

**Pilot Project  
on Evaluation of  
Socio-Economic Benefits of Meteorological  
Information and Services in Kenya – The  
Agriculture Sector.**



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# Background Information

- ❖ This project is sponsored by WMO/Finnish Trust Fund and the Government of Kenya.
  
- ❖ It is being implemented by the Kenya Meteorological Department (KMD) in collaboration with the University of Nairobi, Ministry of Agriculture, Ministry of National Planning, Kenya Agricultural Research Institute (KARI), and IGAD Climate Prediction and Applications Centre (ICPAC).

❖ The project is aimed at demonstrating the socio-economic benefits of meteorological information and products in Kenya, with particular focus on the agricultural sector.

❖ The choice of this sector is motivated by the fact that Kenya's economy is heavily dependent on rain-fed agriculture. The onset, cessation, amount, spatial and temporal distribution of seasonal rains have a marked impact on agricultural production and, consequently, on the economy and the social well-being of communities and households.

- ❖ Kenya, like many other tropical countries, is adversely affected by severe weather and extreme climate events.
- ❖ The relatively higher frequencies and intensities of the events are projected to be exacerbated in the light of climate change and hence the impacts associated with these events are likely to become more severe.
- ❖ Many socio-economic activities in Kenya are weather and climate dependent.

# Objectives

❖ The overall objective of this project is to enhance the effective use of meteorological information and products in support of the economic development in Kenya through the assessment and evaluation of their socio-economic benefits with particular focus on the agricultural sector.

# The specific objectives

❖ Demonstrate the benefits of the use of meteorological information and products to crop production operations such as:

- ✓ Onset dates of seasonal rains, cessation dates, duration and amount of rains;
- ✓ Choice of seed and planting time on the basis of meteorological information and products;
- ✓ Spacing plants on the basis of meteorological information and products;
- ✓ Cultivation practices and harvesting decisions;
- ✓ Appropriate times to apply pesticides and prevent the application of chemicals or use of other practices at ineffective times.

## The specific objectives (Cont'd)

- ✓ Quantify the corresponding benefits in the form of **yield and financial income**.
- ✓ Use the findings to enhance the use of meteorological information and products and improve the image of the National Meteorological Service with the community and decision makers.

# Justification

Most of the National Meteorological and Hydrological Services (NMHSs) in Africa, including the Kenya Meteorological Department, are not adequately funded by the governments because most of the governments are not clearly aware of the contribution of meteorological services to the national socio-economic development. This is in spite of the fact that governments and sectoral users face major challenges and constraints in Agriculture, Water resources management, Health and Disaster Risk Reduction, which are heavily influenced by weather and climate.



## **Justification** (Cont'd)

NMHSs prepare and deliver weather, climate- and water-related services they perceive as critical for national socio-economic development. However, there have always been difficulties in convincing governments and communities of the benefit of meteorological services to socio-economic development since no attempts have been made to quantify them.

## Justification (Cont'd)

- ✓ The major cause of the lukewarm use of meteorological information and services is **lack of clarity on the value of integrating the information into decisions to manage the risks associated with climate.**
- ✓ Sixty percent (60%) of socio-economic activities in Kenya are weather and climate dependent. Severe weather and extreme climate events have been documented to have a high influence on the social and economic activities of the country.
- ✓ No attempt has been made in the country to quantify the benefits of meteorological information and services in social and economic activities.

## **Justification** (Cont'd)

Meteorological information, products and services can contribute significantly to the social and economic development of the country since most of the major development activities such as agriculture and related industries are highly sensitive to weather and climate fluctuations.

## **Justification** (Cont'd)

Quantifying the benefits of meteorological information and products would help in improving the confidence of the users in the information and products. It will also improve the image of the National Meteorological Service and enhance the use of information and products in support of decision-making in the socio-economic activities of the country.

# Methodology

- The project methodological approach included **workshops to brainstorm** on the methods of implementation and stakeholders' involvement in the discussion of the results of the study;
- Continuous regular **monitoring and evaluation** of the activities on the demonstration farms.
  - The Study involved **regular movements of climate scientists to discuss with the users** involved in the project, and regular updates of weekly, monthly and seasonal climate forecasts.

# **The specific activities included:**

- ✓ Establishment of multi-disciplinary PRT and PSC with the relevant stakeholders;
- ✓ Choice of demonstration farms based on agro-climatic zones;
- ✓ Organization of the first national Stakeholders workshop to discuss the project proposal with users for their input and involvement;
  - ✓ Organization of a training workshop for the farmers involved in the demonstration project;
  - ✓ Formulation of tools for monitoring and evaluation of the project; and assessment of the value of meteorological information and products in each zone;
- ✓ Baseline Survey (Administration of Questionnaire); and Analysis and documentation of the results of the Study.

# Preliminary Results: Baseline Survey

The main source of household income for the three regions covered in the pilot project

(Kakamega - Western Province;

Nakuru - Rift Valley Province; and

Machakos – Eastern Province)

combined is crop farming (62%),

confirming that crop farming is the mainstay of the economy of the three regions

# **Preliminary Results: Baseline Survey**

Preliminary results of the baseline survey revealed that majority of Kenyan farmers are willing to spend money on weather information, including value added products.



# Preliminary Results: Baseline Survey

A simple majority (51%) of the respondents indicated that the seasonal forecast is used by most people, followed by the daily forecast at 32%. About 88% of the respondents make use of weather information. This suggests that easy access and timely provision of accurate weather and climate forecasts is essential and hence the need for awareness creation.

# Conclusions

- ❖ The combination of good farming practices is crucial for maximizing yields. Farmers from the three regions use a variety of good farm practices.
- ❖ KMD should, therefore, work closely with other stakeholders to ensure the farmers adopt all the good farming practices including application of weather and climate information.

# Conclusions (Cont'd)

The remaining phase of the project will constitute :

- ❖ collection and collation of information for the activities of the just ended 2009 “Long Rains” season and the coming “Short Rains” of October-November –December (OND); and
- ❖ assessment and evaluation of the socio-economic benefits of using meteorological information and services.

Thank you.

for

Your

Attention.