

## Sun

If glaring and very hot sun is experienced, this shows that rains will begin and implies that land preparation should begin, in readiness for planting

## Wind

If a very strong wind is experienced blowing in circles and repeatedly for some days, rains are just about to begin thus seeds should be prepared in readiness for planting

## Conclusion

- The observations using local indicators especially on the onset of rains concurs with the information from conventional data
- Therefore, since conventional information alone may not be accurate at some point considering the spatial coverage, observation of the change of behaviour of various living and non-living things can be used as a way of increasing the accuracy and reliability of the seasonal forecasts

## Recommendation

There is need to use both local indicators or indigenous knowledge and conventional knowledge of weather forecasting to help reduce impacts of rainfall and temperature variability on smallholder farmers

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## Improve weather forecasting by integrating local indicators into conventional knowledge



**A Pamphlet for use by Extension  
Personnel and Farmers in Tharaka and  
Kitui Central Sub-Counties**

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## Why use local indicators in weather forecasting?

- Most of agriculture in Tharaka and Kitui is rain-fed and the bulk is under small-holder farming.
- Cropping systems in the region are often limited by variations in climate (rainfall and temperature).
- The conditions caused by climate variability have negative effects on agricultural productivity by introducing unfavourable growing conditions into the existing cropping calendar.
- There is therefore need for adaptation as a fundamental and necessary response to the unfavourable conditions introduced into the existing cropping calendar.
- The adaptive responses include among others the use of indigenous knowledge (IK)/ local indicators that are passed on among local communities in addition to the conventional knowledge and this helps to predict disasters caused by climate variability.

## Local indicators/ IK passed on among local communities in Kitui and Tharaka used in weather forecasting

### Trees

- “Githumura”/ Tamarind/ *Tamarindus indica*- Change of the tree from green (Fig 1a) to reddish-brown (Fig 1b) shows that the wet season is approaching and the implication of this is that farmers should begin land preparation.



Figure 1: Tamarind tree

- Acacia (“mugaa”) and baobab (“muramba”) – Re-growth or development of new leaves from Figure 2a to 2b and Figure 3a to 3b shows that rains are about to begin and this implies that farmers should begin land preparation



Figure 2: Baobab tree



Figure 3: Acacia tree

### Animals

- Birds

Swallow (Nzungululu) (Figure 4); if seen flying in groups towards one direction, it shows that rains are expected in the next 1 or 2 days, thus farmers should prepare accordingly and start planting



Figure 4: Swallow (Nzungululu)

Drought resistant crops such as cassava and pigeon peas should be encouraged