



# Indigenous Knowledge Applied In Weather Forecasting

Lailat Yunus Mkireri and Bakari Hussein Bakari  
Mikanjuni Secondary School



## Introduction

In Tanzania we depend on weather information from Tanzania Meteorological Agency (TMA). Tanzania Meteorological Agency (TMA) is responsible for monitoring and prediction of weather and climate variability conventional where by scientific methods, science and technology and expertise in meteorology are used to collect weather data, interpret and predicts the weather information to the community.

Traditional weather system involves observation of environment and monitoring the behavior of some animals, birds, Amphibia, insects and plants.

Tanga native apart from using the information from TMA they also use indigenous knowledge to acquire information about weather forecasting. This is due to information from TMA are sometime not as they have predicted hence farmers, fisherman get great loss of their capitals.

Native knowledge has being used not only in rural area but also in town where weather focus information is not available to all. As not all people have smart phones, also have access to televisions, and radio where the weather focus is broadcasted. Indigenous knowledge is very important to local peasant

The aim of this project is show ways indigenous knowledge in weather forecasting in Tanga native is applied. Also to explore ways local knowledge on weather forecasting is transfer from one generation as alternative methods to predict weather when they can't access the information from modern weather stations.

## Method

The study was conducted in only 2 wards i.e. Mbawa and Mnyanjani wards. The selected wards has mixed livelihood activities, such as fishing, agriculture and business (Entrepreneur activities).

### Research Design

The research design guides the researcher on how to address the problem and provide appropriate measures as it provides direction of what to measure. In this study, the survey cross-section project design was used since it allows collection of data in a single point in time. Both qualitative and quantitative data were collected.

### Sample Size

The total sample size used was 30 respondents which included 25 respondents from the community and 05 key informants form Tanzania Meteorological Agency (TMA)

## Results

The findings reveal that people who are aged between 50 and above years were more involved in discussions concerning local weather forecasting and its application in the study area. This helped the researcher to get more useful information since it is the aged group have use this knowledge since and are mature enough and have more experience in impacts of weather and climate change in their livelihood activities.

It emerged that the native of study area use plant phenology such as the sprouting of tree leaves, flowering, and plant growth size to predict rainfall onset and a good or bad crop year.

When rain is about to start, tree species known as, the Baobab (*Adansonia digitata*), in Kiswahili known as Mbuyu) and Acacia (*Acacia tortilis*) and mango tree (*Mangifera indica*), produce leaves and flowers which farmers use as indicators for forecasting the upcoming rainy season.

Indicators from amphibians, insects and mammals, the study also found that the villagers use frogs (of various species) as local indicators for weather prediction. For example, explained that frogs appear and produce a certain sound continuously when rainfall is imminent in a particular season. The respondents explained that when frogs delay making the sound, the silence signals that the rainy season is yet to start.

## Conclusion

From the results above result majority of community are aware of weather forecasting that Tanzania Meteorological Agency (TMA) is responsible for monitoring and prediction of weather and climate variability where by scientific methods, science and technology and expertise in meteorology are used to collect weather data, interpret and predicts the weather information to the community.

But they are also Traditional weather system involves observation of environment and monitoring the behavior of some animals, birds, Amphibia, insects and plants

The findings from this study indicate that the farmers have recently perceived the reliability and accuracy of the local indicators to have been reduced by climate variability. Due to loss of biodiversity of plants, birds, and other organisms that where usually used as weather indicators

## References

Roncoli, C. 2006. Ethnographic and participatory approaches to research on farmers' responses to climate predictions. *Climate Research*, 33: 81-99.

## Acknowledgments

I extend my sincere heartfelt gratitude to our supervisor Mr Gaston G Masatu and, aslo Head of school Mr Kaanankira Erasto for his advice and permission to participation in Young Scientist Tanzania (YST) whose intelligent comments, scholarly guidance advice, patience and encouragement, helped much to shape our project. I really appreciate his concern and contribution to this work.

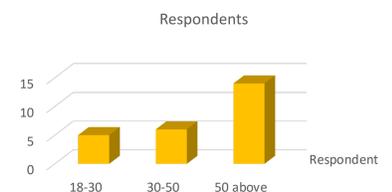


Figure 1: Showing the Picture of Baobab Tree



Figure 2: Picture of Mango Tree

