



## **The role of indigenous knowledge in environmental conservation**

*Indigenous knowledge is one of the greatest assets of a community. In a time when the climate is changing this knowledge can help them to adapt to these changes and control the environment around them.*

This story is about a research project focused on the role of Indigenous Knowledge (IK) in environmental conservation and climate change adaptation and mitigation in Tanzania. IK is the local knowledge – knowledge that is unique to a given society and is embedded in their cultural traditions. IK is an important part of the culture and history of any local community. Through indigenous knowledge, local communities have been able to cope and adapt with the devastating effects of increased climate variability manifested through frequent droughts and floods. They do this by predicting these extreme climatic events using local environmental and astronomical indicators and then use various local coping measures during droughts and floods. The current project focuses on mainstreaming this indigenous knowledge to help develop climate change adaptation and mitigation strategies throughout Tanzania.

### **Learning from the local communities**

Decline in the use of indigenous knowledge has certainly contributed to some extent to degradation of natural resources in Tanzania. At the same time, the survival of natural resources in the country has been attributed in many instances to the application of

indigenous knowledge in the conservation and management of these resources.

One of the main project goals is to document indigenous knowledge from the local communities. This is done by identifying and documenting local environmental and astronomical indicators used in weather and climate prediction. Also the perception of the local communities on indigenous knowledge in weather and climate prediction and their knowledge on climate change are being investigated. The project is also trying to identify gaps and needs in knowledge in addressing climate change issues.

A group of elders aged 50 years and above in Ismani and Mahenge wards are the ones who are involved in sharing their indigenous knowledge with the researchers. This is done through exchange of ideas, information, points of view and experiences between the elders and researchers. The dialogue is organized among the elders themselves and between them and the researchers. This facilitates the sharing of knowledge and experiences between elders and researchers.



Some of the elders participating in the IK project in Mahenge

### **Awareness creation**

Awareness creation on indigenous knowledge and its role in climate change adaptation and mitigation is one of the project's outputs. Climate change awareness to the general public in Mahenge and Ismani has been enhanced through various approaches including the use of Radio Ulanga in Mahenge and Nuru FM in Iringa. Also, climate change awareness to secondary school students in Mahenge and Ismani have been carried out. Students in Kwilo High School and Nawenge Secondary School in Mahenge, and Highland Secondary school in Iringa have been sensitized about various aspects of climate change including the role of indigenous knowledge in environmental conservation and in climate change adaptation and mitigation.

As a result of these project efforts, climate change awareness in both Mahenge and Ismani communities has been enhanced and people are now more conscious about environmental conservation, including forest and water conservation. Further, interest of students and the younger generation on climate change and environmental conservation has been enhanced.

### **Impact to the local communities**

Sensitization on indigenous knowledge and its role on climate change adaptation and mitigation have brought positive impacts to the local communities. The local authority and communities in Ismani ward have decided to allocate a large area for afforestation activities in order to restore the lost forest. More than 10 acres have been set aside for afforestation. Various activities including seedling preparations are in progress.



A team of IK experts in Ismani preparing seedlings for planting indigenous trees

### **Documented indigenous knowledge**

Local indicators that are used by local communities in seasonal rainfall prediction over Mahenge and Ismani have been documented. It has been found that plant phenology is the mostly used indicators in rainfall prediction in both Mahenge and Ismani. The appearance of Kakakuona (Pangolin) and the behaviour of Dudumizi (Caucal) birds were singled out as among the best indicators used in rainfall prediction. Both local Indigenous Knowledge specialists in Mahenge and Ismani have successfully predicted the 2011/2012 seasonal

rainfall using Indigenous Knowledge.

### **Dissemination of research results**

The project on IK has obtained many results as seen above. These results have been disseminated to various stakeholders through the project brochures and banners, documentary DVDs on IK in weather and climate prediction, radio programmes and scientific papers.

### **Integrating IK in forecasting**

The project is planned to end on December 2013. For sustainability purposes, the output of the research will be used by Tanzania Meteorological Agency by integrating it into available forecasting methods. The meteorological instruments used in the project will be maintained by Tanzania Meteorological Agency after completion of the project.

### **The project on indigenous knowledge**

The Sokoine University of Agriculture in collaboration with the Norwegian University of Life Sciences together with the University of Dar es Salaam, Ardhi University, and the Tanzanian Meteorological Agency are implementing the CCIAM programme running from 2010 to 2014. The programme is supported by the Norwegian Agency for Development Cooperation (NORAD). This project is part of the CCIAM programme.



Dr. Agnes L. Kijazi, Director General of TMA

The project main goal is to mainstream Indigenous Knowledge in the development of climate change adaptation and mitigation strategies in Tanzania. The project on IK is led by Dr. Agnes L. Kijazi, the Director General for the Tanzania Meteorological Agency (TMA). It is implemented in the local communities of Mahenge in Morogoro region and Ismani in Iringa region.

**Project title:** The Role of Indigenous Knowledge in Environmental Conservation and Climate Change Adaptation and Mitigation in Tanzania.

For more information go to <http://www.suanet.ac.tz/cciam/>

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