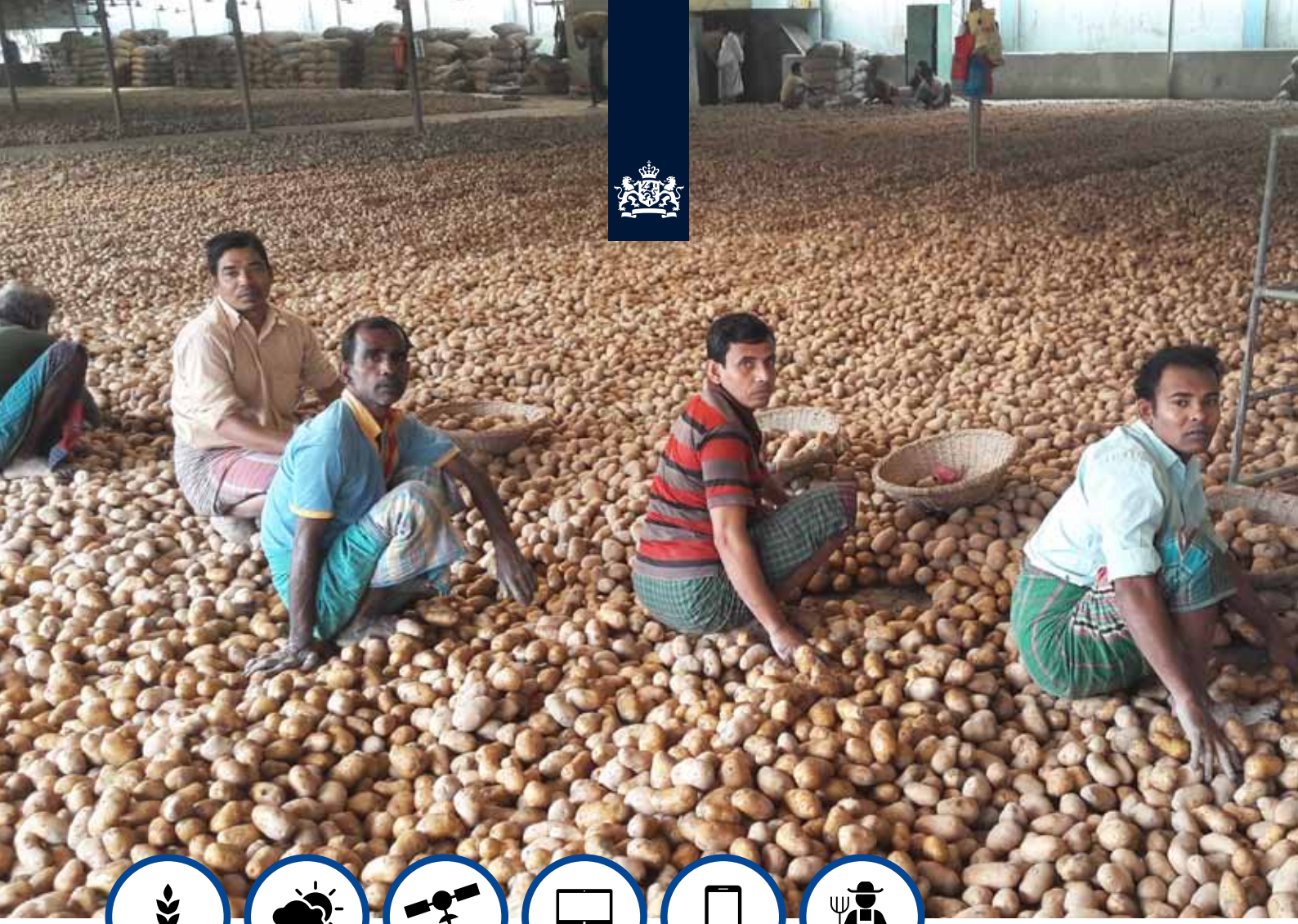

Geodata to control potato late blight in Bangladesh (GEOPOTATO)

Late blight (*Phytophthora infestans*) is the most common and highly destructive, fungal disease in potato, tomato and other solanaceae crops in Bangladesh. Annual potato yield losses due to late blight have been estimated at 25-57%.

Late blight can be controlled but only by frequent and costly applications of fungicides. Moreover, the degree of control heavily depends on the timing of the fungicide application in relation to local weather conditions, crop development and disease pressure. So, the efficiency of late blight control can be improved considerably by informing farmers in time about predicted infection periods of the potato crop and the effectiveness of past spray applications.

GEOPOTATO will develop and implement a decision support service (DSS) in Bangladesh for an optimal control strategy of late blight in potato. The DSS will provide farmers with preventive spray advice when a late blight infection period is predicted to occur. The DSS also evaluates past sprays, which may result in curative spray advice when, despite past sprays, infection is likely to have occurred in the past few days.

Information based upon satellite data and using various models are important aspects of the DSS, which continuously measures and forecasts weather and biomass growth of potato crops in relation to the late blight disease cycle. The DSS evaluates this information to provide farmers with a timely spray advice.

Target user group

GEOPOTATO aims at becoming the preferred agricultural advice service for over 750,000 small farmers in Bangladesh that grow potatoes on 450,000 ha in the dry winter season.

Business proposition

The late blight alert service will be provided on a subscription base to farmers, through SMS during the potato growing season. GEOPOTATO is testing the DSS with various private sector companies to assess the benefit for these companies for providing

GEOPOTATO will provide farmers with preventive spray advice when a late blight infection period is predicted to occur

the service to farmers in the future. Expected farmer benefits range between 100 and 250 Euro per hectare - depending on the farmers' current agricultural management and disease control.

Partnership

The GEOPOTATO consortium consists of seven public and private organisations, each with their own expertise:

- Agriculture Information Service (Bangladesh): Farmer groups and ICT solutions for farmers
- Bangladesh Centre for Advanced Studies (Bangladesh): Remote sensing and GIS
- ICCO-Cooperation (Bangladesh): Farm business groups and development
- mPower (Bangladesh): Data integration and mobile communication
- TerraSphere (Netherlands): Remote sensing and GIS
- Wageningen University (Netherlands): weather forecasting, late blight risk model and crop growth model

Contact

Lead Organisation: Wageningen University and Research, Huib Hengsdijk, huib.hengsdijk@wur.nl

NSO Project Advisor: Joost van Uum, j.vanuum@spaceoffice.nl

g4aw@spaceoffice.nl
g4aw.spaceoffice.nl

G4AW
GEODATA FOR AGRICULTURE AND WATER

Netherlands Space Office

Ministry of Foreign Affairs of the Netherlands