



## **Agrometeorological Services for smallholder farmers in West Africa**

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Farming communities in West Africa have survived long series of climate fluctuations in the past by adapting to widely varying weather conditions. Nevertheless, climate change and increasing extreme events, combined with population pressure, poverty, and food insecurity, are worsening the vulnerability of production systems to climate risks. Therefore, the local attitude to overcome negative effects may become a much less reliable guide, and traditional knowledge will become largely inadequate to sustain crop production. Innovation through the introduction of Climate Services in agriculture is a powerful way to assist decision-making and develop farmers' specific adaptive capacities.

During last 10 years, the World Meteorological Organization engaged in supporting West Africa countries in the transition toward Climate Smart Agriculture. The approach builds on the concept of Agriculture Innovation Systems (AIS), which encompasses traditional agricultural research, extension and education agencies, including farmers as well as other private and public actors such as Meteorological Service, media and NGOs.

The hypothesis is that agrometeorological services can effectively improve agricultural productivity and increase farmers' income. While great research effort has been deployed in the development of climate services, impacts of such services in the West African farming communities are still largely unknown.

This paper aims to delineate the added value of agrometeorological services for farmers within the AIS of Mauritania. A quali-quantitative assessment of impacts on farmer's behavior and crop productivity has been carried out during 2015 and 2016 cropping seasons. The results demonstrate that farmers use agrometeorological information for a variety of choices: making strategic choice on the seed variety and on the geographical distribution of plots, choosing the most appropriate planting date, better tuning crop development cycle with the rhythm of the rains and choosing favorable periods for different cultural operations.

Globally, the effects of all these good practices can be summarized by an increase of crops productivity and a decrease of cropping costs (including opportunity cost) in terms of inputs and working time.

Observed behavioral changes demonstrate also that targeted agrometeorological training and awareness rising programmes can effectively strengthen the relationships and trust among farmers and the other components of the AIS.

Nevertheless, many challenges remain on the road to scale up agrometeorological services for wider communities of smallholder farmers in West Africa. One of the main criticalities is the need to enhance the role of information and communication technologies for accurate, reliable and timely climate information.