



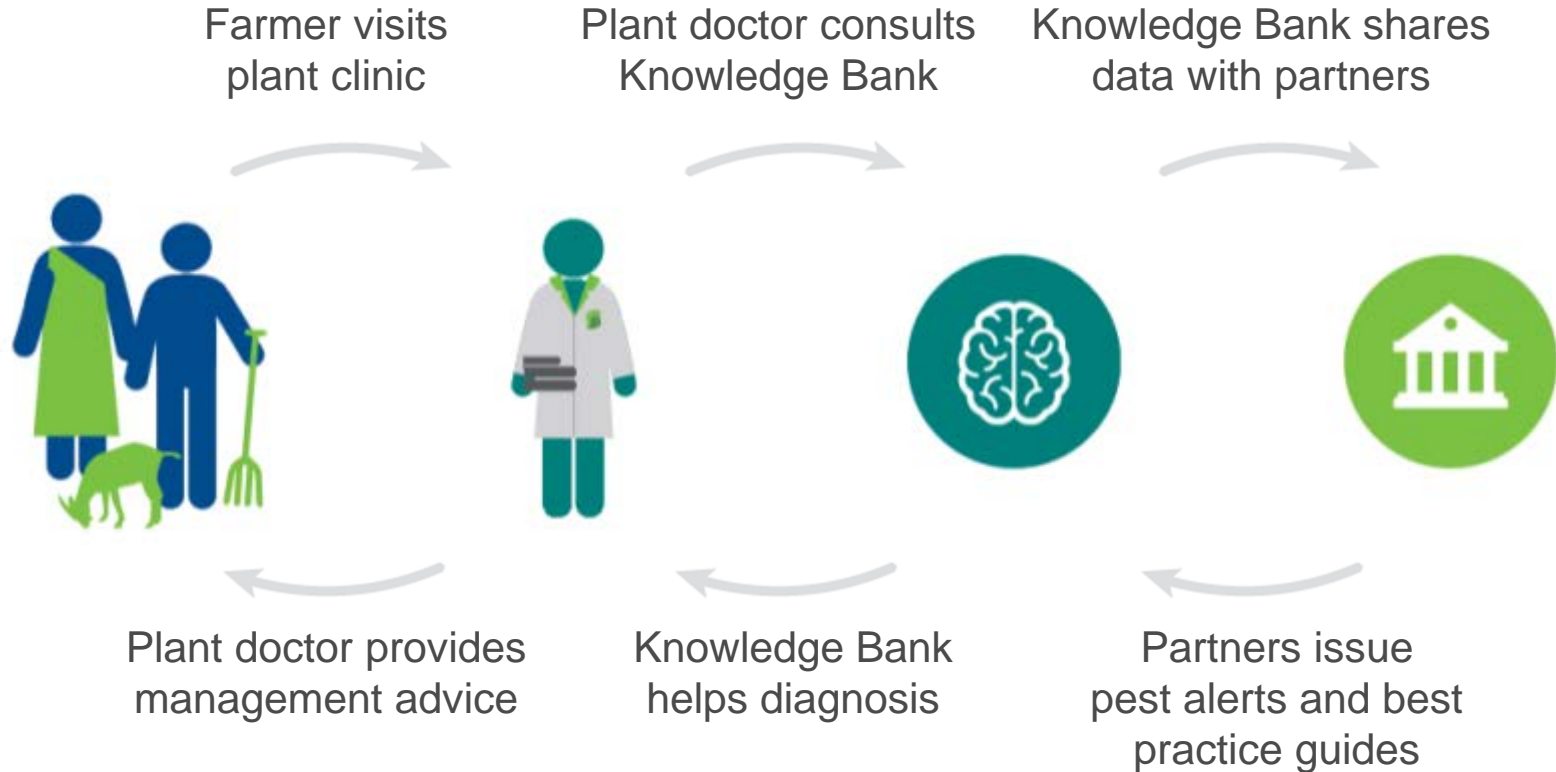
Evolution of Plantwise

Malvika Chaudhary, Washington Otieno, Min Wan, Feng Zhang

Member Countries Regional Consultation: Asia-Pacific

16-19 October 2018, Beijing, China

Plantwise process: two-way flow

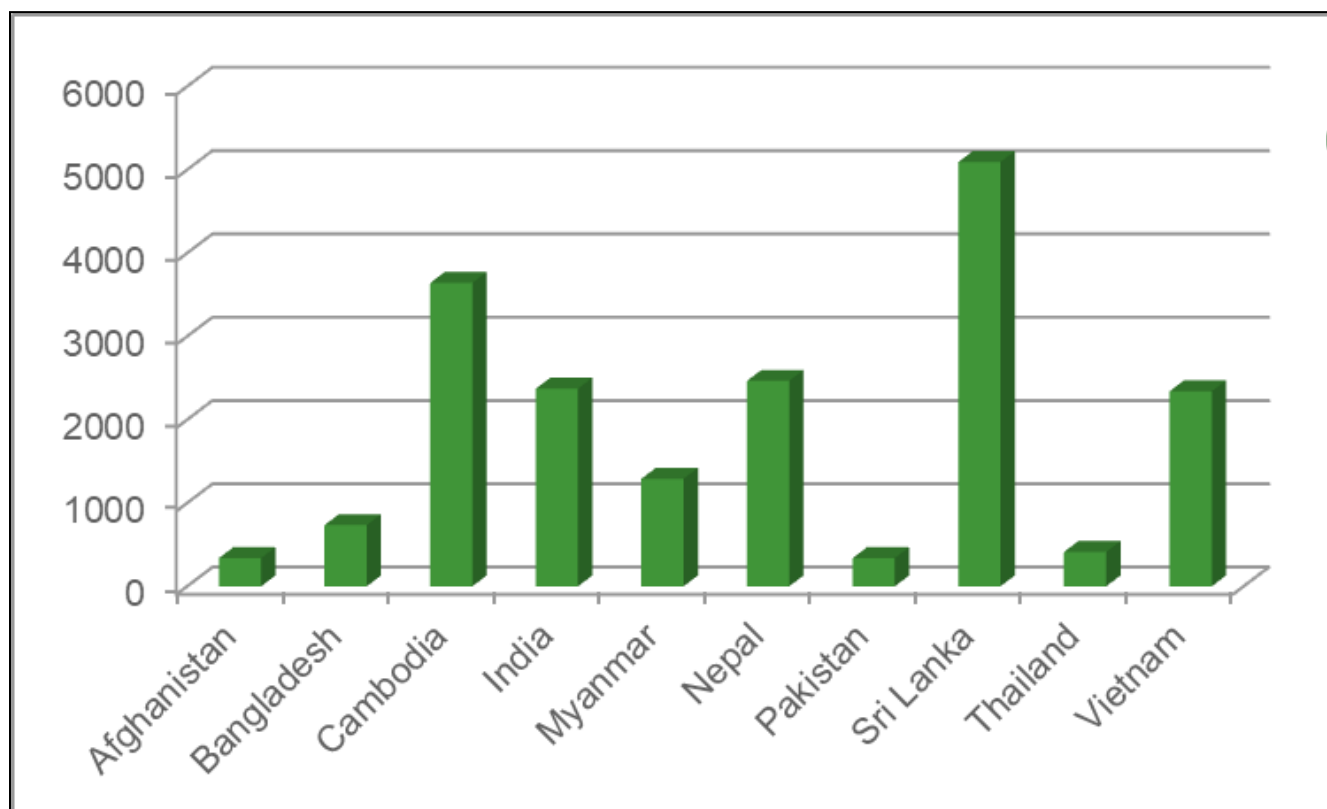


Awards won in 2017

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



Plantwise in Asia



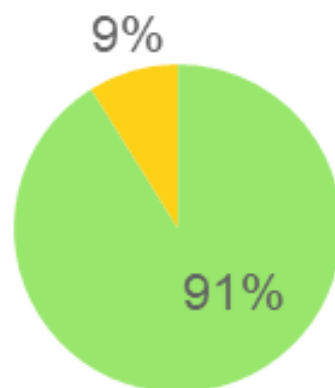
No. of female queries

23,1430
clinic
queries

Plantwise in Asia

Gender of farmers reached

■ Male ■ Female



4,234

Plant doctors
trained

Plantwise in Asia

2310

Plant clinics established

Afghanistan

164

Bangladesh

39

Cambodia

30

China

109

India

79

Myanmar

28

Nepal

124

Pakistan

906

Sri Lanka

783

Thailand

12

Vietnam

36



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

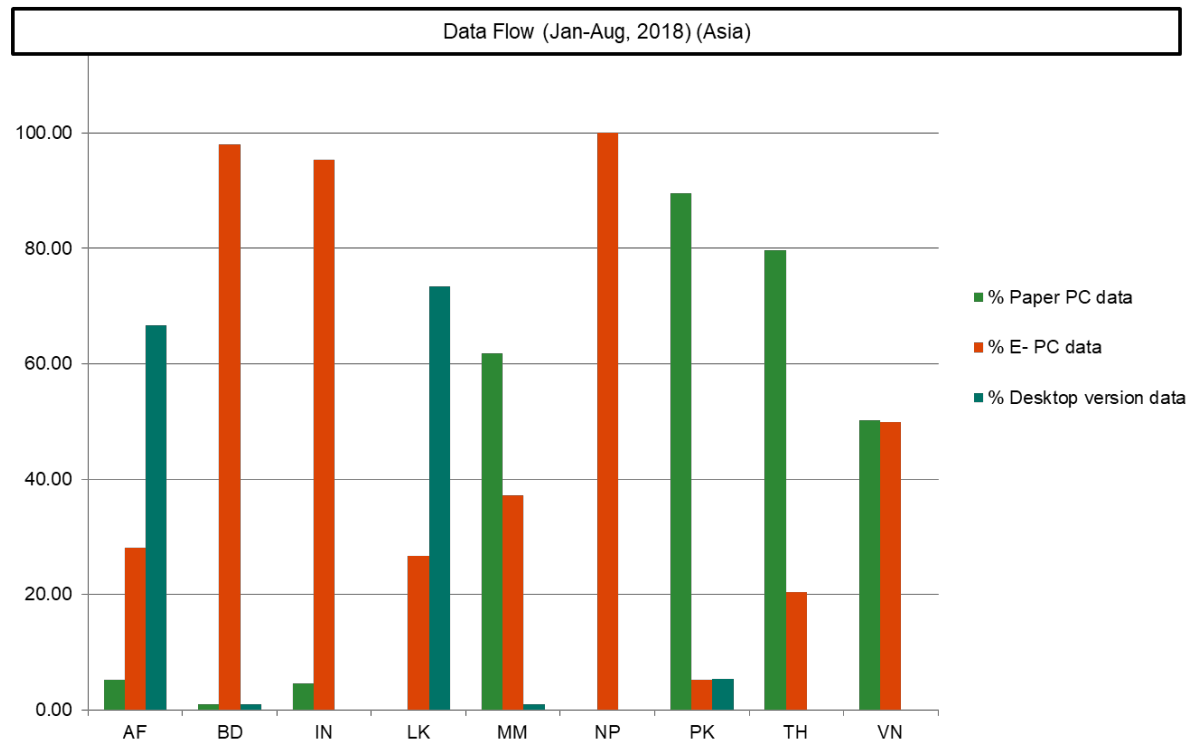


Digital development and e-plant clinics

- Digital devices now play a key role in Plantwise for greater effectiveness and self-reliance in agro-advisory services
- E-plant clinics using tablet computers to:
 - Access Plantwise factsheets
 - Collect plant clinic data (> 340,000 records globally)
- Testing of image recognition technologies to aid diagnosis
- 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



Data primarily ICT driven in the plant clinics in Asia



China-Beijing: 100% E-PC data, deposited in the Beijing Pesticide Reduction Management System

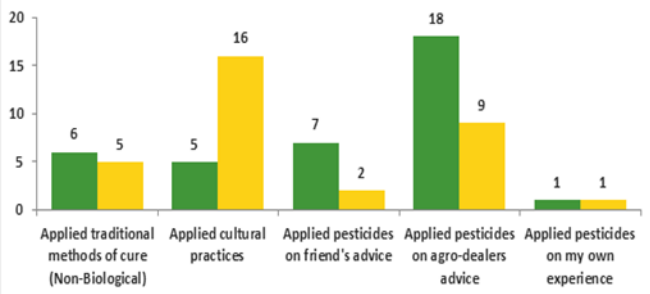


Outcomes and impact

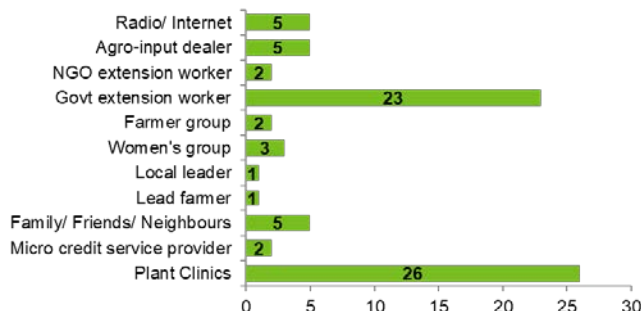
- **Plantwise reach of 18 million (cumulative)** by 2017 mainly through **plant clinics** and other **complementary extension campaigns**
- **Cost : benefit ratio of 1:2** for improved maize in plant clinic catchment areas of Kenya
 - Knowledge on pests and diseases was higher among plant doctors in Kenya than those who did not receive Plantwise training
- **Improved country systems** for managing plant health eg 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

Pest control practices

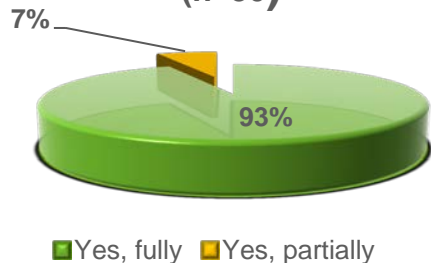
■ Before visiting PC ■ After visiting PC



Source of advice on Plant Health n=30



Implement PD advice (n=30)



Outcome: Agricultural institutions and organisation capacity to strengthen PHS sustainably increased using Plantwise approach

- Indicator 2: Number of male and female farmers receiving appropriate, timely locally relevant advice
 - **Bangladesh:** Higher adoption rates and PC being more reliable source of information
- Indicator 3: Percentage of female and male farmers adopting technologies having received advice from plant clinics
 - **Cambodia:** agro dealer advice less reliable after clinic intervention
 - **Vietnam:** Agro dealers rely on plant clinics for their sales

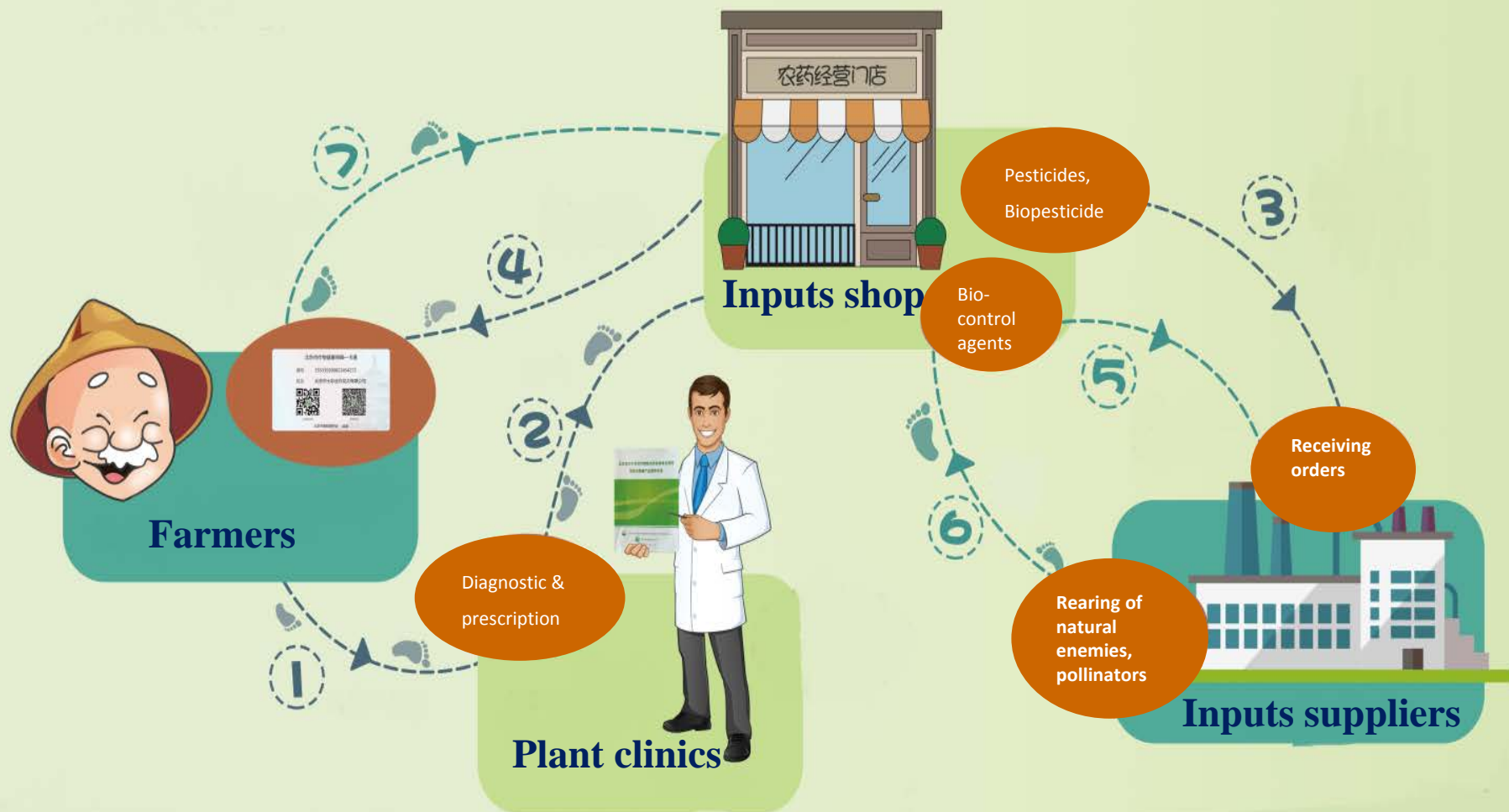


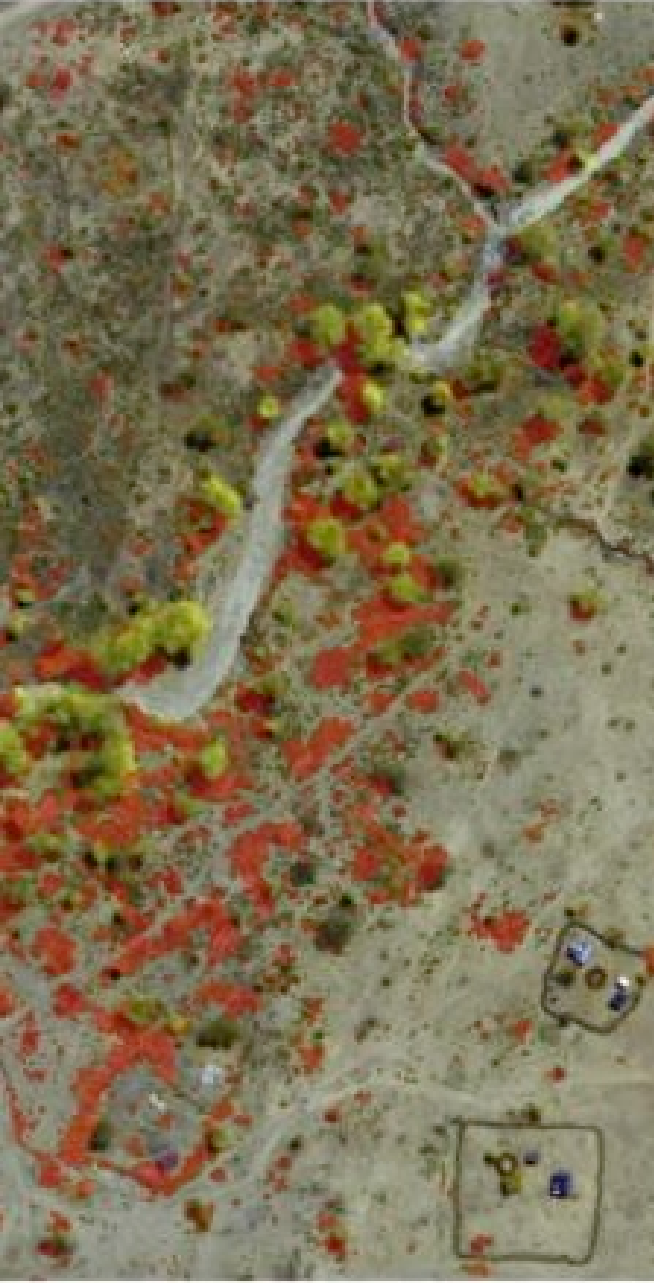
Clinic data use in Beijing

- Contribute to the implementation of national policy on Pesticides Zero Growth by 2020
- Beijing Plant Protection Station (BPPS) used clinic data to pay governmental subsidy to crop growers following the plant doctors' recommendations to purchase IPM-compatible products, eg biocontrol products, Biopesticides, low-toxic chemicals, etc.
- To facilitate clinic data use:
 - 52 new clinics established in 2017
 - A data management system entitled 'Beijing Pesticide Reduction Management System' developed and came into service since 2017



Subsidy payment process with plant clinics





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 three UK-based and four 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 (plus three 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 the Private Sector

- Engagement with private sector in Plantwise being pursued with the vision to leverage the resources and expertise in order to increase:
 - 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 working 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



FPOs in India

- Self-sustained model:
 - Indian Companies Act, 1956 amended in 2003 to include farmer producer companies (section 581 A)
 - On registration under sub section(1), the Producer Company shall become a body corporate as if it is a private limited company to which the provisions contained in this Part apply
- Connected to value chain:
 - Plantwise connects with FPOs by eight clinics
 - Giving advice to farmers to produce fruits and vegetables: acceptable to market
 - Connect input suppliers





DESEE FORCE - PHYSICAL SERVICE

Country: India

Generate authentic,
verifiable data on
farm
situations

Ultimate touch point
for all stakeholders to
connect with farmers

Self-Employed
Rural Youth

Personal Crop
Consultant for
Farmers



Digitally Empowered
Self-Employed Extension
Force
[DESEE Force]

Prevent farmers
from
exploitation

Contribute to
better human
health and a better
environment



Biopesticides

- Building on Plantwise: recommendations to farmers that are IPM based necessitated the development of a **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 biopesticides and infrastructure for local markets
- 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 smallholder 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*



Ministry of Agriculture and
Rural Affairs,,
People's Republic of China