



## Improving agrometeorological services for farmers in Niger

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Agriculture plays a key role in sub-Saharan economies, particularly in poor landlocked sahelian countries. The majority of smallholder farmers relies on rainfed crop production systems characterized by low productivity, low levels of inputs and high vulnerability to climatic risks. In the past, such systems successfully adapted to changing climatic conditions. Nevertheless, climate change and variability, combined with population pressure, poverty and land degradation are reducing livelihoods' resilience and coping capacity. Climate Services (CS) are acknowledged as powerful tools to develop farmers' adaptive capacities and sustain crop production.

Relevant research and investments have been deployed in Earth Observation and Modelling with the objective of implementing CS for agriculture. The provision of CS is growing across Africa. However, CS remain almost inaccessible for the majority of smallholder farmers or, in the best case, not very relevant to support on-the-ground decision-making.

During last 10 years, the World Meteorological Organization (WMO) actively supported West Africa countries, including Niger, in the transition toward Climate Smart Agriculture. The approach builds on the concept of Agriculture Innovation Systems (AIS), a network integrating agricultural research, extension, education agencies, and farmers as well as other private and public actors such as Meteorological Service, media and NGOs that promote innovation in agriculture. Such innovation framework was strengthened since 2012 by the cooperation between Niger Meteorological Department (DMN) and the Institute of Biometeorology of the Italian National Research Council, a WMO Regional Training Center.

The hypothesis is that agrometeorological services can effectively improve agricultural productivity and increase farmers' food security. The challenge we decided to address is the improvement of the dissemination and uptake of climate services produced by DMN to farmers at very local scale.

This paper aims to delineate the methodological approach adopted and to discuss success and failures experienced during the last 5 years.

A mid-term quali-quantitative assessment of farmers' uptake and impacts on their behavior was carried out in 2015. It demonstrated that farmers use agrometeorological services for a variety of choices: the seed variety, the most appropriate planting date and the most favorable periods for different cultural operations. Nevertheless, the level of uptake strongly depends not only by technical issues (quality of advises, appropriateness of dissemination channels) but also by social and cultural barriers.

Based on such assessment, the dissemination approach was revised. Therefore, new strategies and tools have been deployed to scale up agrometeorological services for wider communities of smallholder farmers enhancing the role of information technologies and the communication for accessible, reliable and relevant climate services for farmers.