

Greenhouse Gas Observation & Climate-Smart Agriculture



Commissio

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Towards long-term greenhouse gas observations in Africa - a design study

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Background

Climate change is threatening ecosystems and societies in Africa. At the same time, population growth causing land-use change, increased energy demand and the development of industry and transport infrastructure contributes to increasing greenhouse gas (GHG) emissions. It is estimated that the majority of GHG emissions in Africa at present occur due to land-use change, partly caused by the extension of agricultural production and deforestation. Scientific advice on GHG emissions with regard to agricultural

The objective of SEACRIFOG

The primary objective of the project is to formulate a roadmap towards fully interoperable and accessible research infrastructures in agricultural and GHG observation research in the EU and Africa that match the needs of scientists, policy makers and end users such as farmers.



SEACRIFOG in a nutshell

Team: Our interdisciplinary African-European working team comprises experts in atmospheric, terrestrial (agricultural) and ocean observation.

Research: We identify the needs for sciencebased concepts to improve food security and the GHG budget. We focus on the details necessary to harmonise and improve GHG data and establish routines of data sharing across EU and African countries.

Capacity-building: We work on a linkage between research and regional capacitybuilding. Trainings and workshops on data processing and data collection are central to

production is important for Africa to improve the national and international environmental reporting and policies, considering the food security demands. For scientific analysis and advice, sufficient qualitative and quantitative data about GHG emissions, sources and sinks are essential.

Graphic 1: GHG Emissions by Sector in Africa 1990-2014 (Based on numbers by CAIT/WRI, wri.org)

our implementation.

Sustainability: Our aim is to create a longlasting impact by giving optimal advice, for the establishment of a pan-African greenhouse gas observation system, including a funding concept.

Stakeholder consultation and stations mapping – first results

The ongoing research of the project indicates that there are knowledge gaps about GHG emissions and climate-smart options in Africa. Stakeholder consultations reveal additionally, that in whole Africa there is need for sustainable capacity-building, which will be considered by SEACRIFOG in the roadmap and by offering trainings on GHG-data management

to Southern and Western Africa. Other environmental observation stations, measuring for example ground temperature or wind speed are widespread.

The results will be used to identify the optimal locations for observational sites.





An inventory and subsequent mapping of observation infrastructures in Africa show that observation stations are unevenly distributed, in regard to location and observed biotope. For GHG observations the distribution of measurement stations is mostly concentrated

Photo1: Stakeholder Consultation Workshop in Nairobi, Kenya, May 2017



Photo2: Eddy Covariance Flux Station in Karoo, South-Africa Contact Veronika Jorch (Coordinator), Thünen Institute of Climate-Smart Agriculture, Bundesallee 68, 38116 Braunschweig, Germany
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