

Value-adding weather information services for smallholders

How to create impact on smallholder farming with open weather data was the topic of the workshop that was held on 21 and 22 November 2017. In The Hague, The Netherlands, practitioners, policy-makers and academics explored the practical and strategic challenges they face to work with open weather data and how to address these. The discussions and case studies gave a good insight into topics such as entrepreneurial incentives for intermediaries to develop localised services with weather data, the importance of farmer communities' involvement, and the role of governmental support for open data infrastructure.

Having access to accurate, localised weather information is crucial for farmers to make well-informed farm management decisions, like timing irrigation and fertilisation and harvesting, and it allows for effective risk mitigation. However, providing added value services for smallholders using open weather data in developing countries is challenging.

Take for example KALRO, a platform that provides context specific advisories based on weather/climate information and corresponding agronomic advisory services to 10,000 farmers. The KALRO online platform gets information provided by the Kenya Meteorology Department. That information is placed, processed and made available for farmers and policy makers in two counties. In addition, the information is sent to farmers through other channels such as SMS and Interactive Voice Recording system. The strategy is to scale the service to all the 47 counties in Kenya. Revenues comes from subscription fees, payment of premiums, advertisement levies from agricultural business service providers.

Challenges

Boniface Akuku attends for KALRO the two workshops, enabled by GODAN Action, Wageningen University & Research, Dutch Ministry of Agriculture, Nature and Food Quality and CTA. He explains that the MET department requires better skills on how to overlay weather data on dynamic maps to calculate the probabilities per area. ICT companies on the other hand need skills on data science and artificial intelligence to be able to extract more insights from data as well as to develop algorithms that are relevant to the information service delivery. And extension workers require skills to interpret the information accurately for onward dissemination. KALRO has a problem to receive payments from farmers as the majority of smallholder farmers are conservative and have not understood the concept of paying for weather data or weather information services.

Akuku enjoys the opportunity to share his experiences and learn from other initiatives that bring weather data to smallholder farmers. That is what the workshops are all about, with the overall aim to achieve impact for smallholder farmers by focussing on capacity gaps, business models, partnerships and the role of standards.

The conclusion after two days of knowledge exchange is that it is essential to look at the whole open weather data value chain from actors involved in collecting, analysing,

disseminating the data. It will not only increase availability of quality data for farmers, but also ensures that farmers are able to understand the data.

Value chain approach

The first workshop, organised by GODAN Action and CTA, was a lively exercise in which actors in the open weather data value chain in Africa openly discussed five cases in a small setting. One key message was that it must be understood well by outsiders that open data does not mean “for free”. Value creation is only possible as the supply and demand sides of weather data are well linked to each other with clear communication lines between stakeholders and feed-back mechanisms from end-users, like farmers, extension workers and policy-makers.

The cases involved in this workshop were along with KALRO, the Crop Weather Bulleting from the MET agency in Zambia, Weather Records for smallholder farmers by the MET agency in Malawi, the instalment of weather stations by the Trans-African Hydro-Meteorological Observatory, and the Ecofarmer Weather Index Insurance service in Zimbabwe.

Community of Practice

Four areas for attention were mentioned after a lively debate:

- A farmer-centric design approach increases participatory planning, makes use of indigenous knowledge and local structures, and is more able to manage expectations while delivering quality and tailored products and services.
- A better understanding of business models is needed to sustain projects after funding stops, which includes creating Public Private Partnerships and innovative payment models for end-users.
- Measuring impact means a guarantee for sustainability, because what you can't measure you can't improve. Ideally, impact is linked with the Sustainable Development Goals on profitability, production, resilience and behavioural change.
- Capacity development must focus on all levels in the value chain. Providers of weather data must add value by understanding the needs of end-users, intermediaries must boost entrepreneurship by developing sound business models, and consumers must raise awareness on data value, data rights and data quality.

As a result of the workshop, the group will form a Community of Practice and invite more data and service providers, extension workers and farmer unions to start mapping partnerships and leverage existing networks with the aim to improve the open weather value chain and provide management advice to smallholders.

Entrepreneurial approach

The conclusions of the first workshop (21 November) were shared with the participants at the larger workshop of 22 November, which brought together members of different networks (like GODAN Action and G4AW) to discuss good practices for the application of weather data and viable business models that, in particular, allow Dutch actors to co-create added value services for smallholder farmers. In two parallel sessions the participants discussed “Achieving impact with weather data” and “The importance of standards and the role of capacity building” based on three areas in which open weather data could be

implemented: weather data for micro-finance and insurance, weather forecast and early warning systems for agriculture, and weather data for farm management advice.

From the presentations of the session rapporteurs and the presentation of Weather Impact, a Dutch organisation that works in Africa to deliver accurate weather data to farmers, it can be concluded that providing sustainable weather services has to be linked with (youth) entrepreneurship initiatives, because of the urgent need for compelling business models. By making use of hackathons, youth entrepreneurs could become interested and be part of the solution to develop services around weather data and combine this with GeoData to deliver innovative localised information to farmers, farmer unions and extension workers. Stand-alone weather data services have not been business proven, but the solution is combining and repackaging farming services in bundles.

Communication skills

It was also mentioned that governments and other stakeholders must work on delivering the environment in which “multi-stakeholder approaches”, “strategic cooperation”, and “Public Private Partnerships” can thrive. A more effective ecosystem can also attract the necessary investments needed for hard infrastructure, capacity building and business incubation. Furthermore, the debate about open weather data must not focus only on technical and entrepreneurial skills, it must include communication skills, data visualisation skills, and human-centred design skills to ensure that smallholder farmers are included and ultimately can make sense of weather information.

The workshops enabled a better understanding of the opportunities and challenges of open weather data for smallholder farmers and gave stakeholders knowledge and insights to establish improvements in the open weather data value chain. The aim is that this will result in new localised and sustainable services based on open weather data that will positively impact smallholder farmers. The involvement of international partners, like the Dutch engagement on this topic (e.g. Private sector actors, Ministry of Agriculture, Nature & Food Quality and Wageningen University & Research) could help their local peers to reduce capacity gaps and create the right technical, economic and policy environment in developing countries.

More information on the Godan website: www.godan.info

Join the Community of Practice: www.tinyurl.com/COPWeatherData



Ministry of Economic Affairs



WAGENINGEN
UNIVERSITY & RESEARCH

