



CROPMON

Crop Monitoring Service

2015 - 2019



The CROPMON (CROP MONitoring) project developed a crop monitoring service that provides smallholder and medium-sized farmers in Kenya with location-specific and timely information about the actual status of their crops and (weather) alert messages. Additionally, possible causes for yield reduction are identified and advice on the application of corrective measures is provided to the farmers.

The advice concerns the following crops: maize, coffee, wheat, sugarcane, potatoes, soybeans and grass (for dairy cattle). The project was carried out by a partnership of Dutch and Kenyan partners with expertise on soils, weather, earth observation, digital platforms, agronomy and extension services.

1 NO POVERTY



2 ZERO HUNGER



8 DECENT WORK AND ECONOMIC GROWTH



13 CLIMATE ACTION



15 LIFE ON LAND



17 PARTNERSHIPS FOR THE GOALS



Provided Services

Two different service levels were made available to the farmers. The first one is a basic service that provides weather forecasts by SMS-messaging. The second one is a full service that includes crop monitoring, advice on good agricultural practices, soil fertility improvement and weather forecasts. Alert messages on the spread of the fall army worm (FAW) in maize with advice on how to deal with the pest, is an example.

Registration of farmers includes contact information, collection of agronomical data and determination of plot boundaries with global positioning systems (GPS). To ensure successful delivery of the services, extension officers and lead farmers were trained by using demonstration sites to showcase best practices.

Currently (that is: after the end of the project), farmers receive a localised weather update twice a week directly on their phone through SMS. The first message of the month also contains a seasonal outlook with the forecasted weather conditions for the next three months.

Satellite information provides added value for weather forecasting and crop monitoring.



Business Model

During the project, both the basic (or light) service level and the full service level were provided to registered farmers free of charge. The users of the service gave valuable feedback on its performance, which was used to improve and validate the service further.

CROPMON faced difficulties in developing a viable business case and in identifying a business owner for the services. The envisaged business owner, Equity Bank, expressed interest, but a transfer of operations did not take place in the project time frame.

During project implementation it became more and more clear that the initial business model based on a business-to-consumer (B2C) model would not be successful. The focus shifted to a business-to-business (B2B) model. Targeted B2B clients, such as input providers, cooperatives, advisory service providers, financial institutions and governmental bodies were approached, but no real commitments were made. As a result, different elements from the service portfolio were marketed worldwide separately by consortium partners after the end of the project.

Impact

CROPMON established a strong and innovative proof-of-concept for delivering weather information and agricultural advice. However, problems that led to the termination of operations of the project coordinator (and therefore in fact eliminated the soil-related component from the service portfolio) and the absence of an identified and committed business owner (right from the start of the project) hampered successful service delivery.

With the support of the local partners, a large group of farmers registered to light and premium services. A comparison of average yields between begin and end of project indicated an increase in yields for all crops grown under CROPMON, except for coffee and grass. Wheat farmers had the highest gains in average yields. Increase efficiency on the usage of inputs was reported seeds (20%), fertilizer = 35% and pesticides = 340%.

The consortium partner Weather Impact took the initiative to continue the weather forecast SMS-service. First through its own investment for two years and since 2022 with



the support from the Bill & Melinda Gates Foundation (BMGF). This BMGF project was led by Equity Foundation (linked to Equity Bank), which provides new opportunities for service continuation. This includes the development of a Weather4Farmers app that delivers weather information to farmers with a smartphone, and enhancing the agricultural advice component with support from service provider NEO. Continuation of these services is only for the farmers linked to Equity and not for all the farmers originally targeted by CROPMON.

200,000
farmers registered
for the light service

26,000 hectare
monitored under the
full service package

Weather services
scaled to **>5**
other countries

40,000
farmers registered
for the full service

Services introduced in
>30 counties
in Kenya

90%
of surveyed users
found the advice useful

**Numbers are approximations based on M&E results.*



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Get inspired

The Geodata for Agriculture and Water Facility is a grant programme by the Netherlands Ministry of Foreign Affairs within the policy priorities for food security and water, which is executed by the Netherlands Space Office (NSO). G4AW established 25 public private partnerships in 15 countries to develop and support satellite based information services which positively impact the lives of smallholder food producers in developing countries.

g4aw.spaceoffice.nl



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