



# Research Report

KENYA

BBC WORLD SERVICE TRUST



SAM OTIENO/BBC WST

## Kenya Talks Climate

The public understanding of  
climate change

[www.africatalksclimate.com](http://www.africatalksclimate.com)

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BRITISH COUNCIL

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# About Africa Talks Climate

Climate change is one of the most important issues on the global political and economic agenda, yet it has taken at least 20 years to become an international priority. In many ways, this is because climate change was originally communicated as a scientific problem. Complex, confusing, and at times contested scientific information resulted in a slow public and political response to the climate crisis. The climate change debate has also taken place in industrialised nations, among a public largely safe from its worst effects. For many, climate change is an abstract concept.

In Africa, climate change is far from abstract - it is already determining the course of people's lives. Extreme weather events and greater unpredictability in weather patterns are having serious consequences for people who rely on land, lakes and seas to feed themselves and to earn a living. As a result, Africa's engagement with the issue is evolving rapidly, presenting an opportunity to leapfrog the slow evolution of western public opinion and political action.

African citizens' response to climate change is hampered by a fundamental shortage of relevant, useful information for African audiences. The intensive media coverage and public awareness campaigns prevalent in much of the industrialised world have been largely absent in Africa, particularly outside major urban centres. Too often, African voices are absent from the international climate debate.

Africa's response to climate change will be dictated by how well it is understood by its people. *Africa Talks Climate* is founded on the belief that those worst affected by the issue have the right to be better informed, in order to understand and respond effectively to their changing climate. Providing people with the information they need will therefore be crucial. Unfortunately, little is known about how climate change is currently perceived and understood by Africans; *Africa Talks Climate* seeks to address this. It is the most extensive research ever conducted on the public understanding of climate change in Africa. The research teams held discussions with more than 1,000 citizens from the Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Nigeria, Senegal, South Africa, Sudan, Tanzania and Uganda<sup>i</sup>. They also carried out interviews with nearly

<sup>i</sup> Country selection was informed by: consultation with organisations working across Africa on climate change, the presence of a British Council or BBC World Service Trust office, and local research capacity. However, consideration was also given to the country's climate, demographics, geographical situation within Africa and a number of economic, media, and governance indicators.

200 opinion leaders, including policymakers, religious and community leaders, business people, and media and NGO representatives.

The overall objective of *Africa Talks Climate* is to assess public understanding of climate change and identify how communication and media could best support Africans' response to climate change. The research asked four main questions:

1. What changes have African citizens experienced in their climate and environment over time?
2. How do African citizens explain and respond to these changes?
3. What do African citizens know and understand about global climate change?
4. What do African opinion leaders know and understand about climate change and what are their views on their country's responses to climate change?

Only when governments, NGOs and the media are comfortable talking about climate change can they communicate it effectively to citizens. Only when citizens are clear about climate change and its implications for their lives can they respond effectively to it. Equipped with the knowledge that weather patterns are changing and that extreme weather events are more likely to occur, people will be able to debate the issues with their families, communities and governments, and discuss the risks and possible courses of action. This will enable them to prepare more effectively for the future.

*Africa Talks Climate* is the first step in developing long-term strategies for sharing information about climate change. It aims to support all those charged with communicating on climate change, whether they be international organisations, governments, the media, NGOs or community leaders.

Providing people with relevant information so that they can effectively address the issues that affect them most is at the heart of the work of the BBC World Service Trust. This is why, with its network of researchers across Africa, the Trust is uniquely positioned to support Africa's response to climate change by sharing its expertise in understanding and communicating with audiences.

For further information, including the latest policy briefings, reports and publications from the *Africa Talks Climate* project, visit [www.africatalksclimate.com](http://www.africatalksclimate.com).

# Executive summary

In May 2009, the BBC World Service Trust's Research and Learning Group, on behalf of the British Council, conducted research in Kenya to gauge public understanding of climate change. The research consisted of 12 focus-group discussions with Kenyan citizens, as well as 17 in-depth interviews with opinion leaders from government, religious institutions, the private sector, the media and civil society. The overall objective was to find out what people think about climate change, and to determine how to tailor communication and media strategies to support Kenya's response to climate change.

## Key findings

- Drought and food scarcity are causing frustration and despair across Kenya. Farmers, fishermen and pastoralists do not know how they would cope if these problems became worse.
- Kenyans<sup>i</sup> have noticed changes in their weather. They say that it is getting hotter, that the seasons have shifted and that the rains are more unpredictable. Most, however, have no understanding of the relationship between these issues and climate change.
- Most Kenyans are unfamiliar with the concepts of climate change and global warming. They believe the term "climate change" refers to changes in the weather or seasons and have little knowledge of its global context or the greenhouse effect.
- People need more information about the causes of climate change and how its long-term impacts will affect their lives.
- Climate change terminology is poorly understood and does not have standard translations in Swahili, Luo and other local languages. This prevents people from having a voice on the issue.
- There is a strong tendency for Kenyans to hold themselves individually or collectively responsible for changes in the local environment and weather. There is little understanding that the changes they have witnessed have causes that originate outside Kenya.
- Kenyans draw on their existing knowledge to explain the changes they have experienced. Most believe that humans are to blame and point to local deforestation and pollution as the primary reasons for the drought and environmental degradation they experience. Despite this, most Kenyans do not understand the roles that trees or pollution play in the global climate system through absorbing and releasing greenhouse gases.
- While Kenyans believe that tree-planting is the best way to bring back the rains and stabilise the country's climate, few say that they are actively engaged in the activity. Most depend on trees for their energy needs and say they lack the resources to plant and care for new ones.
- Most Kenyans feel there is little they can do as individuals to improve the conditions of the environment in which they live. They say they lack information and resources that would enable them to cope more effectively.
- Kenyans are highly critical of the government at all levels for a lack of visible action on the environmental and poverty issues that they face. The government says it is working to improve food and water security and that it has begun to formulate its response to climate change.

<sup>i</sup> A note about language: while this report refers to the views of "Kenyans", it only represents those Kenyans who participated in the research. Research participants have sometimes been referred to as "Kenyans" for ease of reading.

- Opinion leaders feel that more needs to be done to engage Kenyans in environmental conservation and increase their ability to respond to changing environmental conditions. Aside from tree-planting, there is little consensus about what methods of conservation or adaptation should be encouraged.
- Many of the Kenyans familiar with climate change learned about it through the media. Despite this, the Kenyan media feel it is a difficult issue for them to cover. They say the complexity of climate change limits its perceived relevance in the eyes of the Kenyan public, and that the media are unlikely to cover an issue that the public knows, or cares, little about.
- Local leaders are well positioned to take action on climate change adaptation in their communities, because of both their proximity to the local populations and their understanding of environmental issues. However they tend to be the least informed, among opinion leaders, about climate change and its long-term impacts.
- There appears to be little cross-sector co-ordination and communication about climate change. While links between government and NGOs appear strongest, local community leaders appear particularly isolated from decisions made at a national level.

## RECOMMENDATIONS

The information and communication needs of Kenyan citizens need to be at the heart of any national response to climate change. The ability of Kenyan citizens to effectively respond to climate change will be determined by the accessibility and quality of the information available to them. Increased public understanding of climate change will enable citizens and communities to discuss the issue, adapt to its effects and make more informed long-term choices about their future.

Opinion leaders also need access to information on climate change. Leaders from the government, local communities and religious institutions have unrivalled access to communities, and are in a position to communicate climate change information and inspire citizens to respond, and to implement local adaptation strategies.

Accessible and relevant public debate will also be critical to increasing public understanding of climate change. It will provide a forum for sharing experiences, bridge the gap between science and society, and enable people to exert political pressure, both internationally and on their own governments.

The media clearly have an important role to play in responding to climate change, and supporting others to communicate about the subject, including governments, national and international NGOs, scientists, religious leaders and community leaders. Three specific recommendations for all those charged with communicating on climate change follow:

### Provide information

- Raise awareness of global climate change and the ways in which it relates to people's lives and livelihoods.
- Build simple, correct mental models of how climate change works. In doing so, be mindful of people's existing frames of reference (eg trees, smoke and heat, ozone and God), which can function as barriers or facilitators to effect climate change communication.
- Clarify how climate change relates to Kenyans' understanding of the effects of deforestation and pollution on their environment.
- Invest in efforts to develop and test appropriate climate change terminology in relevant local languages.



- Provide people and communities with access to information on practical ways to adapt to climate change and prepare for extreme weather events.
- Increase awareness of low-cost technologies that Kenyans can use to reduce their own impact on the environment.
- Pay particular attention to the needs of information-poor rural communities. For them, climate change represents a tipping point, and they need targeted information and resources that will enable them to cope with the impacts.
- Provide local leaders with access to information on climate change, bearing in mind that adaptation strategies need to take into account local leaders’ understanding of the issue.
- Increase opinion leaders’ understanding of climate change so that they can communicate confidently on the issue and incorporate mitigation and adaptation into their decision-making.
- Communicate in ways that are locally relevant to people, using a variety of news and non-news platforms (eg public service announcements, radio dramas).
- Use the media and schools to provide information about climate change to the Kenyan public. Develop the media’s capacity to frame climate change in a way that grounds it in issues that the public care, and want more information, about.
- Broaden the discussion to include a range of adaptation options that account for Kenyans’ energy needs and desire for economic development. It is imperative that this response is grounded in the needs and economic realities of the country’s citizens.

Facilitate policy and public debate

- Build the capacity of news and non-news media to support more effective public debate on climate change in Kenya.
- Provide “public spaces”, for example through TV talk shows, radio call-ins and other interactive media platforms, to exchange ideas and information, foster understanding and plan for action. Such spaces could also facilitate better communication between government, NGOs, the private sector, the media, and local leaders, as well as with international actors.
- Any debate needs to be inclusive and draw on a range of Kenyan voices and experiences, engaging citizens, local interest groups, civil society actors, religious leaders and policymakers from all levels of government.
- Harness Kenyans’ understanding and experience of their changing weather and environment to create a relevant discourse that promotes citizen engagement in Kenya’s response to climate change. Build a sense of immediacy and encourage the sharing of current examples of adaptation to climate change.

Encourage accountability

- Develop mechanisms which enable Kenyan citizens and their representatives to move climate change on to the political agenda; and to exert pressure on their own governments with respect to climate change policies, adaptation funding, technology transfer, emissions reduction and other response strategies. Such mechanisms will also help Kenyan citizens and their representatives to communicate their own perspectives and demands to the rest of the world.

I Background

Climate change in Africa

As climate change threatens Africans’ health and homes, and the natural resources upon which many depend to survive, Africa’s population faces an urgent crisis.<sup>1</sup> It is predicted that Africa will be one of the regions worst affected by climate change.<sup>1</sup> For people struggling with the challenges posed by climate variability, environmental degradation and poverty, climate change represents a tipping point.

Rainfall patterns across Africa have already changed markedly, and yields from rain-fed agriculture could halve in the next decade.<sup>2</sup> A decline in yields is predicted to lead to a greater risk of malnutrition for people who rely on the land to eat, and increased food insecurity for those who rely on buying food in the marketplace.<sup>3</sup> Indeed, there have been recent food crises in Kenya, Uganda, Somalia and Ethiopia.<sup>4</sup> Imports may also be affected, and food aid is threatened by climate change in the midwest of the United States.

Climate change is likely to alter the transmission patterns of diseases such as malaria.<sup>5</sup> Increased incidences of cholera and meningitis are also thought to be linked to variations in climate. Health threats such as diarrhoea, asthma and stroke affect more people when temperatures rise.<sup>6</sup>

The stark impacts of changing rainfall patterns on Africa are manifest. A more powerful hydrological cycle will bring other challenges, including flooding. The Intergovernmental Panel on Climate Change (IPCC) says that “by the 2080s, many millions more people than today

are projected to experience floods every year due to sea-level rise... [largely] in the densely populated and low-lying mega-deltas of Asia and Africa... small islands are especially vulnerable”.<sup>7</sup>

The links between environmental degradation and political tension and conflict have been highlighted for many years.<sup>8</sup> Environmental degradation reduces the supply of food and fresh water, and resources such as land. Climate change is predicted to exacerbate conflict in Africa, and in some cases is already doing so.<sup>9</sup>

Climate change in Kenya

Climate change presents an additional stress for Kenyans already struggling with the challenges posed by environmental degradation and widespread poverty.

Located on the east coast of Africa, Kenya is a country of geographic and climatic contrasts. Coastal areas along the Indian Ocean have a tropical climate. A wide swathe of land to the west is arid or semi-arid and rises to form the eastern edge of the Rift Valley, a highland plateau with a more temperate climate. The mountains in this area generally receive substantial rainfall, though there are dry areas throughout the valley. Western Kenya, along Lake Victoria, is generally wet, while the northern areas around Lake Turkana and the northeast are arid. Most parts of the country have two rainy seasons: the long rains from March to May and the short rains from October to December.<sup>10</sup>

Scientific models of the climate system project that temperatures in Kenya and East Africa are likely to increase in the forthcoming decades.<sup>11</sup> Precipitation is also expected to increase, particularly during the short rainy season (October to December) when rainfall is predicted to rise by 40% by the end of this century.<sup>12</sup> Despite the

i Of the 20 countries in the world most vulnerable to climate change (in socio-economic terms), 15 are African. See *The Anatomy of a Silent Crisis*, ref 1.

Perceptions and coverage of climate change: what do we already know?

To communicate effectively about climate change, it is critical to know how people understand it. While this review is not exhaustive, it is clear that here is a dearth of research on perceptions of climate change in Africa, and it will be essential to address this problem if communication is to improve. Opinion polls to date have largely focused on Nigeria, Kenya and South Africa. They reveal that many people are unfamiliar with “climate change”, “global warming” and related terms.<sup>13, 14</sup> This makes it difficult to interpret further opinion-poll results about climate change in Africa; most polls suggest that Africans view climate change less seriously than do non-Africans,<sup>15, 16</sup> which may point to a lack of information concerning the relevance and implications for Africa, but could also reflect a lack of understanding of the questions asked.

Some small-scale perception studies hint at the impact climate change is having on African lives.<sup>17, 18, 19</sup> Lack of information regarding climate change is seen by some as a critical barrier in dealing with its effects.<sup>20, 21</sup> Indeed, research in the United States has shown that a limited understanding of climate change can restrict people’s ability to distinguish between effective and ineffective response strategies.<sup>22</sup>

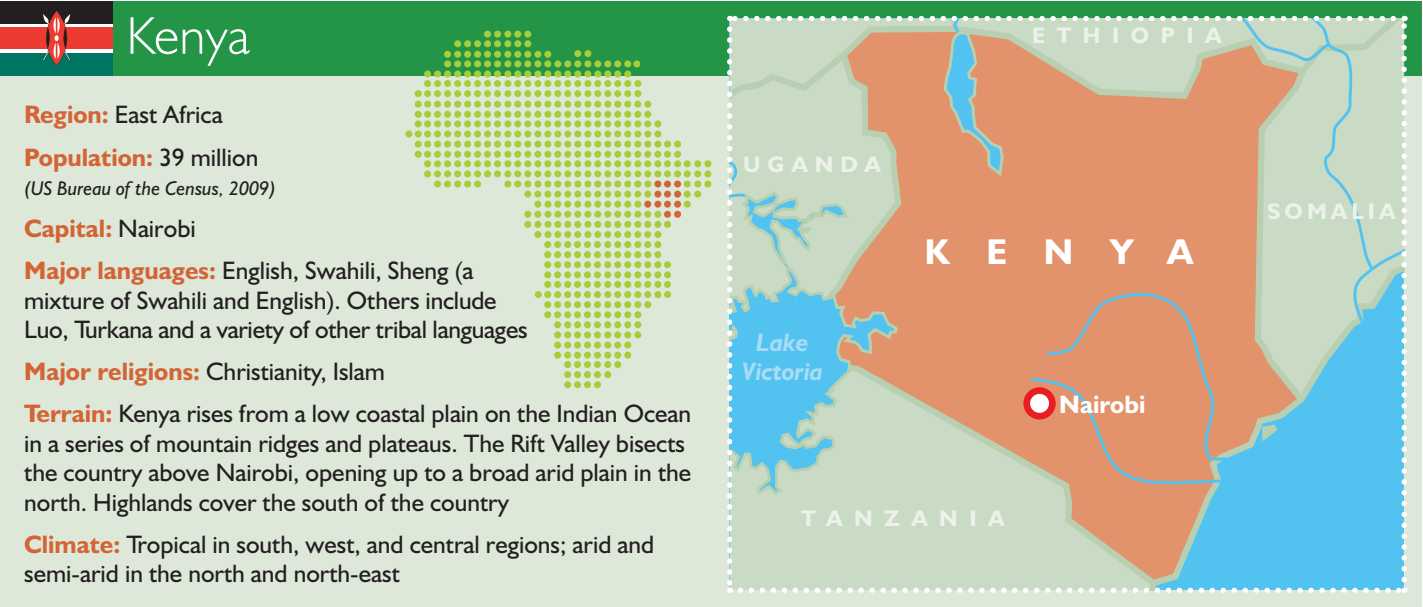
A lack of public understanding of climate change is not exclusive to Africa.<sup>1</sup> A review of research on the perceptions of climate

i In the absence of extensive research on the public understanding of climate change in Africa, *Africa Talks Climate* also draws on existing research from outside Africa, whilst acknowledging that in many cases this research was conducted in a Western context, and therefore must be applied carefully to the African context.

change in the UK reveals public understanding as “patchy, but generally poor”.<sup>23</sup> Similarly, research in the United States has shown that people often have basic misconceptions about climate change.<sup>24, 25</sup> Although high levels of media coverage of climate change in the United States and the United Kingdom have not always translated into high levels of concern among the public, some research suggests this is because climate change is seen as a remote and non-urgent issue.<sup>26, 27</sup> This is less likely to be the case in Africa, where most people are already experiencing the effects in their daily lives.

Although the media are seen to have a critical role to play in raising awareness and information provision on climate change, and disaster preparedness,<sup>28</sup> little research exists on the media coverage of climate change in African countries. However, a recent publication suggests that journalists covering climate change in many developing countries lack training, support from editors and access to information or people to interview.<sup>29</sup> It concludes that while news coverage of climate change in non-industrialised countries is increasing, the quantity and quality of reporting does not match the scale of the problem. It goes on to point out that a reliance on reports from Western news agencies, rather than locally relevant news, as well as sparse coverage of adaptation measures, means that audiences, particularly the world’s poor, are being underserved. Finally, it hints at the potentially important role that non-news media (such as talk shows, dramas and public service announcements) can play in providing information to audiences on climate change.

Acronyms used in this report			
BBC WST	BBC World Service Trust	NGO	Non-governmental organisation
CFC	Chlorofluorocarbon	R&L	BBC World Service Trust Research and Learning Group
CSR	Corporate social responsibility	UNEP	United Nations Environmental Programme
IPCC	Intergovernmental Panel on Climate Change	WRMA	Water Resources Management Authority
KBC	Kenyan Broadcasting Corporation		



overall increase in precipitation, drought conditions, particularly in northern Kenya, will persist.<sup>30</sup> Kenya’s climate is already becoming more extreme, and at the time fieldwork was conducted, East Africa was suffering from a severe drought.<sup>31</sup> With rising temperatures and increased climate variability, the impact of climate change on agriculture and livestock, and on the livelihoods and health of communities across the country, will be severe.

Drought and extreme weather have already led to significant crop failure and higher food prices.<sup>32</sup> Over the past 10 years, Kenya has suffered from an increase in the frequency of both flooding and drought.<sup>33</sup> The productivity of Kenya’s subsistence farmers, particularly those in arid or semi-arid lands, will be severely affected by drought and increased climatic variability.<sup>34</sup> Large-scale agricultural production, including that in the tea-growing regions of the southwest, is also at risk.<sup>35, 36</sup>

Kenya’s sizeable pastoral population will be among the hardest hit by climate change. Drought and water stress, along with extreme weather and disease, have already decimated livestock, severely affecting the pastoral and nomadic communities living in arid and semi-arid lands.<sup>37</sup> The Ijara, Narok and Isiolo areas have witnessed an increasing number of clashes between pastoral groups seeking ever more elusive pasture and water for them and their animals.<sup>38</sup>

Many Kenyans are seeking socio-economic security in cities as a result of the dwindling agricultural and pastoral resources. Increased migration to urban centres has created its own environmental and health problems for those living in informal settlement areas.<sup>39</sup> As these areas continue to grow, they will be increasingly susceptible to extreme weather and flooding caused by climate change.<sup>40</sup>

Climate change is also predicted to increase the prevalence of some diseases. According to some projections, rising temperatures and other factors may contribute to a resurgence of malaria in highland areas where the disease has either not been prevalent before, or has been previously eradicated.<sup>41</sup> It is already making a comeback in Kibera, Nairobi’s largest slum area,<sup>42</sup> where increased flooding creates pools of stagnant water where mosquitoes can breed.<sup>43</sup> Increases in temperature may also affect the spread of other insect-borne diseases.<sup>44</sup> Additionally, climate change will affect human health through its impacts on water and food availability, and extreme weather has been linked to increases in cholera, diarrhoea, and malnutrition.<sup>45</sup>

Coastal areas of Kenya will also be hit by changes in sea level caused by climate change.<sup>46</sup> While the extent to which levels are likely rise is unclear, even a small increase will affect the low-lying regions of the Kenyan coast. If sea levels rise by only 0.3m, an estimated 17% of the Mombasa area would be submerged.<sup>47</sup> Sea-level rise could also affect key export crops grown in coastal regions.<sup>48</sup> Substantial parts of the Kenyan population, including those in the growing informal settlements, are particularly at risk.<sup>49</sup>

Kenya is signatory to a number of international treaties on climate change, and the government, led by the Ministry of Environment and Natural Resources, is currently developing its national climate change strategy.<sup>50</sup> Kenya, however, has yet to incorporate climate change into poverty reduction strategies. International and local civil society groups such as the Green Belt Movement<sup>51</sup> have been instrumental in setting the agenda for the country’s response to climate change.

2 Research methodology

Research objectives

The overall objective of *Kenya Talks Climate* is to assess the public understanding of climate change and identify how communication and media can best support Kenya’s response to climate change.

The research focuses on four key questions:

- 1. What changes have Kenyan citizens experienced in their climate and environment over time?
- 2. How do they explain and respond to these changes?
- 3. What do they know and understand about global climate change?
- 4. What do Kenyan opinion leaders know and understand about climate change and what are their views on Kenya’s response to climate change?

The research<sup>i</sup> consisted of 12 focus-group discussions with citizens and 17 in-depth interviews with opinion leaders across three locations in Kenya in May 2009 (see Appendix 1). The fieldwork locations were Nairobi, Isiolo and Ahero (see Figure 1 on page 11). The environmental challenges represented in these areas have already been linked to climate change, to some extent, or could be further exacerbated by climate change in the future.

- Nairobi is Kenya’s capital and largest city. It continues to experience a high level of migration and urbanisation.
- Isiolo is a small town situated in the semi-arid upper Eastern Province of Kenya, and is inhabited by pastoral groups including the Borana, Somali, Meru, and Turkana. It is an area that has been severely affected by deforestation and drought, and the pastoral communities in the region are increasingly in competition over dwindling natural resources. Two focus groups were held with a pastoral community in Ngare Mara, outside Isiolo, and two with individuals engaged in a variety of professions in the town itself.
- Ahero is a small town situated in the low-lying areas of the Kano plains near Lake Victoria. It is an area susceptible to flooding during the rainy seasons, but also drought. The local population relies mainly on rice farming and fishing to make a living. Two focus groups were held with farmers and fishermen in Kakola,

<sup>i</sup> *Africa Talks Climate* uses a qualitative research design. Qualitative approaches, which generate non-numeric data, are particularly useful for exploratory research on topics for which there is little previous research. Through focus groups and in-depth interviews, *Africa Talks Climate* investigates the meaning that people attach to climate change and explores how they experience climate-related issues and impacts.

outside Ahero, and two with individuals engaged in a variety of professions in the town itself.

Focus group discussions

The research set out to gather a broad range of views. Discussions were held with women and men, rich and poor, rural and urban. Given the implications of climate change for certain livelihoods in Kenya, individuals working in fishing and crop farming (Ahero) and pastoralists (Isiolo) were purposefully targeted.

Moderators for each group were matched to participants in terms of gender and language. In Nairobi, the focus groups were conducted in English and Swahili. In Isiolo, groups were contacted in Swahili and Turkana, while in Ahero, Luo and Swahili were used, with some participants in these groups also providing limited responses in English.

In-depth interviews

To understand the wider context of climate change in Kenya, 17 in-depth interviews were conducted with opinion leaders with a particular interest in climate change, or an informed opinion from a certain field, region or subject area within the country. They included policymakers, religious leaders, business people, journalists, and civil society representatives. For further information on the research methodology used and guiding principles, see Appendix 3.

The advisory group

The BBC World Service Trust and the British Council set up an informal advisory group of climate change and development experts to provide technical knowledge on climate change and insights into the local climate context in Kenya. All experts were Kenyan, or had worked and conducted research in Kenya.

Advisory group members were recruited during the initial phase of the research, when consultation calls were held with a variety of individuals and organisations to gather background information on Kenya and climate change. At the same time, experts were invited to join the advisory group.

The group offered informal guidance in three areas: firstly, regarding specific climate change issues facing Kenya; secondly, advice on fieldwork and site selection; and thirdly, feedback on the research findings and reporting. See Appendix 2 for a full list of advisory group members.



3 Citizen focus group discussion findings

There are different ways to know about climate change. One is to understand the science: that human activities, such as the burning of fossil fuels for energy, are increasing the amount of heat-trapping gases in the atmosphere, which warms the earth and affects its climate system. Another is to experience it first hand: to witness over a lifetime changes in rainfall patterns that affect the harvest; to suffer from increased droughts, floods and other climatic disasters that can wipe out homes and crops; or to be at the receiving end of the spread of vector-borne diseases, such as malaria.

The findings from this research suggest that although most Kenyans do not know about climate change in the scientific sense, they have certainly experienced it. Observable changes in the weather and the seasons constitute most Kenyans’ knowledge of climate change; they live with the impacts of the changing climate in their day-to-day lives.

The research also shows that changes in climate are not noticed by Kenyans in isolation from broader environmental changes. People in Kenya are keenly aware of environmental degradation and depletion of natural resources. They mention, for example, deforestation, pollution and increased water insecurity. Indeed, the research reveals that most Kenyans appear to make little distinction between environmental degradation and climate change; changes in the weather and seasons form part of the broader changes people have observed over the course of their lifetimes.

Given that climate change is viewed in the wider context of environmental changes, it is important to understand how Kenyans perceive these changes. This report, while focusing on climate change, recognises the complexity of the relationship between climate change and environmental degradation.<sup>i</sup> It begins with an overview of the environmental changes that Kenyan citizens have experienced, and then focuses on three key issues which people say directly affect their lives. It moves on to examine people’s understanding of climate terminology and concepts, and finally presents four key themes that shape people’s understanding of the science of climate change. In subsequent sections, it explores what Kenyan opinion leaders know and think about climate change, and concludes with recommendations.

What changes have Kenyan citizens experienced in their climate and environment over time?

Kenyans from all the regions represented have noticed clear changes in their weather and natural environment. The word “climate” is rarely used. Most say that the rains do not fall as they used to and that the seasons have changed. A young farmer<sup>ii</sup> from Ahero recounts: “Long ago when we were here it used to rain so much – but nowadays it reaches April, there is no rain, May, there is no rain or just a little of it. But those days in March it rained, in April now there is nothing.”

They say that the seasonal changes have severely affected their farms and livestock. With the rains less predictable, farmers are increasingly caught unprepared and as a result, their harvests are

i Climate change exacerbates environmental degradation and vice versa. For example, cutting down trees can cause soil erosion, which in turn can be exacerbated by the effects of climate change, such as heavy rains and winds. However, cutting down trees can also cause climate change, because trees act as carbon sinks, storing carbon dioxide that would otherwise enter the atmosphere.

ii Focus group participants were divided into three age groups: 18-24, 25-34, and 35-50. In selecting participants, age and gender were taken into account to encourage easy conversation within groups (see Appendix 3). Participants described as “young” or “younger” are in an age range from 18 to 24 years, and those described as “older” are aged 35-50. Those without a qualifier are usually in the 25-34 age range.

less productive. A young man from Isiolo explains: “You plant knowing that either the crop will do well in short or long rains but these days you cannot estimate it. It rains when you least expect it, then it doesn’t rain when you expect it.”

Many say that drought and flooding have affected their most basic needs – their crops have failed and livestock perished. Like this woman from Ahero, many feel that things have only become worse: “Before there used to be plenty of food, but now, because the rains have failed, there is no food.” Kenyans across the country say they have been impacted by farmers’ diminished agricultural output and claim that these changes are simply one part of a larger trend of environmental degradation. They believe that Kenya is losing its forests, clean waters and clear skies. A young woman from Nairobi gives an example:

“I will take you back to my rural home because that is away from noise, away from the pollution of cars, and all those gases emitted from all these buildings in industrial areas. It is a place where you can only see trees and cool air. When you breathe in you are sure that you are not breathing in something else. It is straight from above.”

In rural and urban areas, people fondly describe how the Kenya of the past was less tarnished by human beings. In addition, participants from Nairobi say that Kenya has become more congested and polluted. They spoke of how the needs of the rising population had resulted in increased deforestation and the spread of informal settlements and industry. Many feel increasingly disconnected from the natural environment. An older man from the capital remarks: “There used to be so many trees in Nairobi, but now there are about half. Eight years ago around Bellevue you would see antelopes, but now they are no longer there.”

How do Kenyans explain and respond to changes they are experiencing?

Many of the changes that Kenyans observe are potentially linked to climate change, and could be exacerbated by climate change in the future. To understand whether people connect local problems to climate change, and to find out how they are currently coping and may cope if these problems become more severe or frequent, they were invited to discuss issues that prominently affected them. A set of 15 images, representing a range of issues that can be linked to climate change, was used to help facilitate the discussion.

Participants, as a group, chose images which had the greatest effect on their lives.<sup>iii</sup> Efforts were made to understand how people were interpreting the images – for example, different images prompted discussion of drought – and subsequent discussions sought to understand attitudes towards these issues and the perceived causes, effects and responses.

Across all the locations, a total of three issues were identified:

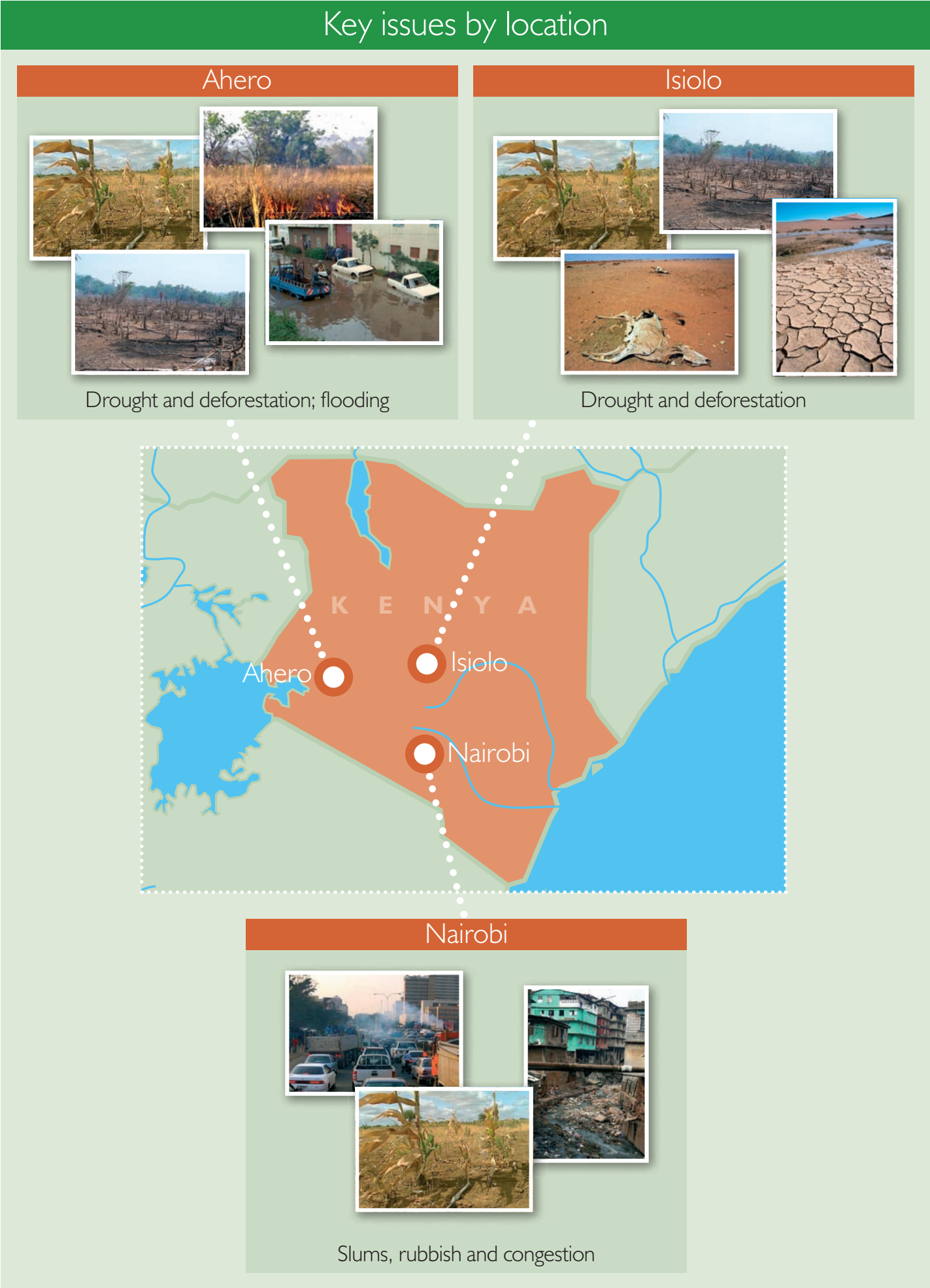
- 1. Drought and deforestation
- 2. Flooding
- 3. Slums, rubbish and congestion

Figure 1 shows the images selected in each location.

The issues that people selected tended to be immediately linked to the struggles they faced in their daily lives. Farmers spoke of drought and its impacts on their crops, and pastoralists about its

iii Participants also had the option to suggest other issues affecting them, that they felt were not covered by the 15 images.

Figure 1

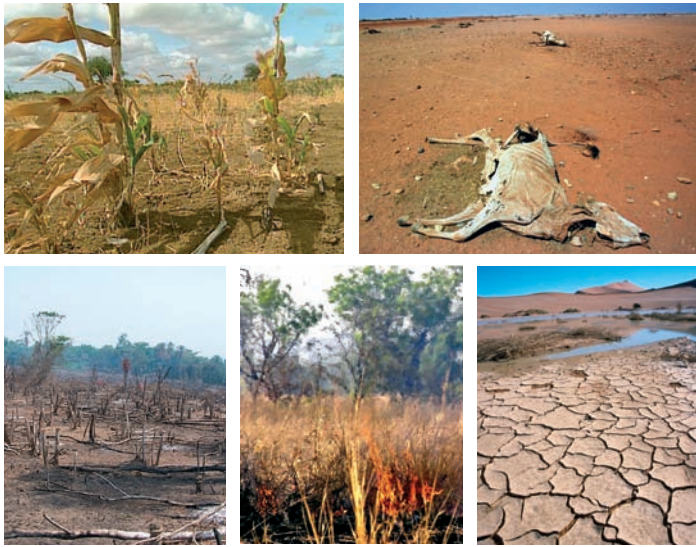




impact on their livestock. Those living in flood plains talked most about flooding, fishermen about diminishing fish stocks and urban residents about too much rubbish and traffic. Nearly everyone was also concerned about the effects of deforestation and pollution on their local area. The research did not seek to restrict conversation and, as a result, discussion sometimes moved on to environmental degradation and broader social problems. In this way, the most pertinent climate change and environmental degradation issues facing residents in each location emerged.

Drought and deforestation

**Kenyans feel that drought and deforestation are devastating their country. They say that drought has led to failed harvests and conflicts between tribes, and is pushing many further into poverty. Most Kenyans believe that planting trees will help restore the seasonality of the rains and the health of their land.**



Drought is an issue that concerns many Kenyans, whatever their livelihood. Of the 12 focus groups conducted, nine selected drought as one of the most important environmental issues affecting their lives. These groups were located in all three research locations, rural and urban. A young man from Nairobi was typical in describing the impact of drought on Kenya: “You find the rains are not coming and it is almost becoming a desert land.”

Most Kenyans believe that the drought they are experiencing is primarily caused by local deforestation. They say that the loss of trees has affected rainfall patterns, depleted local water sources and contributed to the loss of soil moisture. An older man from Ahero explains: “The moisture from trees goes up and forms the clouds and that is when the rains fall. When you cut down trees there is no moisture and therefore no rain.” People also spoke about who was cutting down trees and why. Nearly all say that Kenyans rely on trees to cook, eat and earn a living. In short, Kenyans cut down trees in order to survive.

Kenyans also think that the growing population had contributed to drought and a depletion of local resources. They say that over-cultivation and over-grazing of the land has exacerbated the impacts of drought, forcing some to abandon their traditional livelihoods. Many tell of new buildings being built and of land being deforested to make way for development.

Some Kenyans, mostly those in Nairobi, also think that pollution contributes to the drought. They believe that pollution causes ozone depletion, resulting in more sunlight and heat directly hitting the earth’s surface. In fact, although ozone holes allow ultraviolet



“The moisture from trees goes up and forms the clouds and... the rains fall. When you cut down trees there is no moisture and... no rain”

MAN FROM AHERO

radiation to reach the earth, which damages human skin, they do not cause an increase in the earth’s temperature.

Drought affects the ability of Kenyans to live their lives. Farmers speak about small harvests, and pastoralists about losing their livestock. It causes their crops to fail and leaves them with little to feed their livestock or their families. “When we plant, the sun eventually comes and destroys whatever we have planted,” says a woman from rural Ahero.

Many are desperate. In Isiolo, already an area prone to cattle rustling and drought, the drought is pushing many pastoral groups even further toward conflict. “The cattle that remain are taken by the Samburu and Borana,” explains a female pastoralist from Ngare Mara. “They come with weapons and take them by force.”

With less to eat, malnutrition and other diseases are also a concern for many rural families. They explain that drought forces them to use unclean or stagnant water and has lead to stomach ailments and diarrhoea.

Urban Kenyans are aware of the impact that drought is having in rural areas. They feel that Kenya’s farms are not as productive as they used to be and that much of the country is reliant on food aid. Although cushioned from some of the direct impacts of drought, many Nairobi residents feel that drought has contributed to higher food prices and a rising cost of living.

Kenyans are responding to drought by attempting to address local deforestation and by coping with its impacts in any way they can. Many say planting trees would bring much-needed rain but their comments reflect that for struggling rural Kenyans, tree-planting is not necessarily a viable solution. “It is not easy to alleviate this problem by planting trees alone,” explains a young man from Nairobi, “because for a low-income person you cannot do it.” Few Kenyans mention long-term coping mechanisms other than tree-planting. Some say that the digging of irrigation channels and boreholes would help improve their access to water, but few say they have done so.

Most Kenyans feel government intervention is the way to ultimately solve the problem. They want the government to enact stricter laws against deforestation, provide more food aid and access to cheaper energy. Farmers say they need more information on the types of crops to plant and the season in which to plant them. Yet for some Kenyans, particularly in Isiolo, governmental assistance seemed unlikely: “We know there is a Ministry of Forests but those people have never come here,” says one male pastoralist.

Struggling to deal with the impacts of drought, many Kenyans say that abandoning their villages and moving to urban areas for employment is the only option left. Others are praying that conditions improve.

Flooding

**Extreme rainfall events continue to affect the lives of Kenyans on the Kano plains. They cope with its impacts on their lives and property, but many feel that life there will be unsustainable if the flooding gets worse.**



Flooding is a major concern for residents of Ahero in western Kenya. Most say that flooding is a natural event in their area. A young farmer/fisherman explains: “Here in Kano the land is very flat, so when water comes it spreads all over and there is nowhere it can flow to because it is very plane, like a basin.” Despite the area’s natural geography, many feel that flooding had been made worse by environmental degradation. They explain that over-grazing and tree-felling contributes to soil erosion, making the land more susceptible to flooding. Others say a failure to regulate new building construction has blocked drains and made local flooding worse.

Residents explain that heavy rainfall leads to rivers bursting from their banks, destroying their farms and possessions. “It leaves us behind with nothing,” says a young male farmer. Many explain that floods destroy local infrastructure limiting people’s ability to travel.

Rural–urban migration and urbanisation

The research explored rural–urban migration in all groups. Africa’s urban population is rapidly growing. Climate change has the potential to increase migration from rural to urban areas as people flee its effects, says the IPCC.

While it is impossible to attribute increases in urban population exclusively to climate change, many people in Kenya speak of leaving rural areas as their traditional livelihoods become less viable. “People do not have any livestock left because of the drought. So people have moved to urban areas to look for jobs,” explains a woman from Isiolo. There is a general consensus that the impacts of extreme weather on agriculture and livestock are pushing people into moving to Kenya’s towns and cities. “They are running away from poverty,” says a pastoralist from Ngare Mara.

Life in the city is not without problems, however. People in Nairobi talk about how pollution, poor sanitation, and the spread of informal settlements has transformed their city. “When we were kids, the town Nairobi was not littered. It had parking boys and there were more trees and flowers. It had a lot of space but right now it is so crowded,” says a young woman from Nairobi. And with more and more people migrating from rural to urban areas, many Kenyans recognize that moving to the city does not guarantee a better life. “People move from rural to urban areas to seek jobs,” explains a young man from Nairobi, “only to find there are no jobs and some of them turn to stealing.”

Many also feel that flooding increases the prevalence of disease by contaminating local water sources and by creating pools of stagnant water that act as breeding grounds for mosquitoes.

A few participants argue that flooding also has its benefits, that it replenishes local soils. “Being flat, fertile soils are deposited here,” explains an older man from Ahero, “so you find that after the floods we can harvest a lot of sugarcane and maize.”

Ahero residents identify a number of preventative measures that could limit the extent of local flooding. They suggest digging trenches, building dykes and dams, planting more trees, and avoiding practices such as overgrazing, although many feel a lack of resources limits the extent to which these measures can be implemented. There appears to be little consensus as to how best to react to flooding when it does occur. Some move to higher ground, trying to save their property and carry on with their daily lives. One young farmer explains simply: “If I want to get rid of the water I take a hoe, dig a trench then the water goes.”

Residents say they need more support from their government. They want more dykes to be built and improved weather forecasting to enable them to prepare better for flooding. One older man suggests that flood waters could be used to benefit the local area once the rains abated: “The government should come up with a plan where the water can be diverted to a storage area. This water, if stored. can be useful during time of droughts.”

Ahero residents say they are dealing with flooding as best they can with limited resources, but if the flooding becomes more frequent, leaving the area may be the only option left.

Slums, rubbish and congestion

**Kenyans living in urban areas are affected by a range of environmental and health issues that they say are caused by a failure of the government to provide basic public services to the city’s rising population.**



Though aware of how extreme weather affects the rest of the country, Kenyans in Nairobi focus on different issues. All four groups from the capital say that the issues concerning them most have to do with an increasingly stressed public infrastructure. They tell of the growth of slums, piles of rubbish and constant traffic jams. Like many Nairobi residents, one woman recites a litany of complaints: “Pollution, there is no fresh air, the population is high, there are no trees, there are many dumping sites. The flats are so close to each other.”

Nairobi residents feel that these problems are caused by the government’s failure to provide public services to meet the needs of the city’s growing population and general human carelessness. Many say that the government has failed to provide adequate public services for much of the city’s population, particularly those in Nairobi’s many informal settlements. “These people have no place of disposing their rubbish and their alternative is the river,” explains one young man, “not like a place in Westlands where there are city trucks which collect the rubbish. In the slums there are no such things.” They accuse the government of failing to build roads,



collect rubbish and for not providing the growing population with alternative areas to live.

Many think that corruption is to blame for indiscriminate construction across the city and the government’s failure to provide basic public services. “*You just bribe and you start building,*” states one older man. “*The city council eats the money they are given to collect the rubbish,*” echoes a younger man.

Many also tell of how pollution and congestion impact their everyday lives. For some the impacts of increased traffic and a failing sanitation system are mere inconveniences. For others, the problems are more severe. Many say that pollution is affecting their health, and that the contamination of water sources has led to the spread of cholera and other diseases.

Most residents think that both citizens and the government need to do their part to improve life in Nairobi. Several people say that their local community has organised itself to deal with rubbish problems, but for other issues like traffic congestion many feel that there is little they can do as citizens. Most believe the government is best placed to deal with these issues and suggest new policies to improve sanitation services and ease congestion. Many also feel that the government needs to address what they see as the underlying cause of these problems: overpopulation. A woman from Nairobi says: “*If you go to Kibera and see how people live, you would shed tears.*”

How do Kenyans think their country and communities are responding?

**Kenyans are frustrated with what they perceive as a deficit of leadership and support from all levels of government and feel that they have to cope with the challenges posed by the changing environment largely on their own. With little support, many are struggling.**

Kenyans are struggling to respond to the many environmental and social issues affecting their lives. Farmers and pastoralists are beset by drought and flooding and many are living hand-to-mouth. Kenya’s cities are becoming more congested and polluted, and with crops and rains continuing to fail, communities across the country are feeling the strain. Kenyans are doing what they can to deal with the impacts of their changing climate, but limited information and resources hampers their ability to respond. A male pastoralist from Isiolo puts the situation in stark relief: “*People are saying that I will cut down the trees and if I get arrested at least I will have food in jail.*”

Kenyans most basic needs are not being met and most look to the government for help. Kenyans think that their government should pass stricter laws against deforestation and take more responsibility for raising public awareness on environmental issues. They are frustrated by what they see as the government’s failure to deliver basic services, but many do not know exactly who to blame. An older female pastoralist was typical in indicting a wide swathe of the country’s leadership: “*The water problem is brought about by our leadership starting from those at the helm. The president is the one who should be solving our problems and he should empower those below him to come and assist us.*”

Words for “climate change” and “global warming”

In Kenya, all groups were asked their awareness of the terms “climate change” and “global warming” in English and as they are translated in local languages. Translations for such terms were discussed with members of the Tanzanian advisory group and local climate experts. *Mabadaliko ya hali ya anga* was used as the Swahili translation for “climate change”, and *kuongezeka kwa joto duniani* as the translation for “global warming”.

Few feel that local government has much to offer. An older man from Nairobi sums up the views of many: “*The local government... is like a dog without teeth, and you know that, as much as they want to do something, like fencing the area, they don’t have the resources.*”

Kenyans recognise the work NGOs are doing in their community and say that they are active in providing food aid, disaster relief, planting trees, and a variety of other activities. Some say, however, that such interventions only breed further reliance on external support. “*This partnership between the government and NGOs where they supply people with relief food is leading to dependency syndrome,*” explains a young man from Isiolo.

Most Kenyans don’t think of religious institutions as active in addressing the problems caused by drought and flooding, although some say that their local churches and mosques encourage tree-planting.

What do Kenyans know and understand about global climate change?

Despite articulating local challenges and recognising differences in nature, weather, and the surrounding environment, people rarely link such changes to the global phenomenon of climate change. Not only does climate change terminology not resonate with people, they also generally do not have a clear and accurate understanding of climate change concepts.

In this context, *Kenya Talks Climate* explores how people make sense of climate change terminology and react to information about climate change. It emerges that four key themes are shaping people’s understanding of climate change, and affecting the way in which they explain its effects.

Terminology

Despite recognising that their weather has changed, most Kenyans are unfamiliar with both the term and concept of climate change. Most people literally translate the term when they hear it in English, Swahili or local languages and understand it to refer to seasonal and immediate changes in rainfall and temperature. A woman from Isiolo was typical in explaining: “*For example, if I go to Meru from Isiolo it is usually cold and cloudy... And the temperature in Isiolo is high. So I have experienced that change.*”

Similarly, recognition of the term “global warming” is generally quite low. Most understand it to refer to an increase in temperatures in Kenya and around the world. For some Kenyans, however, the term “global warming” triggers existing knowledge of other atmospheric concepts, particularly ozone depletion. They believe, incorrectly, that ozone depletion contributes to an increase in global temperatures.

These links are particularly prevalent among individuals from higher socio-economic groups in Nairobi. “*When I hear of global warming I first think of the pollution of those fumes that deplete the ozone layer,*” a young woman explains, “*Ice in the North and South Poles is decreasing, so basically it is an effect on the environment.*” Those who recognised the terms often said they had learned about them in the media. For most Kenyans though, neither “climate change” nor “global warming” is a household term.

Reaction to the concepts

Low spontaneous awareness of climate-related terms was to some extent expected, based on previous research.<sup>i</sup> Discussions, therefore, also explored awareness and understanding of the *concepts* of climate change and global warming, using the following statements:<sup>ii</sup>

- 1. Scientists are saying that human beings are causing weather patterns over time to change around the world.
- 2. Scientists are saying that human beings are causing the temperature of the earth to increase.

Despite a general lack of familiarity with the terms climate change and global warming, Kenyans agree with both statements. “*I think it is true,*” says a Nairobi woman. “*When we cut down trees we are making our land become a desert and when it is a desert there is too much heat.*”

Kenyans agree that human beings are causing weather patterns to change and the temperatures to rise. Such changes, however, are predominately attributed to degradation of the local environment by local deforestation and pollution. There is little recognition by most Kenyans that the changes they’ve witnessed and the problems they face have human causes that extend beyond their own continent.

Frames of reference

In the absence of a solid scientific understanding of climate change, people reach for explanations that build on their existing knowledge. The discussions of the terms and concepts of climate change and global warming revealed four important themes that influence participants’ understanding:

- 1. Emphasis on trees
- 2. Smoke and heat
- 3. Ozone confusion
- 4. The will of God

Such pre-existing concepts are often referred to as “frames of reference”.<sup>52</sup> These are critical, because they shape people’s understanding of, and reactions to new information. When exposed to new information, people often use existing beliefs, knowledge, and values to help them process it. The likelihood that people accept or reject new information depends heavily on what they already know and believe.

Crucially, people are more likely to reject new facts and information than they are to dismiss their own existing frames of reference. If new information contradicts a person’s beliefs, it is likely to be rejected. However, if it is delivered in a way that complements people’s knowledge and values, people are more likely to accept it.

In this way, the four themes – or frames of reference – can function as barriers or as facilitators to effective communication on climate change. Understanding them can help communicators in Kenya make their content relevant to their audiences. It is essential, therefore, to understand how existing knowledge and concepts are triggered when communicating about climate change.

Emphasis on trees

Kenyans’ understanding of the concept of climate change is primarily shaped by the importance they place on trees. Most Kenyans believe that trees attract or create rain. An older man from Ahero explains matter-of-factly, “*When you cut down trees there is no moisture and therefore no rains.*” Many see the existence of trees as indicative of the health of their local ecosystem and feel that local deforestation has had a major impact on their local climate. A

i The *Africa Talks Climate* pilot study was conducted in Nigeria. See Appendix 3.  
ii These statements were explored before the terms “climate change” and “global warming” were introduced. See Appendix 3.

pastoralist from Isiolo recounts: “*Long ago we used to have many trees and we used to receive rains thrice per year. Nowadays we have few trees and rain patterns have changed.*”

Although scientists do not necessarily agree on whether trees create rain, they agree that forests recycle rain through evapotranspiration, whereby the water vapour coming off leaves evaporates and falls again. Kenyans have an ingrained understanding of this process. They explain that the forests not only generate rain but also act as water catchment areas, pointing to the fact that most rivers originate from the country’s forested areas. They speak passionately about how tree-felling has resulted in severe drought, affecting agricultural yields and increasing hunger and poverty throughout the country.

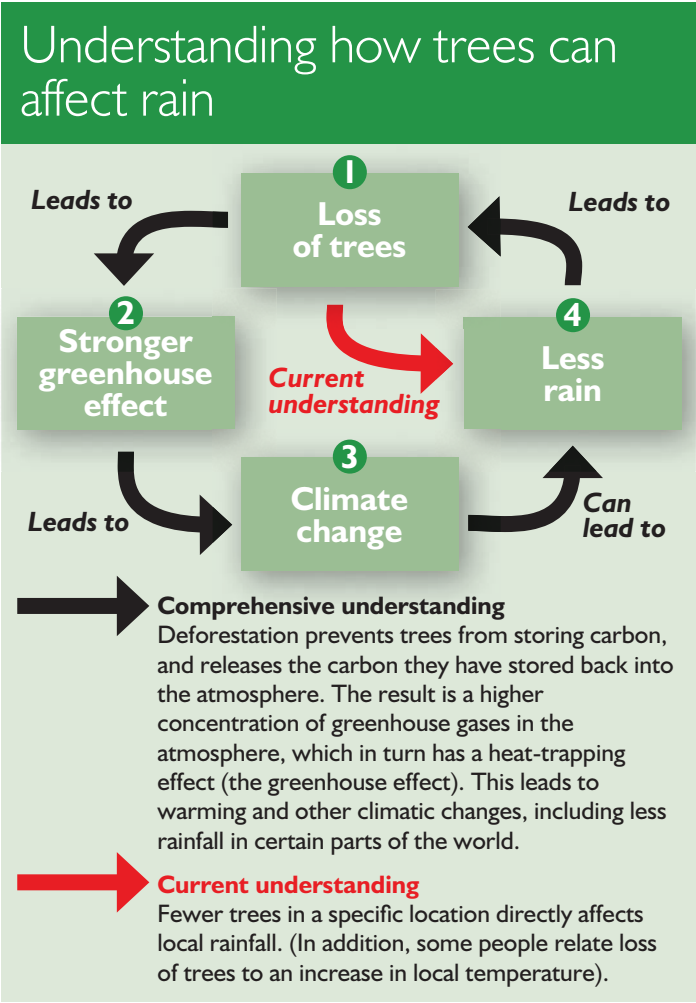
Despite a detailed knowledge of the role trees play at a micro-climatic level, Kenyans have little knowledge of their global importance. Few are aware that trees act as carbon sinks, absorbing carbon dioxide, the most significant greenhouse gas contributing to climate change.

The implications of this are both positive and negative. On one hand, people may be motivated to plant and preserve trees, which is good from a climate change and environmental perspective. On the other, their understanding could provide a false sense that climatic problems, such as drought, can be solved at a local level through tree-planting.

**Recommendations for communicators**

Build on people’s existing knowledge of trees to help create wider understanding of the role of deforestation in global climate change. Try to do so without removing people’s sense that their local actions matter. Help people move beyond the idea that tree planting is a cure for all environmental and climate ills. Expose them to other mitigation and adaptation options.

Figure 2





Smoke and heat

Visible air pollution and localised increases in ambient temperature also influence the way Kenyans make sense of the changing weather. People see smoke from cars, factories, bush-burning, and rubbish piles and feel that it influences their weather. A pastoralist explains, as many Kenyans believe, that pollution makes things hotter: “When the smoke is released in to the atmosphere it affects the clouds and as a result of this the sun becomes very hot.” Many also think pollution has an impact on their personal health.

People also feel heat radiating from car engines, people’s bodies and the walls of buildings and deduce that this has broader implications for the weather more generally. “When someone builds a house using metal, when it is sunny the heat burns the metal and the temperature inside the house will go up,” explains a young man from Nairobi.

Despite these experiences, most Kenyans do not understand how pollution contributes to global climate change or that the heat they experience is part of a worldwide trend. Their understanding of how pollution affects the weather is based on what they observe in their local area. Few are aware that unseen gases, such as carbon dioxide, contribute significantly to the changes they have experienced.

The emphasis placed on visible smoke may help to make the idea of greenhouse gas emissions more tangible. It has the disadvantage, however, of implying that we can see greenhouse gas emissions, which is not necessarily true.

Recommendations for communicators

Build on the understanding of smoke and heat to broaden understanding of the global effect of greenhouse gases. Use health concerns connected with smoke to engage people and inform them about the causes of climate change.

Ozone confusion

Some Kenyans also believe that ozone depletion caused by pollution plays a role in the changes they have experienced. They believe that ozone holes allow more sun to reach the earth, making the air hotter and land drier. A man from Isiolo explains: “The ozone layer is like a blanket in that no light can penetrate through it. If you pour acid on the blanket it will definitely burn it and the light would be able to pass through it. That is the same case with the ozone layer.”

In fact, although ozone holes allow ultraviolet radiation to reach the earth, which damage human skin, they do not cause an increase in the earth’s temperature. The same confusion is also noted in Western

contexts and may arise because climate change and ozone depletion are both caused by gases emitted as a result of human activity.

The danger in confusing climate change with ozone depletion is that people seeking to address climate change may select the wrong activities. For example, reducing CFCs was effective in dealing with ozone depletion, but less effective in combating global warming, which is primarily caused by carbon dioxide emissions. Furthermore, ozone depletion was largely addressed by regulation in the late 1980s, while the human activities that cause climate change are ongoing.

Recommendations for communicators

Make use of people’s awareness of atmospheric ozone depletion to explain climate change, while correcting misconceptions. Emphasise which human activities produce the greenhouse gases that cause climate change. Explain the science of climate change in a visual way that resonates with people, as ozone holes do.

The will of God

Although this is not prevalent in all areas, some Kenyans explain the changes they have experienced in the weather through their faith. They believe that the drought and floods visited upon their community and country are God’s punishment for human sin. A woman from Ahero explains: “People have forgotten about God. A long time ago when there were no rains, the elders would go to pray under a tree, that tree would be sacred and within two days the rains would come...nowadays we have forgotten God.”

It is important to note, however, that people’s belief that God’s will affected the weather did not preclude their acceptance of the role that human beings had in altering the natural environment.

Recommendations for communicators

Be sensitive to people’s faith when communicating climate change. Involve faith leaders in climate change communication. Where possible, facilitate climate change discussions that complement ideas of environmental stewardship present in some religions.

These four themes can function as barriers or as facilitators to effective climate change communication, but it is essential for communicators to understand and take them into account when designing communication strategies.

4 Interviews with opinion leaders

This research draws on 17 interviews with opinion leaders across six sectors, including representatives from the following:

Government

- Climate change focal point for Kenya (Ministry of Environment and Mineral Resources)
- Ministry of Agriculture
- Ministry of Energy
- Councillor, Ahero
- Councillor, Wabera ward, Isiolo

Media

- State-owned radio
- Private newspaper
- Private television station

Private sector

- Timber company
- Telecommunications company
- Commercial association representing the tea industry

NGO, religious, associations

- Two NGOs, one focusing on the environment, the other on disaster relief
- Islamic Foundation, Isiolo
- Anglican Church of Nairobi
- Rice farmers’ association, Ahero
- Association working on environmental issues around Lake Victoria<sup>i</sup>

What do Kenyan opinion leaders know and understand about climate change and what are their views on Kenya’s response to climate change?

Knowledge of climate change among Kenyan opinion leaders is limited to those in the government, civil society, media and private sector, although their understanding is far from complete. Leaders from the communities most impacted by climate change know even less.

Although this research relies on relatively few interviews with opinion leaders, it suggests that knowledge of climate change is restricted to opinion leaders from the national government, media, civil society and private sector. Representatives from these sectors are able to draw clear linkages between climate change, carbon emissions and the international climate debate.

However, even those knowledgeable about climate change and its effects on the developing world tend to conflate the issue with ozone depletion:

“The biggest causes of global warming are industrialisation and the emission of greenhouse gases which are not much in Africa... we do not do that much but all the same [it affects] us the most. It does not matter if we pollute our ozone layer – the effect will be felt here more than it is felt in the US, who are bigger contributors than us.”

Media leader

“People know weather patterns have changed. But climate change is a bit of a mystery to an ordinary person”

MANAGING EDITOR, THE STANDARD

It is also clear that for many opinion leaders, climate change is still a new topic. Even those that can identify its causes struggle to explain it. A representative from government is typical in saying that he cannot provide expert answers but rather, the responses of a “layman”.

Opinion leaders from religious institutions and local communities tend to know less about climate change. Their understanding is similar to that of most Kenyan citizens. They generally understand climate change as changes in the weather:

“I think what it means is the weather changing. Yes, weather changing. You know sometimes you get in the climate the weather becomes so wet. And then all of a sudden you find it very dry, particularly in Kano.”

Community leader

Regardless of an opinion leader’s knowledge of climate change, discussions about the topic often evolve into more general conversations concerning local environmental degradation issues. And as with the general public, many opinion leaders point to the loss of Kenya’s forests as one of the most important reasons why the country’s environment has changed:

“We have destroyed 90% of our forest cover in 45 years I think that is serious because what is left today is maybe 15% of what we had 45 years ago. That tells you human activity – agricultural settlement – has significantly destroyed our natural resources, especially forests.”

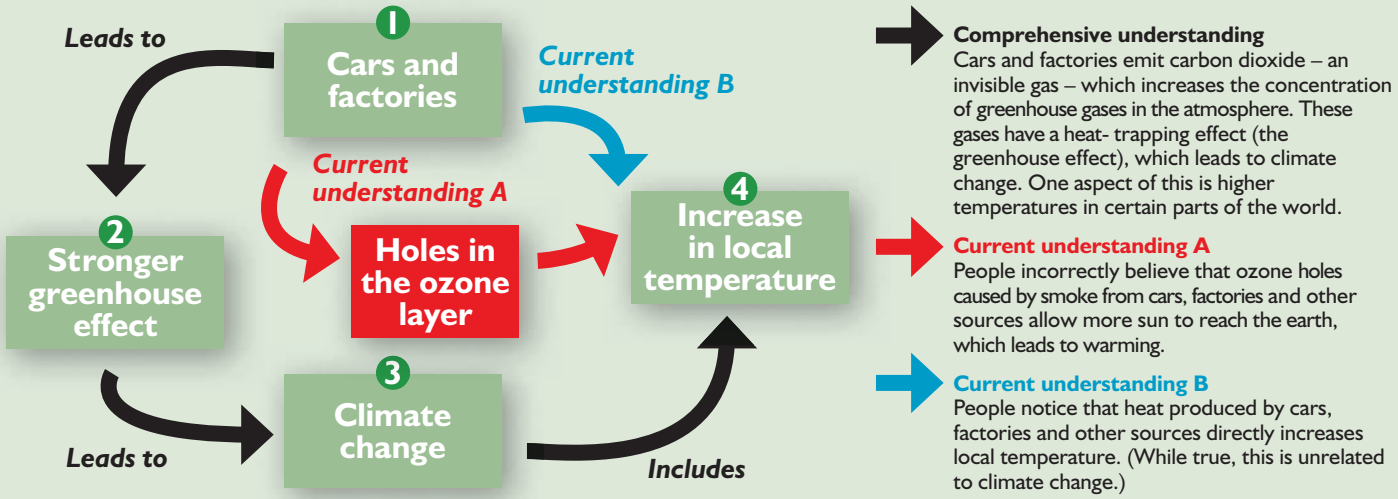
The Hon William Ruto, minister of agriculture

Understanding climate change

Opinion leaders’ understanding of what causes climate change depends on whether they understand the global context. Yet all opinion leaders point to local deforestation as one of the primary reasons why Kenya’s climate has changed.

Figure 3

Understanding how air pollution can affect temperature



Opinion leaders’ understanding of the causes of climate change varies widely. Those with the least knowledge of climate change make no reference to greenhouse gas emissions or industrialisation. Like most Kenyans, their understanding of its causes is based on what they perceive as the main reasons for the changing weather: deforestation and pollution.

Opinion leaders more familiar with climate change understand that it is primarily caused by the greenhouse gas emissions of industrialised countries.

*“It is mainly happening in the developed world, like America, China, and India, what you will call the world’s factories... all this is going up into the air and it is causing problems.”*  
Mr Lerionka Tiampati, managing director, Kenya Tea Development Agency

Many, however, also feel that Kenya is partly responsible. Nearly all opinion leaders cite deforestation and a failure to manage local resources as the major reasons why Kenya’s climate and environment have changed.

*“The rational approach to natural resource management, the systems have broken down. As we have considered ourselves modern and adapted to other lifestyles you find that communities have now failed to respect the good ways of managing the environment.”*  
Dr Alice Kaudia, environment secretary, Ministry of Environment and Mineral Resources

Perceived impacts of climate change

**Opinion leaders feel that Kenya’s farmers and pastoralists are the most severely affected by climate change. They realise that drought and deforestation are crippling the nation’s environment and its prospects for development.**

Despite disparities in their knowledge of climate change, all opinion leaders can accurately describe the impact that the changing weather is having on Kenya. Drought is the issue foremost on their minds. They say many parts of the country are affected by inadequate rainfall and that the depletion of local catchment areas has severely affected agriculture and food security nationwide.

*“We are getting poorer and poorer. I think it’s having a major impact on the livelihood of the people ... there is no rain and most people in this country depend on rain-fed agriculture”.*  
Mr Emmanuel Juma, head of news, NTV

Whether discussing the impacts of drought or flooding, opinion leaders are adamant that the rural poor and ‘those who depend most directly on natural resources’ are the most affected. As livelihoods become unsustainable, they acknowledge that rural Kenyans are moving to urban areas to survive. They say that Kenyan farmers cannot feed their families and that pastoral populations, struggling to sustain their livestock and livelihoods, are increasingly in conflict.

*“Water is scarce and this makes people fight for it. That is the biggest problem that we have here. As a result of the climate*

**“[Climate change] is global. However, most of the effects are felt by the poorest in the world”**

MANAGING EDITOR,  
THE STANDARD NEWSPAPER

*change we do not have water, we have nothing.”*  
Mr Ismael Galma, local councillor, Wabera ward

Longer-term impacts of climate change such as sea level rises, shifts in malarial zones and reductions in energy production are recognised by fewer opinion leaders, mostly from the national government, civil society, and the media.

*“I went up-country and when I was driving home I looked at the Tana River and it is now a stream. At the moment we cannot generate power from hydroelectricity because the water levels have gone so low ... A lot of damage has been done within the catchment areas of the Tana. Forests have been destroyed. Now you see more homes than forests.”*

Mr Kiremu Magambo, renewable energy consultant, Ministry of Energy

Opinion leaders who understand the global context of climate change also recognise that the developing world will be most affected:

*“It is global. However, most of the effects are felt by the poorest in the world.”*

Ms Zipporah Musau, managing editor, the Standard newspaper

Where does responsibility lie?

**Even those opinion leaders who realise industrialised countries bear a greater responsibility for causing climate change believe that Kenyans are, to a large extent, also responsible for the extreme weather and environmental issues facing their country.**

Opinion leaders who know about climate change understand that compared to industrialised countries, Kenya itself has done little to contribute to the problem.

*“Kenya is not an industrialised country so we cannot say we have caused this. Those things are for developed world. In Kenya we have not contributed a lot to climate change.”*  
Mr Kiremu Magambo, renewable energy consultant, Ministry of Energy

They call on industrialised nations to reduce emissions and cite the refusal of some countries to sign the Kyoto Protocol as a major setback.

*“Globally it has been a problem because developing countries have been resisting cutting back on emissions especially the United States. They refused to sign the Kyoto Protocol, but I think things are changing now.”*  
Mr Abdishakur Othowai, special programmes manager, Kenya Red Cross Society

Yet most opinion leaders are not particularly forceful in apportioning blame. They see climate change as only one cause of what they consider to be a greater problem: the overall degradation of Kenya’s environment. Many feel that local deforestation and pollution are important contributing factors.

*“[We have contributed] in every way. We have the whole issue of how we have managed our resources. At independence 14% of our land mass was forest. Today that has come down to 1% ... That tells you human activity and agricultural settlement have significantly destroyed our*

*natural resources especially forests. Therefore if we say that we have not contributed to climate change we will not be telling the truth.”*  
The Hon William Ruto, minister of agriculture

Do the worst affected understand climate change?

**Opinion leaders think that people know the climate is changing through personal experience, but that the phrase ‘climate change’ means little to most people. They say there is a need to find meaningful ways of communicating climate change to people that grounds the topic in people’s concerns and understanding of the environment.**

Opinion leaders believe that despite experiencing its impacts, Kenyans know very little about climate change. They say the concept of climate change is unfamiliar to them and that most simply cannot relate to it.

*“In the rural areas they tell you ‘hiyo ni kitu ya town si hapa’ (that is something for people in urban areas not here). They don’t relate to it. It’s for those people who have money and to them pollution is stuff from industries and cars and those places.”*  
Mr Emmanuel Juma, head of news, NTV

Many opinion leaders say Kenyans have their own explanations for what has caused the changes in the weather and that their reasons are unrelated to greenhouse gas emissions.

*“They can’t make a connection between what big business in the north is doing and what they are suffering here. But one thing they will tell you is that what they are experiencing today is different from what they experienced 20 years ago. It’s only the causes that they can’t understand.”*  
Mr Rudolf Makhanu, co-ordinator, Kenya Forest Working Group

Some feel that Kenyans’ spiritual beliefs affect their understanding of the issue:

*“People have a strong belief that the violence that rocked this place and the blood that was spilt made God angry and He is punishing us. He has brought drought.”*  
Mr Ismael Galma, local councillor, Wabera ward

Others highlight the complexity of climate change terminology, suggesting that the terms used in the scientific debate such as “global warming” and the “greenhouse effect” are not easily understood by most Kenyans. They believe that simplifying climate change terminology would help Kenyans understand and engage with the issues.

*“Just simplify it and remove the scientific descriptions out of it. Make it possible for people to have the same concept in the local language, in Swahili, so that we are able to communicate.”*  
Dr Alice Kaudia, environment secretary, Ministry of Environment and Mineral Resources

Many say that using local language to explain climate change and grounding the issue in the experiences Kenyan citizens is essential to improving their understanding.

*“Address very specific concerns at local level because the concerns might differ from one area to another one so if you target those concerns and link those concerns to climate change then I think the message will sink home better.”*  
Mr Isaiah Kandie, communications manager, Telkom Kenya

Opinion leaders’ suggestions for engaging the public centre on tree-planting initiatives and general conservation. There appear to be few other methods of adapting to climate change that have such widespread acceptance.

What response is required?

**Opinion leaders are aware that more needs to be done to help Kenyans struggling with drought and extreme weather. Yet beyond tree-planting initiatives, there is little agreement as to how the country can best respond.**

Climate change is a new issue for most Kenyans and those in key leadership positions are no exception. Their responses to climate change are based on how they understand the issue and how they connect it to the groups and sectors they lead.

Although based on relatively few interviews, this research suggests that the government and NGO sectors are taking initial steps to develop Kenya’s response and recognise the scope of the challenge that climate changes poses for the country. The response from the Kenyan media and private sector is limited by how relevant they perceive climate change to be to the success of their businesses. Community leaders lack an understanding of the global causes of climate change, but are attempting to cope with drought and environmental degradation in any way they can with minimal resources.

All opinion leaders, however, clearly recognise that more needs to be done.. National policymakers and local community leaders alike say that those most impacted by Kenya’s changing climate need to understand the changes they have experienced and require information that will help them cope with its impacts. Yet for most opinion leaders, their suggestions as to how can Kenya can respond is based on methods of environmental conservation that are difficult for many Kenyans to engage in given their dependence on firewood and charcoal for energy.<sup>53</sup>

Government response

**Government representatives say that the Kenyan government is beginning to address climate change, although the comments of opinion leaders from the government and other sectors suggest that there is much work to be done.**

**“Just simplify it and remove the scientific descriptions... Make it possible for people to have the same concept in the local language”**

ENVIRONMENT SECRETARY



The Kenyan government’s response to climate change is being led by the Ministry of Environment and Mineral Resources. Leading government decision-makers clearly understand the links between climate change and Kenya’s national development strategies, but their comments indicate that the government’s response is still in its early stages:

*“We expect that by the end of this year we will have a national strategy in place as well as a national action plan and a national investment programme because we don’t want climate change just as a project of one or two years because climate change is long term, it has a long-term impact.”*

Dr Alice Kaudia, environment secretary,  
Ministry of Environment and Mineral Resources

In developing the strategy, the environment secretary explains that the Ministry of Environment is working with the international community, civil society groups and “around 18 ministries”.

While policymakers realise Kenyans’ reliance on firewood and charcoal is problematic, their comments suggest that tree-planting and anti-deforestation measures are a cornerstone of the government’s response to climate change. Some feel that the controversial plan to protect the Mau Forest hasn’t helped its efforts to promote conservation.

*“It is one thing to talk about we have lost forest cover and we are destroying the environment; it is a completely different ball game for us to have a coherent program on how to stop, reverse and begin to regenerate our forests and we have to think outside the box. I don’t think engaging in fights with some people who have some title deeds for land will get us anywhere.”*

The Hon William Ruto, minister of agriculture

There is a sense of urgency that these issues must be tackled soon. According to one interviewee, Kenya and the rest of the world must now deal with climate change: “we are all in it without a choice”.

Well-versed in the government’s anti-deforestation efforts and aware of its participation in climate change meetings, the representatives from Kenyan NGOs know little about the government’s climate change strategy. Some were critical of its response, with one saying:

*“At the government level the process has been slow and inadequate. It’s us NGOs who ask the government to draw the national position on carbon emissions ... climate change should be a national security issue. It should be something that our government is putting its energies into, but that doesn’t seem to be happening.”*

Opinion leaders from the media tend to think that the government has done little to deal with climate change:

*“Well, I’ll just begin by looking at what they did when they had this great climate whatever conference at UNEP, I think was it last year. There was a big conference on climate change and ... beyond that, sorry to say this, I’ve not heard much in terms of what we can do.”*

Mr Antony Wafula, senior editor,  
Kenyan Broadcasting Corporation (KBC) Radio

Local community leaders are also dissatisfied. They criticise government officials for failing to enforce regulations, for being susceptible to corruption and for a general lack of engagement:

*“I only hear of big conferences happening in Gigiri Nairobi [UN headquarters] with people coming from different countries, but nothing is seen on the ground ... there is nothing we can*

*pinpoint that the government has done. Even people in the street know that the only thing they talk about is drought.”*

Mr Ismael Galma,  
local councillor, Wabera ward

NGO response

**Kenyan civil society is well-placed within local communities to organise and implement adaptation to climate change. They understand that responses to climate change need to include tree-planting as one of a number of different initiatives and that local populations need to be engaged in planning this response.**

Kenyan civil society takes a leading role in the country’s on-the-ground response to climate change. Working closely with local communities, the civil society representatives interviewed explain that their groups raise awareness of the importance of environmental conservation and, increasingly, promote practical community-based mitigation and adaptation techniques.

While traditional tree-planting campaigns are still part of their portfolio of activities, these groups also understand local communities’ need for firewood and that alternative sources of energy need to be provided if deforestation efforts are to succeed. Both NGO representatives interviewed say that promoting energy efficiency in rural areas will be critical to ensuring their overall development. They also realise that more needs to be done to help Kenyans prepare for the impacts of climate change. Mr Abdishakur Othowai from the Kenya Red Cross Society explains how his organisation is asking “communities to reduce the risks associated with climate change and to try to adapt”.

The NGO representatives interviewed acknowledge that more needs to be done to broaden the climate change debate to include the populations most affected by it:

*“We need to make such discussions on climate change so that they can reach different parts of this country. Most of the*

**“Climate change should be a national security issue. It should be something that our government is putting its energies into, but that doesn’t seem to be happening”**

NGO REPRESENTATIVE

**“I only hear of big conferences happening in... Nairobi with people coming from different countries, but nothing is seen on the ground”**

LOCAL COUNCILLOR, WABERA WARD

*meetings we normally hold are in Nairobi, but we also need to repackage some of the information and even have forums where such discussions can be held at the grassroots.”*

Mr Rudolf Makhanu, coordinator,  
Kenya Forest Working Group

Private-sector response

**Representatives from the Kenyan private sector are concerned about the impacts of climate change, but they do not see themselves as having a leading role in the country’s response. Greater involvement by the private sector on climate change may help promote models of environmental conservation that resonate with economic development needs of most Kenyans.**

Despite interviews with relatively few opinion leaders from the private sector, their comments suggest that the sector plays a limited role in shaping Kenya’s response to climate change. Asked if Kenya could address climate change and promote economic growth at the same time, one representative’s response was indicative of the lack of engagement among the private-sector interviewees:

*“That is possible, but do not ask me how.”*

Mr BD Soman, assistant general manager,  
Timsales Kenya Ltd

Business leaders realise that climate change is mainly caused by the industrialisation of the developed world and see little reason to reduce emissions in Kenya. They view climate change within the context of environmental degradation and believe that the main cause of Kenya’s environmental problems is deforestation.

Private-sector representatives say that they seek to address environmental issues in two ways: by minimizing the environmental impact of their business and by delivering corporate social responsibility (CSR) initiatives. CSR initiatives remain focused on promoting tree-planting among customers, clients, and the public at large. Their efforts to limit environmental impact focus on controlling visible air pollutants and chemical seepage.

*“Most of the equipment that we use is environmentally friendly. They have been tested all over the world and they don’t make any emissions because they use electric power.”*

Mr Isaiah Kandie, communications manager, Telkom Kenya

According to other opinion leaders, the Kenyan private sector’s response to climate change is limited to tree-planting initiatives, which one referred to as a public relations exercise.

Local response

**Local community leaders have only a limited knowledge of climate change and are attempting to address what they feel are the local causes of drought and environmental degradation. For most, this means planting trees. There is a clear need to inform local leaders about climate change and to coordinate with them on how best to help their communities adapt.**

With limited knowledge about climate change and few resources, interviewees from the local government and rural communities say that they are doing what they can to help their communities prepare for and deal with the impacts of drought and flooding. Most focus on what they see as the main cause of changing climatic conditions, and as such, tree-planting initiatives are at the forefront of their response.

*“We address [deforestation] in barazas [meeting areas] and also in schools. So at any gathering when we have farmers, this*

**“By elevating the communities economically they are not going to be destructive to the environment... People do things... to survive”**

PROGRAMME OFFICER, OSIENALA

*is what we have got to preach first.”*

Mr Samson Okole, head,  
Rice Farmers’ Association, Ahero

According to the comments of local leaders, the ability of communities to conserve their environment and properly respond to climatic changes depends in large part on the resources they have.

*“By elevating the communities economically they are not going to be destructive to the environment, because people do things in order to survive.”*

Dr Godfrey Ogonda, programme officer,  
Osienala (Friends of Lake Victoria)

Most community leaders feel that their communities would benefit from more support and resources from the government. Community leaders from western Kenya say that they work closely with the government to address local environmental issues and pointed to several preventative measures that they had taken.

*“We are trying to make a few trenches so that when it floods the water tries to flow towards the lake or the streams. We are also trying to put murrām [a type of gravel] on our roads so that they are all-weather.”*

Mr Frederick Oriwa,  
local councillor, Ahero

Leaders from Isiolo are more hesitant in their praise. They feel that their communities are struggling to deal with the impacts of drought and that the government has failed to help them deal with local environmental problems.

*“Towards Ngare Mara you’d have seen that the river has dried up as a result of water being diverted to farms near Nanyuki. And these guys WRMA [Water Resources Management Authority] are doing nothing about it because they have been compromised.”*

Mr Ismael Galma,  
local councillor, Wabera ward

Civil society groups appear to work in close concert with local communities. Interviewees from the sector suggest, however, that there is little communication between NGOs, the government (national and local), and community leaders.

Media response

**The Kenyan media feels that climate change is a difficult issue in which to engage the public. They say it is a complex topic to report on and worry that people will not be interested in it. Improving the media’s ability to report on climate change and framing the issue as one that concerns the lives of all Kenyans will help sustain the media’s and public’s engagement in it.**

The representatives interviewed from the Kenyan media are knowledgeable about climate change but feel that engaging the public remains a challenge. They say that the complexity of climate change makes it a difficult topic for reporters and journalists to cover. They explain that their staff need more information and support to report the issue adequately.

Media representatives’ comments suggest that coverage of climate change is based on current events and combined with other environmental issues. They point out that there are few journalists dedicated to covering the issue or editorial guidelines for reporting on such matters.

*“We’ve not been having what I will call a proper policy on reporting some of these thematic areas ... we only get a report on climate change from a workshop, a conference or something happened like in Kenya today, we all talk about hunger and famine.”*

Mr Antony Wafula,  
senior editor, KBC Radio

Some media representatives think that the technical language of climate change reporting prevents the public from engaging with the issue.

*“Initially people didn’t like environment because of the reporting. People used to get it in the UN language and give it – bang! – to the people and it didn’t work. Now, you... tell a story through an individual who is really being affected and people will begin to appreciate and understand.”*

Mr Emmanuel Juma, head of news, NTV

They recognise, however, that the complexity of the issue is not the only reason why climate change is not covered. They suggest that climate change has become a ‘green’ issue, an issue that merits attention, but perhaps not the headlines.

*“Media in Kenya is business, it is not a charity, it is not a trust. We sell and in Kenya, what sells are politics, crime, and business ... climate change tends to be ignored because it is not what editors call sexy.”*

Ms Zipporah Musau, managing editor  
the Standard newspaper

*“The most unfortunate thing about us as the media has always been we think about politics first then play it up – so people*

*hardly get the time to respond or address climate change.”*  
Mr Antony Wafula,  
senior editor, KBC Radio

Despite this, media representatives recognise that there is a danger that Kenyans will be affected by an issue that they know little about; they stress they are doing more to educate their audiences on the importance of climate change. The amount of coverage they cite, however, is testament to the little attention such issues receive.

*“Actually, over the last one year, we’ve done this deliberately and no week passes without doing a story about the environment. And there are days we dedicate almost ten minutes on stories related to the environment.”*

Mr Emmanuel Juma, head of news, NTV

Outside the media, interviewees see the media as playing a critical role in providing the Kenyan public information about their changing environment. Many recall messages or programmes that focused on general environmental conservation issues such as deforestation, although few leaders see the media as a source of information on how to deal with the impacts of drought or extreme weather. Mr Samson Okole (Rice Farmers’ Association, Ahero) was an exception, recalling: *“Even this morning there was something on the radio when our area member of parliament had a discussion with farmers.”*

Generally, Kenyan leaders feel that the media needs to do a better job at informing Kenyans about climate change. Some relate back to early HIV and Aids campaigns and say that the media needs to turn an abstract issue like climate change into something understandable and relevant for the people most affected by it.

*“The media has been doing a lot in terms of enlightening society but we need to do more. The media is in Kiswahili and English and we need to translate these into local languages. These programmes should be in the vernacular on radio stations ... There were many campaigns and now everyone understands what HIV and Aids is and how it affects the society. So what we require is a lot of campaigns on climate change.”*

Mr Ahmed Set, Islamic Foundation, Isiolo

It will be important for the media to develop its understanding of climate change given that people cite media as a primary source of information on climate change.

## 5 Conclusion

This research has shown that public awareness and understanding of global climate change is low in Kenya. Climate change terminology is poorly understood and its translation in local languages does not convey its global causes or context. More Kenyans recognise that their climate is changing than are aware of the term ‘climate change.’ Climate change is often literally interpreted to mean ‘changes in weather’.

In this context, many Kenyans have their own ways of explaining why their weather patterns and environment have changed. They draw on existing knowledge and beliefs, both to explain the changes they have witnessed and to process new information on climate change. While most Kenyans see a link between human activity and changes in climate, this is very localised. Many Kenyans link individual human activities, such as tree-felling and pollution, to degradation of the local environment and changes in weather patterns, yet most are not aware that pollution from outside their locality increases levels of greenhouse gases and has contributed to the changes they have experienced.

Kenyan opinion leaders are struggling to provide leadership on climate change. They need to know more about climate change in order to communicate confidently on the issue and incorporate mitigation and adaptation strategies into their decision making. Although the media, together with schools, are the main source of information on climate change for the general public, there is evidence to suggest that media lacks sufficient knowledge to effectively inform audiences about climate change and facilitate public discussion.

It is clear that communication and information provision is going to be central to Kenya’s response to these challenges. Many opinion leaders spontaneously mention the need for better communication on climate change, and all agree that the general public needs more information. Although this research sets out to present the perceptions of the Kenyan public on climate change, and not to detail a climate change communication strategy, various communication implications can be drawn from it:

### Provide information

Firstly, the media has a critical role to play in providing information on climate change and supporting others to do so, including governments, national and international NGOs, scientists, religious leaders and community leaders. Kenyan citizens have a fundamental right to access information on an issue that affects their lives. Increased awareness and understanding of global climate change will

enable and equip citizens and communities to discuss the problem, adapt to the effects of climate change and make more informed long-term choices about their future.

Efforts to improve climate change communication need to confirm to people that weather patterns are changing and that extreme weather events are more likely to occur. They also need to raise awareness of global climate change and the ways in which it relates to people’s lives and livelihoods. People need information on ways to adapt to climate change and prepare for extreme weather events.

Communication efforts should also help people to build simple, correct mental models of how climate change works, being mindful of people’s existing understanding. In order to do this appropriate climate change terminology should be developed and tested in local languages. Evidence and facts need to be communicated in a way that is locally relevant using a variety of news and non-news platforms.

### Facilitate policy and public debate

Secondly, the media need to facilitate accessible public debate. Kenya is being affected by climate change. Internally driven, relevant debate on the issue is essential. The news and non-news media will shape and mediate that debate to a very substantial extent. For that reason, building the capacity of the media and providing support for “public spaces” which enable discussion on climate change that draws on Kenyan voices and experiences, engaging citizens, local interest groups, civil society actors, religious leaders and policymakers from all levels of government, will be crucial. These spaces, which can be created through talk shows, call-ins and other popular interactive platforms, can be forums to exchange information, create understanding and plans for action. They can also serve to facilitate better cross-sector communication between government, NGOs, the private sector, the media, and local and community leaders.

### Encourage accountability

Thirdly, debate can increase accountability, enabling citizens to exert pressure on their own governments with respect to climate change policies: adaptation funding, technology transfer, emissions reduction and other response strategies. Only when Kenyan citizens are fully informed about, and able to debate climate change, will they begin to influence the national and international climate change policies and processes which affect their lives.



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8 “In the complex web of causes leading to social and political instability, bloodshed and war, environmental degradation is playing an increasingly important role – this is the “Greenwar factor””, argued a 1991 report from Panos Publications, *Greenwar: Environment and Conflict*

9 Examples of climate change-related conflicts already happening include “fighting between pastoralists and farmers in the Oromia and Ogaden regions of Ethiopia, inter-clan fighting in Somalia, and increased fighting during drought periods in Nigeria” according to the Global Humanitarian Forum report *Climate Change, The Anatomy of a Silent Crisis*, op cit

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12 Ibid, p 23

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21 *The Perception of and Adaptation to Climate Change in Africa*, by David J Maddison (2007), World Bank Policy Research Working Paper No. 4038, [ssrn.com/abstract=1005547](http://ssrn.com/abstract=1005547)

22 *Climate Change in the American Mind: Americans’ Climate Change Beliefs, Attitudes, Policy Preferences, and Actions*, by A Leiserowitz et al (2009), Center for Climate Change Communication, Dept of Communication, George Mason University, [www.climatechangecommunication.org/images/files/Climate\\_Change\\_in\\_the\\_American\\_Mind.pdf](http://www.climatechangecommunication.org/images/files/Climate_Change_in_the_American_Mind.pdf)

23 *Public Understanding of Climate Change* (2005), by A Darnton for Futerra

24 *Weather it’s climate change?*, by Ann Bostrum and Daniel Lashof (2007), in *Creating a Climate for Change*, edited by Susanne C Moser and Lisa Dilling (Cambridge)

Appendix I Opinion leaders interviewed

Name and title	Organisation	Sector
Dr Alice Kaudia <i>Environment secretary</i>	Ministry of Environment and Mineral Resources	National government
Mr Kiremu Magambo <i>Renewable energy consultant; professional engineer</i>	Ministry of Energy	National government
The Hon William Ruto <i>Minister</i>	Ministry of Agriculture	National government
Mr Frederick Oriwa <i>Councillor, Ahero</i>	Locally elected government official	Local government
Mr Ismael Galma <i>Local councillor, Wabera ward, Isiolo district</i>	Locally elected government official	Local government
Mr Antony Waful <i>Senior editor</i>	Kenya Broadcasting Corporation (KBC) Radio	State media
Ms Zipporah Musau <i>Managing editor, the Standard newspaper</i>	The Standard Group	Private media
Mr Emmanuel Juma <i>Head of news</i>	Nation Television (NTV), Nation Media Group	Private media
Mr BD Soman <i>Executive director</i>	Timsales Kenya Ltd	Private sector
Mr Isiah Kandie <i>Communications manager</i>	Telkom Kenya	Private sector
Mr Lerionka Tiampati <i>Managing director</i>	Kenya Tea Development Agency	Private sector
Right Reverend Peter Njoka <i>Bishop, Nairobi diocese</i>	Anglican Church of Kenya	Religious institution
Mr Ahmed Set <i>Administrator, Eastern Province</i>	Islamic Foundation, Isiolo	Religious institution
Mr Rudolf Makhanu <i>Co-ordinator</i>	Kenya Forest Working Group	NGO
Mr Abdishakur Othowai <i>Special programmes manager</i>	Kenya Red Cross Society	NGO
Mr Samson Okole <i>Head</i>	Rice Farmers’ Association, Ahero	Association
Dr Godfrey Ogonda <i>Programme officer</i>	Osienala (Friends of Lake Victoria)	Association

Appendix 2 Kenya advisory group

Name	Organisation
Dr Cynthia B Awuor	Care International, Kenya
Dr Christopher Gakahu	United Nations Development Programme, Kenya
Mr Mike Harrison	Department for International Development, UK
Dr Marko Lesukat	Care International, Kenya
Ms Vivianne Ngugi	International Development Research Centre, Regional Office for Eastern and Southern Africa
Ms Elvin Nyukuri	African Centre for Technology Studies, Kenya
Mr Victor Orindi	International Development Research Centre, Kenya

Appendix 3 Methodology overview

*Kenya Talks Climate* employs a qualitative research design. Qualitative approaches – which generate non-numeric data – are particularly useful for exploratory research on topics for which there is little previous research. Through focus groups and in-depth interviews, *Kenya Talks Climate* investigates the meaning that people attach to climate change, and explores how they experience climate-related issues and impacts.

A total of 12 focus groups with citizens and 17 in-depth interviews with opinion leaders were carried out across three locations in Kenya in May 2009.

The three fieldwork locations were selected on the basis of desk research and consultation calls with the Kenya advisory group. The environmental challenges represented in these areas have already been linked to climate change, to some extent, or could be further exacerbated by climate change in the future. Selection also sought to ensure suitable geographic, ethnic, linguistic and urban/rural diversity. The locations selected for research were as follows: Nairobi, Isiolo and Ahero.

Focus group discussions

Focus groups were held with farmers and fishermen, pastoralists and business people, women and men, rich and poor, rural and urban. Given the implications of climate change for certain livelihoods in Kenya, individuals working in fishing and crop farming (Ahero) and pastoralists (Isiolo) were purposefully targeted.

Two focus group discussions were held in each location. The focus groups were single sex with approximately eight participants in each who fell within a similar age range. The age ranges were 18-24 years, 25-34 years and 35-50 years. Age and gender were taken into consideration, in order to facilitate easy conversation among participants.

Participants in each focus group occupied a similar socio-economic class or profession. Socio-economic class was determined based on participants’ income, education and profession in Nairobi; however, it was not possible to determine socio-economic class outside of Nairobi due to limited data on socio-economic indicators. Profession was therefore used as a guide in these areas.

Moderators for each group were the same gender as the participants in the group. In Nairobi, the focus groups were conducted in English and Swahili. In Isiolo groups were contacted in Swahili and Turkana while in Ahero, Luo and Swahili was used, with some participants in these groups also providing limited responses in English.

Structure of the discussions

Moderators used a structured discussion guide to lead the focus groups. This was refined after the *Africa Talks Climate* pilot study in Nigeria during which several improvements were made.

To begin with, participants were shown eight images of nature, including trees, water and the sun, and asked if they had any words to describe the images all together. In this way the discussion guide sought to elicit words used to describe “nature”. The participants were then asked if they had noticed any changes in nature over the course of their lifetimes, and invited to share stories about these changes.

The second set of images shown to participants represented a range of issues that can be linked to climate change. There were 15 such images, showing issues such as drought, crop failure, erosion and flooding. Participants were asked if the pictures had anything in common, and then invited to choose the two images which had the greatest impact on their lives. A discussion of the

chosen images followed.

The next section of the discussion guide introduced the concepts of climate change and global warming, without actually introducing the terms. Two statements were read out to participants.

*Statement 1* Scientists are saying that human beings are causing weather patterns over time to change around the world.

*Statement 2* Scientists are saying that human beings are causing the temperature of the earth to increase.

Participants’ reactions to these statements were discussed. Finally, the terms “climate change” and “global warming” were explored. These terms were intentionally introduced relatively late in the discussion guide based on experience from the pilot study in Nigeria, which suggested that most participants would not be familiar with the terms.

The subsequent sections of the guide explored responses to climate change, barriers and facilitators to environmental stewardship,

rural-urban migration and the potential role of media.

With the exception of Nigeria, the discussion guide was the same for all *Africa Talks Climate* countries. It was translated into local languages through a consultation process with the moderators who spoke those languages.

In-depth interviews

The research team conducted 17 in-depth interviews with opinion leaders to elicit the views of policymakers and opinion formers on the issue of climate change. These opinion formers were individuals with a particular interest in climate change, or an informed opinion from a certain field, region or subject area within the country. Interviewees were selected based on desk research, and consultation with the local advisory group and local researchers.

Opinion leaders were selected from six different sectors, according to a quota. The sectors were: government, the media, the private sector, religious institutions, local and national associations (for example, farming associations) and NGOs and academic institutions. In Kenya, the quota was achieved for each sector.

Sector	Quota	Achieved in Kenya
Government (3 national; 2 local)	5	5
Media	3	3
Private sector	3	3
Religious leaders	2	2
Local associations (such as farming associations)	2	2
NGOs, academics	2	2
Total	17	17

In Kenya, as in all *Africa Talks Climate* countries, every effort was made to speak to the climate change focal point at the national government level. The remaining ministries were selecting according to the ways that climate change played out in the country. In Kenya, representatives from the Ministry of Environment and Mineral Resources, the Ministry of Agriculture and the Ministry of Energy were interviewed.

In the media sector, representatives were sought from radio, television and print media. Representatives from the state-owned

and private media were consulted.

In the private sector, a timber company, a telecommunications company and an association representing the tea industry were represented.

At the local government level, locally-elected representatives from Ahero and Isiolo were interviewed.

Religious institutions were represented by interviews with the Islamic Foundation based in Isiolo and a representative of the Anglican Church of Kenya.

The two associations represented were an association of rice farmers, and a group focusing on environmental issues around Lake Victoria.

Finally, representatives from two NGOs, one focusing on the environment and one on disaster relief, were interviewed.

*All the opinion leaders interviewed gave permission for their reflections and opinions to be used in Africa Talks Climate reports.*

Analysis and reporting

All focus group discussions and interviews were recorded and transcribed. Transcripts were produced in the original language of discussion by the focus group moderators. For the groups conducted in Swahili, Luo or Turkana or a mixture, these transcripts were then translated into English. Translators first read through the local-language transcripts for inconsistencies and anomalies which, if found, were raised with the moderators. The team of moderators then returned to the original transcripts and, if necessary, the audio recordings, to clarify the issues raised. The English and local language transcripts were reviewed by Trust staff fluent in the relevant languages and refined several times to ensure accuracy.

A similar process was used to produce transcripts for the in-depth interviews, although many of these were conducted in English.

The focus group transcripts and interview transcripts were systematically coded by a team of researchers, using a common list of codes. This list was generated through a detailed consultation process that began with open coding. Inter-coder reliability ultimately averaged 0.92. Coding enabled the researchers to group the data according to emerging themes. Each code was then analysed to pull out the insights and findings.

Guiding principles

*Africa Talks Climate* endeavoured to adhere to the following guidelines:

- This research initiative will be led by BBC WST’s Research and Learning Group (R&L) researchers working across Africa.
- R&L London will co-ordinate the research and provide support for research design, analysis and reporting.
- Informal advisory networks will be established at a strategic and country level to guide research approach, delivery and reporting.
- Thematic training will draw on local academic or other institutions with expertise and local knowledge such as the International Development Research Centre (IDRC).
- All moderators and interviewers undertaking fieldwork will receive intensive skills-based and thematic training on climate change.
- Any research agency employed to help deliver fieldwork will employ local researchers/moderators and their work will be quality controlled by R&L.



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