

Policy Plan 2020-2023 TAHMO

(Trans-African Hydro-Meteorological Observatory)

Introduction TAHMO Foundation

Basic information about weather and climate in Sub-Saharan Africa was barely available until recently. However, this information is desperately needed to increase agricultural yields and thus achieve more food security and less poverty among farmers in these countries. This information is also the basis for an adequate preparation and response to risks and calamities caused by weather and climate extremes. The growing demand for food, in Africa and elsewhere in the world, and the increasing risk of damage and disasters due to climate change make the need for adequate information about weather and climate all the more urgent.

Since its establishment in 2014, the TAHMO Foundation has laid a foundation for the provision of basic information about weather and climate.

In 2020 TAHMO stands for:

- Structural collection of basic information about weather and climate (meteorological and hydrological data);
- An operational network of 600+ robust, energy-neutral and relatively cheap weather stations in 23 African countries south of the Sahara;
- Distribution of data to local authorities and other users;
- Financing based on projects;
- Main source of scientifically sound weather data on the African continent.

"The global market for calories is now here. If we can generate more food production in Africa, it's going to affect the price and availability of food around the world. So, an entire continent having inefficient production and ineffective structures costs us all."

PROF. DR. JOHN SELKER, PROFESSOR OF BIOLOGICAL AND ECOLOGICAL ENGINEERING (OSU) AND CO-DIRECTOR OF TAHMO

Strategy Policy plan

The aforementioned foundation wants to strengthen and broaden the foundation in favour of more food security, less poverty and better risk management with regards to weather extremes throughout sub-Sahara Africa. By (1) professionalizing the current organization, both in terms of work processes and functions. By (2) generating a continuous stream of income in addition to financing individual projects through data services to third parties for commercial purposes. By (3) expanding the network of weather stations to provide more users with more accurate basic weather and climate information.

Realization of the policy plan

The first projects to install relatively inexpensive weather stations have been successful. The weather stations are working properly. In other words, the technology is available. As a result of various regional and local projects, the data is used for scientific research, the improvement of agricultural practices and the management of climate-related risks. The first market parties, such as IBM, have come forward and process the data into information for third parties. It is clear that the basic information can serve all kinds of commercial purposes. In short, there is a solid foundation for further development of TAHMO.

The need for accurate weather and climate data from Africa is only increasing: among scientists, but also among governments, NGOs, domestic and foreign private parties and, of course, the population itself. But after a period of pioneering, TAHMO as an organization runs up against the limitations that characterize a start-up phase. How to grow and expand the operation based model to a sustainable business model?

The goal of raising the provision of information about weather and climate in Sub-Saharan Africa to a much higher level means that eventually 20,000 weather stations will be operational on the continent. With a mutual distance of 30 km, these stations would provide a density of data that brings the quality of the basic information and the derived weather forecasts on a par with that of the KNMI in the Netherlands. As indicated, expanding the number of weather stations must go hand in hand with strengthening the organization and generating structural income.

In order to achieve this, TAHMO believes it must first and foremost strengthen its own organization. Our presence in twenty-three countries makes processes around data communication and management, import of material, and the appointment of people for maintenance - in varying forms of cooperation with meteorological services and companies - very complex. In order to be able to scale up and continue to grow, we are looking for financial support to strengthen the organization.

During this period TAHMO wants to achieve the following:

1. Expand the number of weather stations from 600 to 2,000.
2. Optimizing the work processes by structurally allocating a number of functions and tasks. In particular business development, back office and data management.
3. Intensify local presence:
 - a. Appoint regional coordinators.
 - b. Collaborate intensively with local students and Universities.
4. Increase the exposure of the foundation.

In view of the foregoing explanation, the TAHMO Foundation needs funding. The objective is to achieve this in 2021 or 2022 with donor funds. The Foundation will also continue to actively engage in project acquisition.

"We have to increase food production globally by 70% in 2050. Weather data would give African farmers the information they need to make real gains in crop production."

PROF. DR. NICK VAN DE GIESEN, CHAIR OF WATER RESOURCES MANAGEMENT (TU DELFT) AND CO-DIRECTOR TAHMO

Finances

Financing Employees

The current team also consists of a full-time CEO, 6 engineers working in Africa who provide installation and maintenance in different regions, a part-time data processor, and a group of 10 employees who assist with acquisition, communication and general organization on a voluntary basis. According to the 2019 annual accounts, the foundation has a turnover of approximately EUR 600,000. A comparable turnover is expected to be achieved in 2020.

Income

The largest source of income is project-based funding from donor organizations such as the Dutch Agricultural Research Fund, the Global Resilience Partnership, and the H2020 program of the European

Union. TAHMO has also twice taken the lead in World Bank-supported projects in which weather stations play an important role, such as the development of a Flood Early Warning System for Dar es Salaam, Tanzania. For example, projects funded by donor organizations have installed around 170 weather stations in various countries over the past four years. Thanks to a private investment by Weather Underground, a subsidiary of IBM, in more than 300 stations in various countries, TAHMO made a leap in scale in 2016. The current size of the network makes TAHMO the most important source of scientifically sound weather data in Africa.

Business case

TAHMO makes the data collected with the weather stations available free of charge to governments and scientists. Companies that want to use the data as basic information for commercial products and services pay for it. TAHMO works in ten countries with the National Meteorological Service, based on a Memorandum of Understanding. However, these services lack the means to interpret the basic information themselves and make it available in a user-friendly way to farmers, fishermen and other users. This currently only happens in the context of independent projects supported by donor organizations, while TAHMO aims to structurally benefit data for end users in the countries south of the Sahara.

Acting in accordance with standards.

All projects are planned and executed in accordance with recognized standards for project management, monitoring and evaluation. Collection and distribution of data go hand in hand with a high level of protection and security. TAHMO uses a strict control system based on separate powers and testing (checks and balances) to prevent fraud and errors due to incompleteness. TAHMO ensures that all financial assets benefit the purpose of the foundation. Financial annual reports are audited by an external auditor.

The organisation

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Also mentioned: TAHMO Foundation

Registered office: municipality of Delft

Website: www.tahmo.org

E-mail: info@tahmo.org