

## Climate Change and Kenya

# What impact is climate change having in Kenya?

Widespread warming has been observed over Kenya since 1960. There is little precipitation data available for Kenya, but there is some limited evidence for decreasing precipitation between 1960 and 2003, the period for which some data is available.

UK Met Office

Climate scientists use complex computer simulation models to predict what the likely effect of rising global average temperatures might be on specific regions. It is very hard to predict accurately as there are lots of factors that can influence climate and local weather, but these studies can help to provide some indication of future trends.

## General trends predicted in Kenya

- Decreased yields of the most important staple crops, maize and beans.
- Increased food security problems over the next 40 years.
- Future water availability is uncertain:
  - There may be increased rainfall in the rainy season leading to flooding.
  - Some models predict an increase in summer rainfall across East Africa as a whole and others predict a decrease in summer rainfall in Kenya particularly.

More information on climate models and predictions for Kenya can be found here: [metoffice.gov.uk/media/pdf/b/j/Kenya.pdf](https://www.metoffice.gov.uk/media/pdf/b/j/Kenya.pdf)

## Climate impacts on the environment

Climate change in Kenya and across East Africa has led to more frequent droughts. These have caused wild animals, such as lions and elephants, to wander further in search of water and food. Lions have then come into conflict with humans when they kill sheep and goats in the villages near the national parks. Elephants have also been known to trample food crops when searching for food and water.

## Climate impacts on society

Climate change is affecting the traditional way of life of some of the semi-nomadic tribes in Kenya, such as the Samburu. Samburu people keep livestock, such as cattle, goats, sheep and camels. During the dry season the Samburu men take the animals away from the homestead in search of fresh pasture. Climate change has caused the dry season to begin earlier and extend longer than usual, meaning the men and animals are away from home for even longer periods of time. This makes it harder for the women and children left behind to feed themselves with the animals gone.

## Climate impacts on the economy

If climate change endangers wildlife it could damage Kenya's tourist industry, since wildlife safaris are a major part of country's appeal for many tourists. On a local scale, reduced yields of staple crops, such as maize and beans will damage the local economy. When farmers cannot produce any surplus crops to sell they cannot afford to buy other provisions, such as clothes, food or fuel and so other small businesses will suffer too.

# Anecdotal evidence of the impacts of climate change

Locally, people who live near Kalawani have noticed that the seasonal rains are starting later (delayed onset) and stopping sooner (early cessation).

## Joseph Muthembwa

Joseph is a farmer and he lives in Kalawani, Kenya. He is the chairman of the sand dam site committee. This role means that he is responsible for organising volunteers from the local community to help build the sand dam.



### When does it normally rain in Kalawani?

We expect rain in November and December, that is the long rain, and then the other is in April or May. Most of the time the rain is not adequate, sometimes the onset delays and there is early cessation.

### If the rain is delayed, what impact does that have on farmers here?

All the crops that have been planted dry up and also the water points dry up.

### Is the rain becoming more unpredictable?

When I compare with 10 or 20 years ago, it was better because it used to rain and the rainfall used to be adequate for most of the seasons. But, now things have changed. Most of the seasons are unreliable and we have to have these sand dams so that we get other options in life because you cannot rely on rain-fed crops.

## Lydia Muthiya

Lydia works for Christian Aid's partner ADSE. She works with the community at Kalawani to help them find solutions to the challenges they face.



### Why is climate change a problem in this part of Kenya?

In this part of Kenya we mainly rely on rainfall and we do rain-fed agriculture. When there is climate change and there is a variance in the amount of rainfall we are majorly affected. Climate change has brought along a lot of things like delayed onset of rain and early cessation.

### What do you think needs to happen to stop climate change?

One of the things you can do is to join hands in all regions to see the strategies that can help in addressing climate change. We cannot reverse the situation, we need to come up with coping strategies because climate change is with us, we cannot get back to how it was 50 or 100 years ago. So we need to develop adaptation strategies.

## ACTIVITY

- In groups of four or five, imagine you are a task force assigned by the government of Kenya to recommend solutions to the problems that climate change is causing now and likely to cause in the future.
  - What solutions will you suggest?
  - What will you do now, in the near future and in the longer term?
- Make your action plan and then present your recommendations to the class.
- Once the class has heard all the proposals they can vote on which they thought was the most convincing.

## QUESTIONS

- What are the effects of climate change that Joseph and Lydia have noticed?
- What effect will this have on people who live near Kalawani?
- Why do you think the impact of climate change is so different in different parts of the world?
- Can you find out what the predicted impact of climate change is in Ireland?

These websites might be a good place to start:

[epa.ie/climate](https://epa.ie/climate)

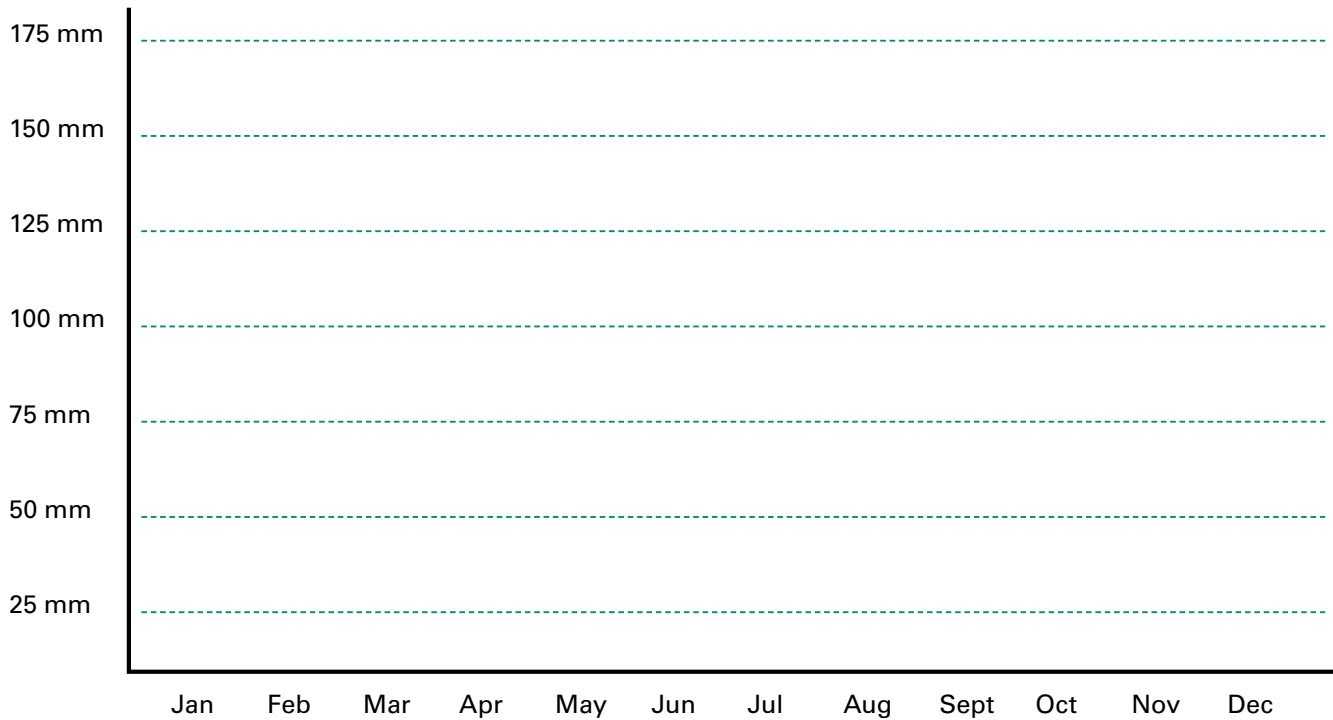
[doeni.gov.uk/index/protect\\_the\\_environment/climate\\_change.htm](https://doeni.gov.uk/index/protect_the_environment/climate_change.htm)

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## Rainfall data for Kalawani region

The closest weather data collection site to Kalawani is Makindu, about 60km to the south-east.

Plot the data on the graph below to discover the rainfall patterns in the region near Kalawani, Kenya. Plot the data for Belfast or Dublin using a different colour.



	Mean total rainfall (mm)		
Month	Belfast	Dublin	Makindu, Kenya
Jan	90	63	42
Feb	65	49	30
Mar	78	53	77
Apr	65	54	113
May	63	60	29
Jun	67	67	2
Jul	66	56	1
Aug	86	73	1
Sept	77	60	2
Oct	98	79	28
Nov	96	73	172
Dec	92	73	115

Data taken from World Meteorological Organization based on average rainfall between 1981 and 2010.

### QUESTIONS

- When is the dry season in this part of Kenya?
- What problems might a long annual dry season cause to people living in this part of Kenya?