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Geodata to control potato late blight in Bangladesh

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Late blight (caused by *Phytophthora infestans*) is the most common and highly destructive, fungal disease in potato, tomato and other *Solanaceous* 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. Nevertheless, control failures are common due to the challenging local fog periods.

The degree of control primarily depends on the composition of the local *P. infestans* population, the timing of the fungicide applications, crop development and disease pressure. The efficiency of late blight control can therefore significantly improve by informing farmers, in time, on predicted future infection events. In addition, the results from pathogen population monitoring may help farmers to choose the most efficient fungicide.

The GEOPOTATO project is developing and implementing 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 event is predicted to occur in the near future. Capacity building on integrated control of potato late blight helps farmers and advisors better understand disease development and management. Pathogen population monitoring has revealed wide spread occurrence of the metalaxyl resistant *P. infestans* clonal line EU_13_A2.

Satellite data are used to downscale weather forecasts and measure potato crop biomass, two important factors for late blight control. Various models combine and analyse the available information resulting in a timely spray advice provided to the farmers through SMS or voicemail messages. GEOPOTATO aims to become the preferred agricultural advice service for over

750,000 small Bengal farmers that collectively grow over 450,000 ha of potato during the “dry” winter season. The late blight alert service will be provided on a subscription basis during the potato growing season.