
WIMEA-ICT: Improving **W**eather **I**nformation **M**anagement in **E**ast **A**frica for effective service provision through the application of suitable **ICTs**

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NORHED meeting

05. November 2013, Bergen

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Project consortium

Research partners:

- ❑ Makerere University, Uganda (project leader)
- ❑ Dar es Salaam Institute of Technology, Tanzania
- ❑ University of Juba, South Sudan
- ❑ University of Bergen, Norway



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Key stakeholders:

- ❑ Government Department of Meteorology, Uganda
- ❑ Tanzania Meteorology Agency, Tanzania
- ❑ South Sudan Meteorology Service, South Sudan
- ❑ Farmer groups
- ❑ Fishing communities



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Motivation

- ❑ Weather information is vital for decision making in various sectors such as agriculture, disaster management, aviation, fishing, energy, mining, construction, defense, water resources and health.
- ❑ The used methods of weather predictions and weather observation currently being used in the East African region are outdated, timely dissemination of weather information is absent
- ❑ This has resulted into challenges such as:
 - ❑ low agricultural productivity,
 - ❑ deaths due to weather related diseases
 - ❑ delayed delivery times in the construction and energy industry
 - ❑ weather-related accidents on the lakes especially Lake Victoria where about 3000 people die every year, mudslides and floods leading to loss of lives, property, infrastructure and displacement of people



Some identified shortcomings

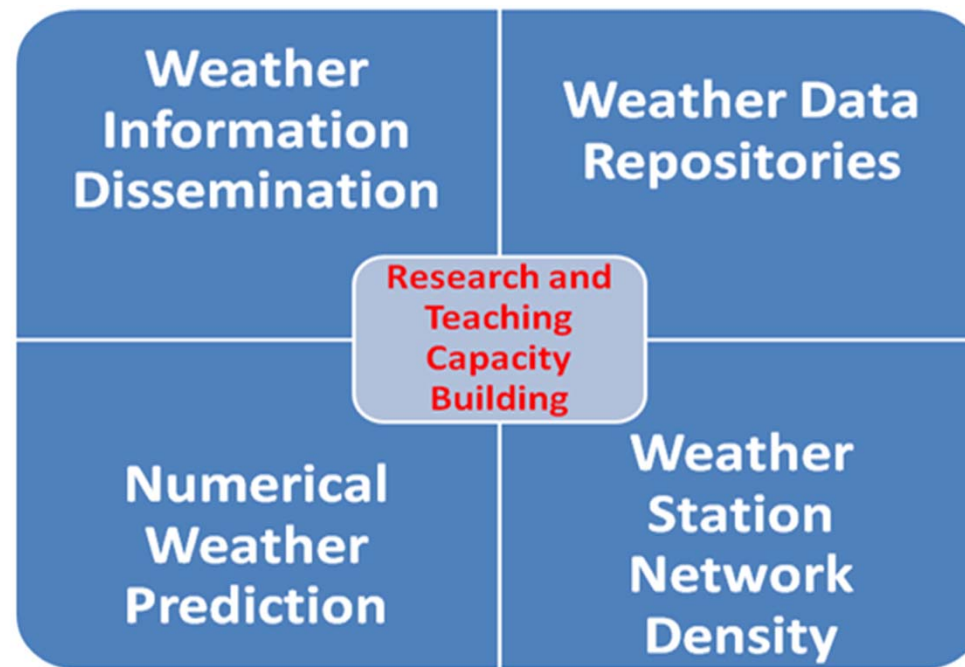
lack of timely meteorological observations and numerical predictions

- ❑ existing manual and automatic weather stations do not function
- ❑ data transmission from the weather stations to collection centers is too slow and often unreliable
- ❑ prohibitive cost of communication as well as maintenance and purchase of standard weather stations (10,000 - 50,000 USD per station)
- ❑ manual data processing due to lack of computers, software and expertise
- ❑ available weather information is neither properly packaged nor readily accessible
- ❑ insufficient number of meteorologists to operate the NMSs
- ❑ lack of continuous professional / career development to cope with emerging trends in weather prediction and analysis
- ❑ existing curricula at Makerere University, University of Juba and Dar es Salaam Institute of Technology is not responsive to the current trends in weather info management



Project goals

this project aims to improve the **accuracy of and access to weather information** by the communities in the East African region through suitable ICTs for increased **productivity** (in the agricultural, energy, water resources and construction sectors) and **safety** (in the aviation, disaster management, fishing, health, mining, and defense sectors). The proposed project has five components



Main activities

- ❑ Establishing operational Numerical Weather Prediction (NWP) models in the three countries based on WRF
- ❑ Improving the density of the weather station network in the region
 - ❑ development of a low-cost automatic weather station with data transmission to a central server (max. 2000 USD/unit)
 - ❑ deployment of ca. 100 units in the 3 countries
- ❑ digitizing manual weather records to create reliable data repositories suitable for research purposes
- ❑ Improving/automating decentralized weather information dissemination systems for different stakeholder groups
- ❑ capacity building by research and teaching:
 - ❑ 5 PhD projects
 - ❑ 20 MSc scholarships
 - ❑ BSc. MSc & PhD curriculum revision
 - ❑ training of technical personal (instrumentation and modelling)

