



TAHMO's goal is to install 20,000 on-the-ground sensing stations every 30 km across the African continent, specifically designed to provide rainfall, temperature, and other critical data from robust redundant sensors uploading by cell-phone in real time. TAHMO will make this high-quality data freely available to governments, scientists and farmers on the Internet for various applications including improving agricultural productivity, providing early warning for floods, and information required to provide short-term weather and long-term climate forecasts. The project will make it possible for Africa to leapfrog to one of the best-monitored continents in the world.



School2School program

TAHMO partners schools throughout Africa with sister schools in the United States and Europe. Partner schools work together to fundraise the cost of sensors and necessary fencing materials for each school to set up their own weather station.

TAHMO staff conduct site visits to get to know teachers and students, while preparing logistically for installations. As fundraising goals are reached, our TAHMO technical staff deliver an in-person training to school staff members about weather station function and minor maintenance aspects, and they install stations at our partner schools.

These stations upload data automatically to an internet server and schools are provided with software and classroom education tools to view and analyze the local weather data that their station and the stations at other schools are recording. The data can be used to enhance activities with sister schools across the globe by comparing climates and weather, many of the TAHMO lesson plans provided make use of real-time weather data in the classroom.

Why?

Crop productivity and food security in Africa pivots on the weather. Malaria and other chronic diseases are also tightly linked to patterns of rainfall and temperature. But African hydro-meteorological data are virtually non-existent, and crop failures and disease outbreaks are frequent. Furthermore, there is nearly no basis for the determination of how the African climate is changing. We must address this now, for each day we wait is information that we will never again be able to collect.

More information

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-  www.facebook.com/TAHMOinitiative
-  www.twitter.com/TAHMO_world
-  www.flickr.com/photos/TAHMO-world



Sensor Design Competition

In order to stimulate sensor design development, TAHMO organises a Sensor Design Competition each year. Students are invited to develop a new way of sensing environmental variables. The sensor must be inexpensive and robust. Additionally, these new sensing methods need to require low-maintenance. The best entries are invited for a final workshop. During this workshop the teams collaborate for one week to build a fully functioning integrated system. In 2013, the final was in Nairobi, Kenya and in 2014, the final was in Akure, Nigeria.

Robust, low-cost weather station

Existing weather stations do not meet all TAHMO requirements. Therefore, TAHMO and Decagon worked together to build a robust and low-cost weather station. New technologies make it possible to design one integrated weather station which requires low maintenance. The development of the weather station is still in progress, but early field trials in Senegal, Uganda, Kenya, Ghana and South Africa are under way.

Weather services

Weather data, combined with computer models and satellite data, will be translated into weather predictions. These predictions can be used in (mobile) services with client specific information, such as best time for seeding a specific crop or applying fertilizers. Farmers, for example, can use this information to increase crop productivity and food security.



Pilot Kenya

The TAHMO pilot project in Kenya will be funded by a prestigious grant by the USA-Sweden-Netherlands Securing Water for Food Program. The core activity is to expand the network of hydro-meteorological stations that serve weather-index-based micro-crop insurance. Insurance is generally seen as an important way to increase investments by cash-poor farmers throughout Africa. So far, many insurance schemes have been subsidized. The aim here is to build a financially self-sustaining system that allows insurance companies to offer crop insurance based on weather observations within 20 km of each TAHMO station.

Pilot Ghana

The TAHMO pilot in Ghana is funded by the Netherlands Organization for Scientific Research and aims to develop new markets for hydro-meteorological data and related information. The lead of the project is with a young hi-tech Ghanaian company, FarmerLine, which delivers information by means of SMS and spoken messages in local languages. We will develop new business activities through weather predictions that are relevant to farmers. Information about seeding, fertilizer application, and timely phyto-sanitary measures are important additions to the present pallet of services offered.

