



Investing in rural people

**Plantwise -
a country-based
approach to
improve farmer
livelihoods through
reduced crop
losses and
increased
productivity**

GRANT RESULTS SHEET



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**The goal was to
increase
productivity of key
crops and/or
improve household
incomes for
smallholder farmers**

Goals and objectives

Smallholder farmers in sub-Saharan Africa experience losses equivalent to 30-40 per cent of total yields due to pests that attack their crops. They need help to diagnose the problem and identify practical, economic, feasible and environmentally safe measures to deal with them.

The goal of this programme was to significantly increase the productivity of key crops and/or improve household incomes for smallholder farmers by establishing plant clinics and training plant doctors.

The objectives were to: 1) establish a network of plant clinics integrated with IFAD-financed programmes in Mozambique, Rwanda and Uganda, and build and strengthen linkages with other plant health stakeholders; 2) build links between plant clinics and other active advisory service providers to increase outreach of advice related to key problems identified at the clinics; and 3) inform and achieve policy changes that facilitate the creation, maintenance and expansion of clinic networks and activities based on lessons learned in pilot schemes.

Beneficiaries

504 plant doctors trained: 191 in Rwanda (approximately 28 per cent women), 301 in Uganda (19 per cent women), 12 in Mozambique (33 per cent women).

195 new plant clinics became operational: 53 in Rwanda, 133 in Uganda and nine in Mozambique. Farmers recorded attending clinics 2013-2015: Rwanda 5,171 (at least 34 per cent women), Uganda 3,570 (26 per cent women), Mozambique 677 (39 per cent women).

Beyond the clinics, plant health rallies attracted 14,859 smallholders in Rwanda, at least 4,458 of whom were women, and 16,028 in Uganda, of whom about 8,014 were women. Further outreach, potentially to millions, was achieved via radio.



Facts at a glance

Grant implementing agency

CABI

Theme

Developing innovative technologies that can be scaled up

Benefiting countries

Mozambique, Rwanda, Uganda

Total programme cost

US\$3,572,357

IFAD contribution: US\$1,405,153

Cofinancing (other donors):

US\$2,167,204

Partners

RAB, Rwanda; MAIFF, Uganda; DSV, Mozambique

Effectiveness and duration

Feb 2013-March 2016

Linkages to IFAD investment projects

ATAAS (Uganda)

PRONEA-PSP (Mozambique)

KWAMP (Rwanda)

Main results

The project succeeded in training 504 plant doctors and establishing 195 new clinics across the three countries. Clinics were introduced in Mozambique and the network expanded in Uganda and Rwanda. Mass-media approaches extended the project's reach beyond the clinics, potentially reaching millions of farmers. Progress was made towards mainstreaming Plantwise approaches as key components of crop pest vigilance and management at national and local government level in Uganda and to a lesser extent in Rwanda.

Information materials were produced at various levels, from academic papers to farmer-friendly materials, disseminating the knowledge generated within the project to be shared widely among other Plantwise countries and beyond.

Plant clinics were successfully introduced in Mozambique in activities that were well integrated with the PRONEA IFAD-funded programme and another IFAD grant on the diamondback moth, implemented by the International Centre of Insect Physiology and Ecology (ICIPE). In Uganda and Rwanda, clinic networks were expanded significantly. Capacity for further scaling up has been established by training national staff to train new plant doctors and their supervisors. The project's growth was facilitated by participatory planning with national partners on allocating donor funds and by partners' significant in-kind contributions towards implementation of activities. Successful partnerships with government departments, especially in the ministries of agriculture, but also with local governments, have been key in coordinating activities. Growth has also been attributed to evolving partnerships with other organizations, especially non-governmental organizations (NGOs) and community-based organizations. A good example is the support by Chance for Childhood in Uganda, which is investing funds for the Uganda Christian University to train extension officers in several district local governments to become plant doctors.

Lessons learned

Increased reach can be effectively achieved through innovations at clinic level, such as mobile clinics to reach new areas, and plant nurses, who allow more clients to be dealt with per session. Also, growth of plant clinic networks can be enhanced through effective partnership work with governments and NGOs, which, on becoming convinced by the approach, are willing to invest in training and equipping plant doctors.

Beyond the clinic, information on pests and diseases identified as priorities at the clinics can be shared with a much wider audience via mass communication approaches, including plant health rallies, publishing factsheets in local magazines and participating in phone-in radio programmes.

Data management and use of information communication technology

(ICT): In Rwanda, plant doctors started a Whatsapp group to improve communication among themselves and to achieve greater consistency in diagnosis and recommendations.

A pilot scheme in Kenya has shown that entering data from plant clinics directly into tablets facilitates timely sharing of information, which enables plant health stakeholders to act more quickly on this information. This approach now needs to be tested further in Uganda, Rwanda and Mozambique to see if it leads to more use of this data and information by plant health-system stakeholders.

Betty Seyekwo is a hardworking farmer and mother of seven children living in Kapchorwa, Uganda. Last season, she planted beans on her two-acre farm and harvested 13 bags, a decline from 20 bags the previous season. Before changing crops to beans, Betty was predominantly a maize farmer until a new disease wiped out her entire crop.

"I used to grow an average of 25 kg of hybrid maize seeds each season and harvest about 50 bags. Last year, I only harvested 10 bags of maize after my plants stopped growing and dried," says Betty. She adds, "This season, I noticed the leaves of my beans turning yellow and drying, especially during the rainy season."

As a result of the decline in yield, she was unable to comfortably feed her family and had to buy extra food. It was also difficult paying school fees for her children.

"My mistake was buying and applying the wrong chemicals. [At the rally] I learnt that we have to buy only government-registered chemicals that are packed in properly labelled containers. I now know that some chemicals can only be applied before or after the crop is infected. The strange disease that attacked my maize [pointing at the maize lethal necrosis virus (MLND) factsheet] is easily managed by crop rotation."

"Plant health rallies are one of the approaches we are implementing within Plantwise to complement plant clinics in reaching out to more farmers at the district level. Out of the 88 districts across the country, 70 per cent have plant clinics included in their planning and budgeting," said Benius Tukahirwa, the Agricultural Inspector at MAAIF.



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Betty Seyekwo studies a pesticide malpractice poster after the plant health rally

Way forward

Innovations to increase efficiency/effectiveness and increase sustainability included:

- mobile plant clinics and use of link-farmers and nurses to complement plant doctors in Uganda;
- e-plant clinics in Rwanda to increase timeliness and quality of data and facilitate access to online resources. Social media facilitate sharing photos, leading to better diagnoses and more appropriate recommendations; and
- plant clinics integrated with farmer field schools and irrigation schemes in Mozambique capitalize on activities that bring together large numbers of farmers.

In Uganda, five NGOs are involved in running clinics and three more have expressed interest in using this approach. Uganda's National Farmers Federation wants Plantwise to train their extension workers. Several leading universities and colleges want to provide Plantwise training in-country, integrating the approach into their curricula. Universities in Rwanda and Mozambique are also engaged.

In Mozambique, the government has used donor funding for training and equipping plant doctors. In Rwanda, one district has used its own funds to train extension staff as plant doctors.

At a policy level, plant clinics are included in the Uganda Development Strategy and Investment Plan; this enabled local governments to allocate funds for operationalization of plant clinics. In the new Agricultural Sector Strategic Plan (2016- 2021), plant clinics have been elevated to a 'thematic area'. In Rwanda, plant clinic operation is included in performance contracts for extension staff in two local governments. Senior Rwanda government officials use data extracted from Plantwise's Online Management System.

Lessons are shared between 33 countries for continued improvement. Sustainability is a long-term aim. New funding is being sought to sustain efforts and establish sustainable systems for long-term impacts. Investment in introduction of tools and processes to improve efficiency of data collection and management will facilitate more effective use of data to inform more effective national actions within plant health systems.

Beyond the clinic, information on pests and diseases can be shared with a much wider audience via mass communication approaches, including **plant health rallies**, publishing in **local magazines** and participating in **radio programmes**.

Knowledge generated

Pest-management guides were developed in Rwanda (51), Uganda (144) and Mozambique (14) and uploaded to the Plantwise Knowledge Bank (<http://www.plantwise.org/KnowledgeBank/Home.aspx>), making these materials freely available to anyone with internet connectivity.

Some key publications completed during the project period include:

- First report of maize lethal necrosis disease in Rwanda:
<http://www.ndrs.org.uk/article.php?id=029022>
- Reaching out to farmers with plant health clinics in Uganda:
<https://www.plantwise.org/Uploads/Plantwise/Reaching%20Out%20To%20Farmers%20With%20Plant%20Health%20Clinics%20In%20Uganda.pdf>
- Impact evaluation of plant clinics:
<https://www.plantwise.org/Uploads/Plantwise/Cabi%20Wp6%20Impact%20Of%20Plant%20Clinics%20Teso%20Uganda.pdf>
- Implementing plant clinics in the maelstrom of policy reform in Uganda:
<http://www.plantwise.org/Uploads/Plantwise/plant%20clinic%20maelstrom.pdf>
- Using a health system perspective to assess plant clinic performance in Uganda:
<http://www.plantwise.org/Uploads/Plantwise/Using%20A%20Plant%20Health%20System%20Framework.pdf>
- Listening to the silent patient. Uganda's journey towards institutionalizing inclusive plant health services: <http://www.plantwise.org/about-plantwise/publications/listening-to-the-silent-patient/>

In Uganda, pest and disease factsheets for farmers were published in The Agribusiness Magazine, a Uganda monthly with a print-run of 5,000 and an on-line version.

In Rwanda, Plantwise participated in three radio programmes which featured information on maize lethal necrosis virus and a farmer phone-in. The programmes were broadcast on two stations – Radio Rwanda, the leading national radio station with a 50 per cent share of the total radio audience, and Radio Huguka, with an estimated audience of four million in Southern and Western Rwanda. A range of materials was produced to document and share the lessons learned in the three project countries, including published academic papers, presentations, a CABI working paper, blogs and short films. Sharing lessons between Plantwise countries is an important component of the programme's management.

In order to facilitate greater knowledge sharing, Plantwise also generated several blogs and videos.

Plantwise blogs are written regularly for the three project countries and can be found at:

<https://blog.plantwise.org/>

Videos:

- Research diary: plant clinics in Uganda:
<http://www.bbsrc.ac.uk/news/food-security/2014/141029-f-plant-clinics-in-uganda.aspx>
- Video of joint IPPC-Plantwise workshop for East Africa:
<http://blog.plantwise.org/2014/04/10/new-video-the-first-ippc-plantwise-workshop-nairobi-kenya/>
- Plantwise on TV: Launch of Makerere University Training in Uganda:
<http://blog.plantwise.org/2013/11/01/plantwise-on-tv-launch-of-makerere-university-training-in-uganda/>
- Have you met Martin? <http://www.thedailydogooder.com/2013/10/16/dr-plant/>
- Listening Patient video series:
https://www.youtube.com/channel/UCsNI2gC5DokpNdg8c45YjRg/videos?shelf_id=0&view=0&sort=dd



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