



## Developing user-centric climate services for more resilient agricultural communities in Peru

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In the semi-arid, high-altitude Altiplano in Peru, the agricultural sector is highly exposed to climate-related hazards like drought, frost and hail. These weather and climate events translate into negative consequences in terms of harvest, income and health for small-scale subsistence farmers threatening their livelihoods. The use of climate information serves as a promising adaptation strategy to reduce impacts of natural hazards. While information often exists, in many cases it is not known, accessed or understood by smallholder farmers. In order to bridge this gap between provider and user, the WMO-led Global Framework for Climate Services (GFCS) gives a special focus on the establishment of a User Interface Platform (UIP). This platform aims at overcoming these challenges by engaging users in design and provision of climate services.

The Climandes project is a twinning project between the Peruvian National Meteorological and Hydrological Service (SENAMHI) and the Federal Office of Meteorology and Climatology of Switzerland (MeteoSwiss). It aims at developing specific climate information for the agricultural sector in Puno by closely integrating the user's needs. To that end, we conducted a representative household survey with over 700 small-scale farmers in Puno to assess smallholders' climate vulnerability as well as the current use of and prevailing barriers to climate information. Within the study, we identified four key constraints to utilization of climate information hindering to tackle its whole benefit. Firstly, meteorological forecasts lack acceptance as farmers prefer ancestral previsions over science-based information. Secondly, farmers lack access to climate information, especially lower income groups. Thirdly, the meteorological information is usually poorly understood, particularly in lower income groups. Forth, farmers perceive climate information as not sufficiently accurate at local or regional scales, which mirrors the lack of data quality and low station density.

In order to address these constraints on the user's side, we conducted monthly field workshops for farmers during the growing season 2017/18. These workshops were organized by the regional offices of SENAMHI. Based on farmers request during the initial workshop, we opened new dissemination channels to improve the access to information such as a text messages and daily broadcasts of forecasts through local radio stations. The monitoring and evaluation of the workshops show a great improvement regarding acceptance, usability and access of the information. Participants report to integrate climate information in their decision making more often and express their increased trust in the national meteorological service. The project Climandes therefore provides a proof-of-concept for the relevance and functioning of a User Interface Platform to bridge the gap from the climate to the user community.

In this contribution, we present the key results from our socio-economic evaluation and based on that the implementation of a prototype climate service.