



AngkorSALAD

Geodata for sustainable vegetable farming in Cambodia

2018 - 2022



The aim of AngkorSALAD is to provide geodata-based information services that support vegetable farmers in Cambodia and helps them to increase their production, income, food security and reduce their inputs of water, fertiliser and pesticides. The services are also extended to the cultivation of cashew nuts.

In addition, services in the form of intelligence about the vegetable farmers and their production are provided to commercial clients.



The project was implemented by ICCO South East Asia (a Dutch development organisation, now part of Cordaid) as the lead partner, supported by Cambodian partners Angkor Green (an agricultural investment and development company, the Cambodian General Directorate of Agriculture, the Cambodian representation of the World Vegetable Centre (a research and development organisation for vegetables), and Dutch partners Nelen & Schuurmans (a geo-IT company, specialised in water management), VanderSat (a satellite data and services company, now part of Planet) and Akvo (a foundation specialised in data-driven development).



Provided Services

AngkorSALAD delivers five services for smallholder vegetable farmers: irrigation advice, fertiliser advice, information on good agricultural practices, market information and pests and diseases information and advice. The services are delivered through a platform that contains soil fertility maps, geodata on soils, weather information, crop calendars, crop decision trees, market information and good agricultural practices guidelines. Satellite-derived rootzone soil moisture maps are uploaded to the platform daily.

The fertiliser service is based on soil and plant characteristics, combined with a fertiliser application schedule. To make this effective, a soil sampling campaign was carried out. For optimal results this should be repeated each year, but this turned out to be too ambitious.

The services are delivered to the farmers through the AngkorSALAD mobile app. The services were promoted through television, radio, extension workers and input sellers. As digital literacy of farmers is a potential bottleneck, a lot of effort went into organising face-to-face meetings and training. In addition to the workshops, meetings and field trips, demonstration farms were established in the 16 target provinces to test the services. During the project, the visuals and readability of the app were improved to ensure that people interpreted the information and advice correctly.

Apart from the services for smallholder farmers, a business-to-business AngkorSALAD dashboard product was launched to provide intelligence for agri-businesses, financial institutions, NGOs and insurance companies.

Satellite information was used for estimating soil moisture in the rootzone on a continuous basis, as input for irrigation advice. In the end, this approach was not cost-effective enough to serve the target group.

Business Model

Smallholder farmers expressed a willingness to pay a small amount for the services of about €3 per year. However, this is not enough to make the services financially sustainable. AngkorSALAD therefore opted for engaging business clients to generate sufficient revenue for continuation of the services. These businesses then pay a subscription fee for intelligence from AngkorSALAD. Advertising and sales of data and insights provide additional income.

Several meetings were held with potential business clients. It is evident that, if AngkorSALAD reaches sufficient scale, this will make it more attractive for potential business client to subscribe to the service.

The AngkorSALAD social enterprise was established to give the initiative a further boost and bundling with new services is foreseen to make the package more attractive to paying clients. The local partner Angkor Green is currently maintaining the information services.

Impact

The project successfully created an application for farmers to access recommendations that cater to the specific needs of cultivating vegetable crops. This will give the farmers an edge in the highly competitive vegetable market, and it will also enable business clients to enter the market of vegetable farmers with e.g. provision of financial products.

The information provided by the AngkorSALAD app is certainly relevant, but the way it is being transferred could be further improved to reach the less privileged and less digitally literate target groups. Especially the older farmers need more time and training to adjust to the new technology. Limited connectivity is also identified as a constraint for onboarding. On the supply side, some features, such as the irrigation advice and advice the use of fertilisers and pesticides, need further improvement in accuracy.

On the positive side, a survey showed that farmers, especially the young ones, are able to adopt the new technology despite difficulties in downloading the app. They reported an increase in knowledge about vegetable farming and improvements in production and reductions in the use of fertiliser and labour.

The extension of the services to cashew nuts and the obtainment of the associated innovation funding is also a positive development.

>400,000
farmers
reached
(informed
about
the service)

>5,000
active users
of the service

>50% reported an
increase in revenue after
using the AngkorSALAD app

Almost **7,000**
farmers trained in
face-to-face events

>65% of users are
committed to use the app
for the next 4 years



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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