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SAM

Smart Agriculture Myanmar multicrop advisory system

2018 - 2021

The Smart Agriculture Myanmar (SAM) project utilised and strengthened existing information service; the Golden Paddy platform and app. The platform provides farmers with knowledge on good agricultural practices, product information, pest and water risk indicators, market information and financial inclusion. This information is customised and relates to characteristics of the registered user, such as location and crops grown. The service caters to the value chains of maize, rice, sugarcane and mung beans. As a result of a market and competitor analysis, maize was given priority over paddy rice.

The SAM consortium consisted of Impact Terra (an agri-tech company based in Myanmar and lead partner) Financial Access (a Dutch financial

services company), Satelligence (a Dutch Earth observation services provider), the Centre for Economic and Social Development (CESD) (an organisation supporting evidence-based policy making based in Myanmar) and Wageningen University (WUR) contributing with knowledge on good agricultural practices and agronomical services. The Myanmar Ministry of Agriculture, Livestock and Irrigation (MoALI) joined for local embedding and the provision of the licence-to-operate.

Provided Services

Golden Paddy's platform consists of two services directed at two different user groups. The Golden Paddy Android App (GP) provides services to farmers, the Golden Paddy Crop Insights web-portal (GPCI) to governments and businesses.

The Golden Paddy App provides crop calendars for different varieties of maize and paddy rice, and also for sugar cane and mung beans. Good agricultural practices related to planting, weeding, fertiliser application, detection of pests and diseases, harvesting, etc., are sent to extension workers and to the farmers via the ShawTheeNan mobile app and via Facebook. This information is also available offline. The farmers are also provided with weather forecasts and market information.

The Golden Paddy Crop Insights (GPCI) portal contains information on historical droughts and drought predictions (weekly and daily), on historical floods and flood predictions (weekly and daily), crop performance (weekly), extreme weather alerts and forecasts, and pest and disease alerts. The platform's services are to a large extent automated.

For crop monitoring a combined, multi-sensor crop growth index was applied that makes use of Sentinel 2, Landsat and MODIS imagery to account for local differences in land cover, mixed cropping and non-uniform soil conditions and topography.

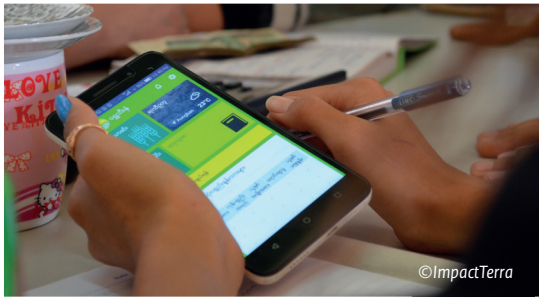
The flood risk data product uses land cover, a digital elevation model, historical precipitation, and historical satellite inundation observations as input. In the dry season the Sentinel-2 satellite is used because of its more stable water detection algorithm, while in the wet season the Sentinel-1 radar satellite is used because it can look through clouds.

The drought risk data product is provided at 1km spatial resolution on a daily basis and with a tested accuracy of 90%.

Business Model

The services of the Golden Paddy App are provided to farmers for free. The services of the Golden Paddy Crop Insight portal are sold to (non-)government institutions and businesses, such as food processors, input and food retailers, insurance companies and financial institutions. The clients pay a licence fee for the use of the platform. The more specific the insights, the higher the fee.

Impact Terra is the business owner of Golden Paddy. Agreements with Satelligence (satellite-based services) and WUR (pests and diseases risk prediction) were reached on maintenance, quality assurance and updating of data provision and service delivery. These three organisations committed themselves to continuation of the services after the end of the project.



Impact

The SAM project succeeded in reaching approximately 2.5 million smallholder farmers with low-cost solutions through marketing activities and social media (Facebook). Farmers reported that thanks to the advice they increased the diversity in crops grown, increase yields and that they could grow more crops in a year. Maize farmers were also better prepared for fall army worm (FAW) infestations.

Operational costs have been downsized to a bare minimum, which increases the probability of achieving a successful business case. However, due to COVID and the deteriorating situation in Myanmar the continuation of SAM became more and more difficult and operations had to be stopped in 2021.

Scaling up to other countries in South and South East Asia is envisaged as a possibility to capitalise on the demonstrated proof-of-concept, particularly with the easier scalable GPCI solution.

2.5 million smallholder farmers reached

30% less use of pesticides for maize reported

40% savings in applied fertiliser for maize reported

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

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.

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G4AW
GEODATA FOR AGRICULTURE AND WATER

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