculture
- Providing **assistance and advice** as relevant to specific circumstances



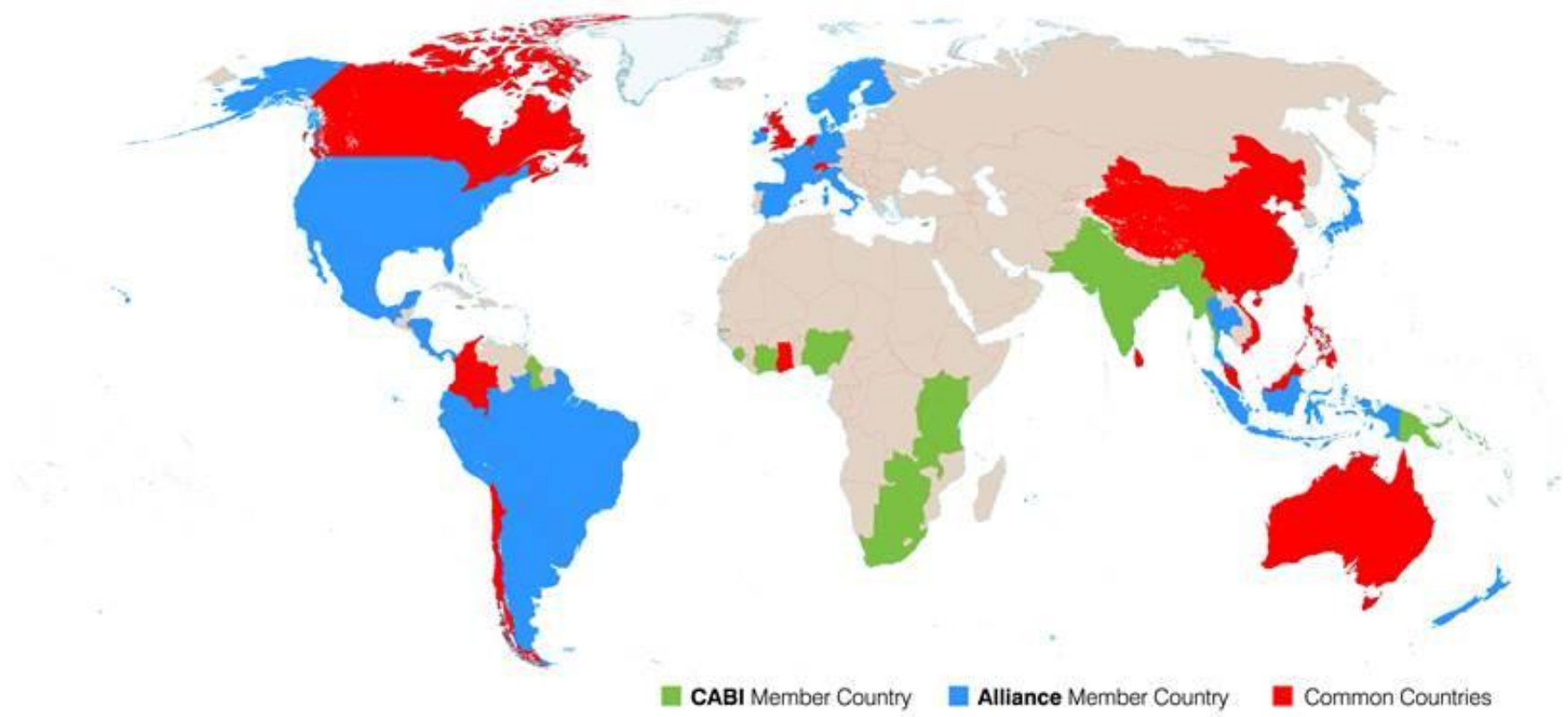
Why work with CABI?

- International reputation for development of science-based information products
- >100 yrs experience in knowledge management of relevant subject areas and > 10 mill records in CAB Abstracts and Global Health
- CAB Thesaurus (controlled vocabulary) world's most-detailed semantic enrichment tool, with 400k named terms
- Broad international reach at many levels: government policy makers, academia, researchers, practitioners and farmers



Mutual Benefits of Partnering

- CABI and GRA are both member country organizations and our outreach can be increased by partnership
- CABI's role in dissemination and validation of research outputs in combination with knowledge transfer to farmers is complementary to GRA's role in research development and collaboration
- GRA's research projects and databases can increase the body of knowledge that CABI can publish
- CABI and GRA together can increase the impact and reach of the knowledge that circulates within agricultural sectors and their stakeholders





**more
knowledge**

**means
more food**



We can **lose less** and grow more – the answers are available **today...**

www.cabi.org/isc
FREE invasive species compendium

www.plantwise.org/knowledgebank
FREE global gateway to plant health

