Africa Talks Climate

Executive Summary

RESEARCH REPORT

BBC WORLD SERVICE TRUST

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Africa Talks Climate

The public understanding of climate change in ten countries

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Local women take part in fieldwork discussions, Darou-Mousty, Senegal

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[1]. They also carried out interviews with nearly 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 asks four main questions:

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

How do African citizens explain and respond to these changes?

What do African citizens know and understand about global climate change?

What do African opinion leaders know and understand about climate change and what are their views on their country's responses to climate change?

African citizens are least responsible for climate change and will be among the most affected; yet, according to this research, they are poorly informed about the issue. Governments, NGOs and the media need access to information and knowledge on the issue that is credible and specific to their own contexts if they are to communicate and engage effectively with citizens. Citizens need to understand the implications for their lives to be able to respond effectively.

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. A strong, collective and context-specific understanding of climate change is also necessary if African citizens and their representatives are to communicate their own perspectives and demands to the rest of the world.

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.

1 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.

Providing people with relevant information so they can address the issues affecting 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, BBC WST 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 a policy briefing and individual country reports from *Africa Talks Climate*, visit **www.africatalksclimate.com**.

Key findings

African citizens are the least responsible for generating the greenhouse gases that are contributing to global climate change. Yet this research, involving discussions with over 1000 people and nearly 200 opinion leaders across ten countries in Africa, reveals that Africans[2] are already struggling with challenges posed by a changing climate. For many, particularly those outside urban centres, understanding of human-induced global climate change is limited. People frequently say that they lack the information and resources to cope.

- There is a near universal sense across all the people interviewed that the 'weather' is changing and these changes are already affecting people's lives. The term 'climate' is rarely used to describe these changes, outside South Africa and francophone DR Congo and Senegal.
- People report less predictable seasons (particularly the loss of distinct rainy seasons), increases in temperature, and more frequent and intense droughts and floods. They are also very aware of environmental degradation. This awareness reflects the immediate impacts of these changes on people's daily lives. Although people have existing methods to cope with their changing climate, many, particularly rural populations, feel that their strategies are failing in the face of increasingly unpredictable weather.
- Many people in rural areas speak of migration as the only viable option to respond to their changing climate. Some people say that they have left rural areas because their livelihoods have become unsustainable. Others say that if the situation worsens they too will have to migrate.
- Most Africans do not connect changes in the weather or environment to the global causes of climate change. Instead there is a strong tendency for people to hold themselves individually or collectively responsible for these changes, which they blame on local environmental degradation. There is little awareness that the climatic problems facing Africa – now or in the future – are likely to have causes that extend beyond their own continent.
- In the absence of an understanding of global climate change, many people draw on their existing knowledge and beliefs to explain the unpredictable weather. For example, many think that deforestation reduces local rainfall and increases the occurrence of drought, and some incorrectly believe that smoke from cars and factories damages the ozone layer, making it hotter.
- Some Africans understand changes in the weather in relation to their spiritual beliefs – particularly women and rural populations. The potential role of religious and faith leaders in informing and catalysing responses to climate change would appear to be substantial.
- Climate change terminology is poorly understood and often does not have standard translations in African languages. Existing translations do not clearly convey the concept. African opinion leaders agree that terminology is one of the greatest barriers to public engagement with climate change in Africa.
- Although public awareness of climate change *terminology* is generally higher in urban centres and in South Africa, the concepts are often not well understood. Most are uncertain about the processes driving climate change, and many incorrectly conflate it with ozone depletion. People who understand climate change tend to associate it with remote global impacts as opposed to impacts that are specific to Africa or their own country.
- Local leaders from government and the community, including religious leaders, 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. Yet they tend to be some of the least informed about global climate change; those who are helping their communities respond to the changing climate rarely refer to these efforts as climate change adaptation strategies.
- The media, and in some countries, schools, are the main sources of climate change information for most people. However, people working in media assert that they lack sufficient knowledge, resources or experience to inform audiences effectively. Some also perceive climate change exclusively as an environmental issue, which is not an audience or an editorial priority.
- Some opinion leaders compare the communication challenges posed by climate change to those formerly presented by HIV and AIDS. They are concerned that, as in the early days of HIV and AIDS dialogue, the most affected groups do not have access to information about the issue. They emphasise the importance of using accessible terminology and discussing climate change in a locally relevant way.[3]
- Many people criticise government at all levels for a lack of visible action on climate change and the environment. The government representatives interviewed say that more needs to be done to tackle the impacts of climate change but a lack of funding and adaptation support from industrialised nations is hampering efforts.

This report is divided into four parts. The first provides an overview of the changes that African citizens have experienced in their weather and climate over time. The second outlines the key weather and environment-related issues which people say directly impact their lives. The third focus on what people know about global climate change. It examines people's understanding of climate terminology and concepts, and finally presents seven key themes which shape people's understanding of the science of climate change. The final section of the report explores what African opinion leaders know and think about climate change, and concludes with recommendations.[4]

2 A note about language: While this report refers to the views of 'Africans,' it only represents those African people who participated in the research. Research participants have sometimes been referred to as 'Africans' for ease of reading.

3 Much of the early media reporting on HIV and AIDS in Africa used highly scientific language which provided little insight into the already apparent reality. Discussions about the issue were not able to be translated into language easily understood by the most affected segments of the African public.

4 For country-specific key findings and recommendations see individual country reports available at www.africatalksclimate.com

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. It is predicted that Africa will be one of the regions worst affected by climate change.[5] 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.[6] 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.[7] Indeed, there have been recent food crises in Kenya, Uganda, Somalia and Ethiopia.[8] 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.[9] Increased incidences of cholera and meningitis are also thought to be linked to variations in climate. Diarrhoea, asthma and stroke affect more people when temperatures rise.[10]

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*".[11]

The links between environmental degradation, political tension and conflict have been highlighted for many years.[12] 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.[13]

While Africa will be among the regions worst affected by climate change, the continent is not a significant emitter of greenhouse gases. African fossil fuel emissions account for only 3.7% of the global total. Fossil fuel emissions per capita in Africa are also among the lowest in the world. The only African country with significant emissions is South Africa, which ranks 13th in the world for fossil fuel emissions.[14] However, emissions from Africa are increasing.[15]

Perception 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 there 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.[16] 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,[17,18] which may point to a lack of information concerning the relevance and implications of climate change 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.[19, 20, 21] Lack of information regarding climate change is seen by some as a critical barrier in dealing with its effects.[22, 23] 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.[24]

A lack of public understanding of climate change is not exclusive to Africa. A review of research on the perceptions of climate change in the UK reveals public understanding as "patchy, but generally poor".[25] Similarly, research in the United States has shown that people often have basic misconceptions about climate change.[26, 27] 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.[28, 29] 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 is seen to have a critical role to play in awareness-raising and information provision on climate change, and disaster preparedness,[30] 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.[31] 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 non-news media (such as talk shows, dramas and public service announcements) can play in providing information to audiences on climate change.

5 Of the 20 countries in the world most vulnerable to climate change (in socio-economic terms), 15 are African. See: Global Humanitarian Forum (2009) Human Impact Report: Climate Change, *The Anatomy of a Silent Crisis*

6 IPCC Fourth Assessment Report: Climate Change 2007

7 Stern, Lord N, *Stern Review: The Economics of Climate Change* (2006).

8 'UN set to double Kenya food aid' (BBC News, 18/05/09); 'Ethiopia appeals for urgent aid' (BBC News, 12/06/08); 'Somalia 'worst drought in decade'' (BBC News, 13/05/09); 'Uganda facing food crisis' (The *Guardian*, 06/07/09)

9 "Up to 80 million more people will be exposed to malaria in Africa if warming extends to 4C": Stern, Lord N, op cit

10 IPCC Fourth Assessment Report, op cit

11 *The Anatomy of a Silent Crisis*, op cit

12 Greenwar: Environment and Conflict, 1991, Panos

13 Examples of climate change-related conflicts 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": *The Anatomy of a Silent Crisis*, op cit

14 South Africa is thought to produce over 40% of Africa's CO2 emissions. Data collected by the Carbon Dioxide Information Analysis Center for the UN, 2007

15 J. G. Canadell, M. R. Raupach, and R. A. Houghton (2009). *Anthropogenic CO2 emissions in Africa*.

16 Research carried out with 3,164 South Africans in 2007, for example, revealed that more than a quarter (27%) of respondents had not heard about climate change.

17 A 2009 BBC World Service poll revealed that 52% of Kenyans and 48% of Nigerians regard climate change as a "very serious" problem.

18 The World Speaks: an Annual BBC Global News Poll, in Association with Globescan, BBC Global News (2010)

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

The findings from this research suggest observable changes in the weather and seasons constitute most Africans'[32] knowledge of climate change; they live with the impacts of the changing climate in their day-to-day lives. However, changes in climate are not noticed by most Africans in isolation from broader environmental changes. Many people are also keenly aware of the deterioration and degradation of the environment and the depletion of natural resources. Indeed, the research reveals that most Africans 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. This report, while focusing on climate change, recognises the complexity of the relationship between climate change and environmental degradation.

Findings across countries were broadly similar, with the exception of South Africa, where findings were markedly different.

Stories of change

Africans have noticed changes in their weather patterns. They talk of a loss of distinct seasons, erratic rainfall and increases in temperature. Many are feeling the impact of these changes on their lives and livelihoods. An older woman from Dharito in Ethiopia describes how she experiences the changing seasons: *"In the past it used to rain in July but now the rain comes unpredictably"*. A man from Lagos explains that the Harmattan (a dry, cold inland wind) no longer arrives when expected: *"Harmattan has also changed. We used to experience it from December to January, but now in April we still experience it."*

Unreliable rainfall is worrying people across Africa. A Sudanese woman from El Obeid comments, "*the autumn rainy season has become shorter than it was in the past. People here are badly affected by the lack of water… the farming here is dependent on rain."* People say that rainfall patterns are becoming less predictable and in some places, when the rains do come, they are stronger and more intense than they used to be, spoiling crops and washing away fertile soil. *"When it does rain now, it rains too much,"* says a woman from Soroti, Uganda. *"It destroys crops and they do not grow properly and so hunger comes up."*

People in many countries also emphasise that temperatures are higher than they used to be. An Ethiopian woman from Bahir Dar remarks, *"People are saying that it is better if the name of Bahir Dar (by the seashore) is changed to Esat Dar (by the fire)."* The rise in temperature is said to be affecting water sources. In Ethiopia, Ghana and Tanzania, people mention lakes and other sources of water drying up and even disappearing. *"Our rivers have dried up because the sun is getting hotter,"*

Research methods

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 group discussions 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.

Throughout 2009[33] the BBC World Service Trust systematically gathered the views of farmers and fishermen, pastoralists and business people, women and men, rich and poor, rural and urban. The findings draw on focus group discussions with more than 1,000 people in DR Congo, Ethiopia, Ghana, Kenya, Nigeria, Senegal, South Africa, Sudan, Tanzania and Uganda.

Within each country the fieldwork locations were selected in consultation with a local advisory network. The environmental challenges represented in fieldwork locations have already been linked to climate change, to some extent, or could be further exacerbated by climate change in the future. Selection of fieldwork locations also sought to ensure geographic, ethnic, linguistic and urban/rural diversity.

The focus groups were single sex, and contained approximately eight participants. Within each group participants were of a similar age and socio-economic class or profession. Moderators were the same gender and spoke the same language as participants.

Discussions were carried out in a total of 25 languages.

To understand the wider context of climate change, the research also included 188 in-depth interviews with policy-makers, religious leaders, business people, journalists and civil society representatives.

Verbatim local language transcripts and English translations were produced for each focus group and interview. These were systematically coded by a team of international researchers to draw out the insights and themes presented in this report.

The advisory group

The BBC World Service Trust and the British Council set up an informal advisory network of climate change and development experts to inform *Africa Talks Climate*. An advisory group was established in each country to provide technical knowledge on climate change and insights into the local climate context in that country.

Advisory group members were recruited during the initial phase of the research. The group offered informal guidance in three areas: firstly, regarding specific climate change issues facing Africa; secondly, advice on fieldwork and site selection; and thirdly, feedback on the research findings and reporting. See **www.africatalksclimate.com** for the full list of advisory group members.

19 We Are Managing!: Climate Change and Livelihood Vulnerability in Northwest Ghana by K Van der Geest, (2004), Leiden

20 The History of Environmental Change and Adaptation in Eastern Saloum, Senegal: Driving Forces and Perceptions, by C Mbow et al (2008) in Global Change and Planetary Change

21 Farmers' Perceptions of Climate Change and Agricultural Adaptation Strategies in Rural Sahel, by O Mertz et al (2009) in Environmental Management

22 Micro-Level Analysis of Farmers' Adaptation to Climate Change in Southern Africa, by C Nhemachena and R Hassan (2007)

23 The Perception of and Adaptation to Climate Change in Africa, by David J Maddison (2007), World Bank Policy Research Working Paper No. 4038

24 Climate Change in the American Mind, by A Leiserowitz et al (2009), Center for Climate Change Communication, George Mason University

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

26 Weather it's climate change?, by Ann Bostrum and Daniel Lashof (2007), in Creating a Climate for Change, eds Susanne C Moser and Lisa Dilling

27 What Do People Know About Global Climate Change? by A Bostrom et al (1994)

28 Fear Won't Do It: Promoting Positive Engagement With Climate Change, by S O'Neill and S Nicholson-Cole (2009), in Science Communication 30(3): pp 355-379

29 Creating a Climate for Change, eds Susanne C Moser and Lisa Dilling

30 UNEP Climate Change Strategy 2010-11, www.unep.org/pdf/UNEP_CC_STRATEGY_web.pdf

31 Time to Adapt? Media Coverage of Climate Change in non-Industrialised Countries, by M Shanahan (2009)

32 While this report sometimes refers to the views of 'Africans' for ease of reading, it only represents those African people who participated in the research.

33 The Nigerian pilot study was conducted in 2008.

explains a woman from Berekum, Ghana. Elsewhere, people describe crops failing as a result of the increased temperatures: *"We plant,"* explains a Congolese woman from Kinzavuete, *"but things don't grow because the earth is too hot… potatoes, bananas and plantain don't grow any more."* Higher temperatures are also associated with drought and desertification, as a Ugandan man from Kampala explains: *"There were always places on the shores of Lake Victoria that were known for being like deserts, but these days the desert-like environment is almost all over."*

Many Africans have noticed the deterioration of their surrounding environment. People say that urban areas are becoming dirtier, more crowded and more polluted. A South African woman from Cape Flats gives a vivid example of air pollution: *"I was sitting with my cousin… and we had an overview of the Cape Flats, and I promise you there was a cloud hanging over the area... Since the late nineties it's really become worse."* Some lament that there is less greenery and wildlife around urban areas than there used to be. In rural areas, people worry that soils are less fertile, and that forests have disappeared: *"All the area here in Debay was covered with trees when I was young,"* recalls a male farmer from Debay Tilat Gin, Ethiopia. *"Both the lowland and the highland were all covered by forest… But, now everything has changed, all the trees have been cut."*

People are concerned about crop failure, loss of livestock, food scarcity and illness resulting from these changes in weather and environment.

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

Many of the weather and environmental changes that Africans have observed are potentially linked to climate change, or could be exacerbated by climate change in the future. However, people rarely see these changes as impacts of global climate change. To understand the extent to which people connect local problems to global 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 the issues that predominately affected them. A set of 15 images were used to help facilitate the discussion[34].

Participants, as a group, chose images representing the problems which had the greatest effect on their lives.[35] Efforts were made to understand how people were interpreting the images – for example, various images prompted discussions of drought. Subsequent discussions sought to understand attitudes towards theses issues and the perceived causes, effects and responses.

Figure 1 shows the issues selected in each country. They tended to be linked to the struggles people face in their daily lives. Farmers and pastoralists talked about drought, crop failure and bush fires. Traders and fishermen talked about threats to their livelihoods, such as decreased fish stocks and erosion. Flooding and pollution were issues for urban dwellers.

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

With the exception of DR Congo, drought was of particular concern to those in rural, and to some extent peri-urban areas[36]. In South Africa, drought was only discussed in rural areas. Given that many Africans depend on rain-fed agriculture, people are concerned about drought, and water is seen to play a crucial role in day-to-day life. *"Water is part of prosperity,"* says a Senegalese woman from Darou Mousty. *"If there is no water, nothing will prosper."*

Subsistence farmers, pastoralists and those who rely on farming to buy and sell food in the marketplace talk about drought as a threat to their survival. Many say that drought causes crop failure and food and water shortages. *"During adolsa [drought] we eat if we find food,"* explains an Ethiopian woman from Geleha. *"If we do not get food, we sleep on empty stomachs."*

God is often thought to play a role in drought. This idea is especially widespread among rural women. A female agro-pastoralist from Dharito, Ethiopia is typical of many rural women in saying, *"It is God who has made the land dry. It is not humans."*

Deforestation

Most Africans express concern about deforestation. It is of particular concern to those in rural areas. They describe deliberate burning of forested land and the felling of trees for charcoal and firewood, although they rarely mention commercial logging.

Many people believe that drought is primarily caused by local deforestation. They say that the loss of trees has affected rainfall patterns, depleted local water sources, and contributed to a loss of soil moisture. A man from Ahero, Kenya 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."*

Although many people are concerned about deforestation, some of them also explain that cutting down trees is necessary for survival. A woman from rural Kinzavuete in DR Congo explains, *"now that we have cut down the trees, we will be able to create fields so that we can survive. Sometimes it is good to cut down the trees – otherwise if you plant manioc [cassava] or bananas there is a risk they might not grow"*.

Flooding

Across the ten countries, people say that floods are affecting their lives. Flooding is a particular concern for residents in urban and peri-urban areas, principally in coastal cities. They say that flooding affects travel and transportation infrastructure and some are concerned about property damage. Only a few mention flooding as a potentially catastrophic threat, such as a man from Moshi, Tanzania, who recalls that *"people lose their lives. Residents and sometimes cars can be washed away by water. It is something affecting us so much."* People usually blame floods, whether coastal or rain-fed, on a lack of urban planning, poor environmental management, unlawful construction and inadequate waste disposal.

Among rural communities where flooding is a concern, including communities on the Kano Plains in Kenya and

34 The images represent a range of issues that can be linked to climate change.

35 Participants also had the option to suggest other issues affecting them, that they felt were not covered by the 15 images. In Nigeria, the pilot study, issues and images were pre-selected.

36 In Nigeria, drought was of particular concern to farmers and herdspeople in Jigawa in the context of the pre-selected issue of desertification.

Figure 1

Key issues by country

Senegal	Ghana	DR Congo	Sudan	Ethiopia
Drought and lack of water; bush fires and deforestation; flooding, waste and drainage; scarcity of fish; destruction of mangrove forests; air pollution	Deforestation and bush burning; drought and crop failure; pollution and poor sanitation; flooding	Deforestation; crop failure; erosion; flooding	Drought; flooding deforestation and desertification; waste and air pollution	Drought; flooding; rubbish and air pollution

Nigeria*	Uganda	Kenya	Tanzania	South Africa
Coastal flooding; desertification and erosion; gulley erosion; gas flaring and oil contamination	Deforestation and bush burning; drought, crop failure and livestock loss; soil erosion; flooding; pollution and poor sanitation	Drought and deforestation; flooding; sums, rubbish and congestion	Drought and deforestation; congestion, pollution and flooding in urban areas; declining fish stocks and illegal fishing	Pollution from cars; industrial pollution; waste disposal; bush fires and crop failure; floods, storms and erosion

* In the Nigeria pilot study, the issues were pre-selected by the research team following desk research and conversations with NGOs working on climate change in Nigeria. Based on the Nigeria pilot study, the discussion guide was modified for the subsequent nine Africa Talks Climate country studies: local issues discussed were selected by participants rather than pre-selected.

in Central Equatoria in Southern Sudan, people tend to see flooding as a seasonal occurrence linked to the rains and overflowing rivers. They are worried about the increased intensity and frequency of floods

Urban issues: waste, pollution, and overcrowding

Africans in urban and peri-urban areas are particularly concerned about poor sanitation, waste management and pollution from vehicles and industry. People tend to view these problems under the umbrella of "pollution" and often see them as a result of overcrowding. A woman from Nairobi, Kenya, explains that in cities *"[There is] 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."*

> **"The farming here was unsuccessful because of the drought. We could not follow the farming cycle. It has weakened the soil"**
>
> **WOMAN FROM EL OBEID, SUDAN**

> **"There is nothing we can do. We just wait for the rain... we will wait for the rain to plant"**
>
> **WOMAN FROM DEBAY TILAT GIN, ETHIOPIA**

Some people are concerned about breathing in the air from rubbish piles, cars and overflowing sewage. *"We have so many diseases lately,"* says a woman from Kampala, Uganda, *"and we believe they have come as a result of… the pollution that is brought about by rubbish and stoves and cars; the sewage as well." "When you come to Soweto there is traffic everywhere [and so] smoke is everywhere [too],"* explains a woman from South Africa. *"The smoke and gas fumes [from] the roads [give] you headaches that are unexplained… funny coughs… and blurred vision."*

People attribute pollution and poor sanitation to the carelessness of growing urban populations, government failure to provide effective waste disposal, and the growth of industry. Urban Africans often feel that their governments and municipalities do not do enough in terms of providing bins and dumps to dispose of rubbish. *"It is the leadership,"* claims a young man from Bahir Dar, Ethiopia, *"they should put a garbage can in different areas."*

Some Africans mention that plastic bags are littering the environment. *"In the past we used paper bags, which decompose, but now we use plastic bags which take a long time to decompose, or don't at all,"* explains a man from Accra, Ghana.

People in South Africa are concerned about emissions from vehicles and industry and their effect on the environment and on personal health. They also link these emissions to climate change. Despite this recognition, South Africans tend to view the destruction of the environment as an inevitable consequence of their own and their country's development.

How are people responding?

Most of the current response strategies that Africans describe are reactive. In many cases, they say that it is difficult for them to address the causes of the problems they face. They also feel that individual actions have little impact when problems are beyond human control, or are caused by large groups of people. Consequently, most citizens think that their governments need to step in; although some describe community mobilisation around certain issues.

Most people tend to react after problems have manifested themselves, rather than preventing and preparing for them. For example, in response to flooding, people describe digging channels to redirect flood-water, unblocking drains, and moving household items to places of safety. *"Whenever it rains, we move our things. Even our TV is placed above the water level so that it does not get spoilt,"* describes a young man from Erekoto Epe in Nigeria.

Likewise, in the face of drought, people in rural communities describe resorting to unclean water sources, relying on family for support, and, in some cases, diversifying their livelihoods (e.g. by supplementing their income through the trading of small goods.) In Sudan, as a result of drought, people say they have been forced to abandon their traditional farming cycles and re-plant crops in the same place, which degrades soil and further reduces yields. *"The farming here was unsuccessful because of the drought. We could not follow the farming cycle,"* describes a woman from El Obeid. *"It has weakened the soil."*

Many also turn to prayer, particularly women in rural areas. *"We gather in church and pray for rain..."* says a young woman from Debay Tilat Gin in Ethiopia. *"There is nothing we can do. We just will wait for the rain… we will wait for the rain to plant."*

Most people say they would be forced to migrate if the problems they were facing became more severe or frequent. *"If we farm for a season without any results,"* says a man from Mbacke in Senegal *"without any support we can only abandon the field to find refuge elsewhere."* Those in rural areas say they would move to the cities, but interestingly a small number of people in cities also say they would move to rural areas if the urban problems they were facing became worse. People rarely suggest coping strategies other than migration if problems persisted over a long period of time.

At the heart of people's responses is a belief that individual actions have little impact on problems caused by large groups of people.[37] Many Africans are able to suggest preventative and pre-emptive response strategies to climatic and environmental challenges, but feel powerless to ensure they are implemented on a wide scale. For example, a woman in the Senegalese city of Ziguinchor says, *"whenever it stops raining, I sweep the area in front of my house [to eliminate the rubbish that might clog drains],"* but laments, *"nobody joins me in this initiative."* Similarly, a woman from Kampala, Uganda says, *"we live with [urban pollution] because [there is] nothing we can do."*

Some Africans are quick to point out that many preventative response strategies are not practical for people struggling with more immediate day-to-day concerns. For example, most Africans believe that trees attract rain, and so think that preserving and planting trees will bring an end to drought; however, people can't see how Africans can avoid cutting down trees for firewood and charcoal. As a male farmer from Mpwapwa in Tanzania explains: *"I might be aware that my brother or neighbour burns charcoal… [but if] I go ahead and report him I will be destroying his family and that's what he depends on."* South Africans, who understand the processes of climate change somewhat better, are particularly pessimistic about addressing its causes. *"How can you go and tell a thousand people they mustn't work [in a factory] because they are polluting the air?"* asks a man from Durban.

People's sense of individual powerlessness means that they place a great deal of responsibility for action on their governments. *"I think the government needs to step in,"* says a woman from Accra, Ghana. In some cases, people say that governments are already supporting tree-planting initiatives and other small-scale projects, but in general, they talk about what the government should be doing. In particular, people say that the government should: improve and maintain drainage systems; remove waste and designate sites for waste disposal; build more durable flood defences; regulate urban planning and prevent construction that blocks drains and waterways; provide food, shelter and alternative areas to live for those displaced by flooding; regulate deforestation; punish those who start bush fires; spearhead tree-planting initiatives; create jobs to provide people who have been affected by drought with alternative sources of income; build new roads to ease traffic and air pollution; decrease the number of vehicles on the roads; prevent old vehicles from being imported; address overpopulation; and finally eliminate government corruption.

Citizens also look to the government for information provision. In particular, they want the government to: improve weather forecasting; educate people about the importance of trees; teach people how to deal with floods; provide information on what types of crops to plant and when to plant them; and engage agricultural experts for advice. Some people also mention that NGOs are providing adaptation support. For example, in Kenya an NGO is helping to dig bore-holes.

In only a few cases do people mention community mobilisation. For example, a man from the Democratic Republic of Congo says that a community group in Kinshasa has taken action to clear its local area of waste, and woman from Bahir Dar in Ethiopia says communities should organize themselves and bring issue to the attention of local leaders. *"We must not necessarily wait for the government to do something while our life is endangered; we should act on our own,"* she maintains, however, such agency is the exception rather than the rule.

> **"How can you go and tell a thousand people they mustn't work [in a factory] because they are polluting the air?"**
>
> **MAN FROM DURBAN, SOUTH AFRICA**

What do Africans know and understand about global climate change?

Terminology and translation

One of the objectives of the research was to find out what African people know and understand about climate change. One of the principal barriers to understanding climate change is climate change terminology. 'Climate' is a word that is difficult to translate into many local African languages. As special advisor to the Senegalese Prime Minister Youssoupha Diallo points out, *"first of all, it is a conceptual problem... how would we say climate in our languages?"* In some languages there is no translation for climate change. In Lingala, for example, the translated term literally means 'weather change'. In other languages, the word for 'weather' itself may have multiple connotations which introduce a barrier to understanding. The Amharic term, for example, can also be translated as 'change in the air'. Sometimes the only way to convey weather is to list the different elements of weather; in Bari, the only way to say climate change is 'changes in clouds, rainfall, wind, and temperature, and seasons'.

In many of the countries, most people do not recognise terms for 'climate change' or 'global warming' in either local languages or widely spoken international languages, such as English, French and Arabic. The exception is South Africa, where there is near-universal recognition of the terms in English. Generally recognition of climate change terminology is higher in urban areas. Citizens from the capital cities and larger urban centres in many of the countries tend to give the most detailed descriptions of climate change. Yet most people find the terms difficult to explain.

People who have not heard the terms before, tend to interpret them literally and relate them to their own

37 Large groups of people are usually considered to be those within an individual country or community, because most Africans do not understand that climate change has global causes.

experiences. A typical interpretation of climate change given by one young Congolese woman from Bakwa Nsumpi is *"the changing of the weather and the seasons"*. A student in Jigawa, Nigeria is also typical in describing global warming: *"To my understanding, I think it is when the weather is hot - that is what global warming is."* *"When we talk about climate change,"* a South African man from Grobersdal explains, *"we are referring to when the sun is out and it is hot, and [then] a few minutes later it is cold – that is climate change."* Such interpretations are not surprising given the translation challenges previously discussed.

> **"I prefer a term [for 'climate change'] that brings together the international term and the local term... because when we change it, we reduce its scope and disconnect ourselves from others"**
>
> **JACQUES BAKULU, CEPECO, DR CONGO**

On the other hand, people who recognise climate change terminology frequently associate the terms with global phenomena such as cyclones in Asia, heat waves in Europe and melting ice caps. Occasionally they make vague mention of the international debate. People who have heard of the terms 'climate change' and 'global warming' frequently say that they learned about them from the media or at school. Some also use the terms 'greenhouse gases' and the 'greenhouse effect' spontaneously, although few give fully accurate definitions of these concepts.[38]

The question of how to communicate climate change terminology is an important one. Opinion leaders such as Jacques Bakulu from CEPECO, DR Congo, suggest that the terms needs to be adapted: *"I prefer a term that… brings together the international term and the local term… because when we change it, we reduce its scope and disconnect ourselves from others. I would like us to use the same term 'climate change', but start with the consequences and negative aspects, so perhaps 'climate change and its consequences'."* Opinion leaders agree that taking climate change out of the abstract and explaining its impacts on people's lives will be critical to public engagement.

Reaction to the concepts

Discussions also explored climate change and global warming, using the following statements.[39]

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.

Most participants agree that human beings are causing weather patterns to change around the world over time. *"It is man who is at the origin of these changes because he abusively exploits nature,"* says a man from Ziguinchor, Senegal. Similarly, people in many countries agree that the temperature of the earth is increasing. A woman from Marangu, Tanzania, is typical in saying, *"When I was young the weather used to be very good, I had never witnessed the kind of heat that we are experiencing now."*

Such changes, however, are predominantly attributed to local destruction and degradation of nature, for example: deforestation, lighting of fires, and pollution from factories and cars. Temperature rise, in particular, is frequently linked with issues of deforestation. Similarly, some people link the changes to population growth and divine will. There is little recognition, however, that the problems they face are likely to have human causes that extend beyond their own continent.

In South Africa there is a deeper understanding of the role that humans play in climate change. It is also widely understood that South Africa as a country, and South Africans as individuals, have contributed to climate change through their reliance on fossil fuels.

Frames of reference

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

- Emphasis on trees
- Will of God
- Ozone confusion
- Air pollution
- Localised heat

Such pre-existing concepts are often referred to as 'frames of reference'[40]. They influence the likelihood that people will accept or reject new information because people process new information by drawing on their existing beliefs, knowledge, and values. Consequently, the five themes – or frames of reference – can function as barriers or as facilitators to effective communication on climate change. Understanding these frames of reference can help communicators in Africa make their content relevant to their audiences.

38 It appears that the 'greenhouse' metaphor may not be appropriate to the African context. However, this question merits further research.

39 These statements were explored before the terms 'climate change' and 'global warming' were discussed. See Appendix 3.

40 Frame Analysis, by E Goffman (1974), Cambridge: Harvard University Press

Emphasis on trees

Africans' understanding of the concept of climate change is shaped by the importance they place on trees; in particular, they believe that trees attract rain. A woman from Marangu, Tanzania is typical in saying: *"As we all know, forests… attract rain, so if the forests are cut down, there is drought."* While scientists do not necessarily agree that trees attract rain, they are agreed that forests recycle rain through a process called evapotranspiration; this means that water vapour coming off the leaves of trees evaporates and falls again.

Some Africans possess detailed knowledge of the role that trees play in the absorption of nitrogen and carbon dioxide. A woman from Kinshasa, DR Congo, explains that they *"give us purified oxygen and remove nitrogen, and also provide shade and beauty"*. However, there is little awareness that trees act as carbon sinks to reduce the greenhouse gas emissions that cause climate change. Africans without this knowledge still appreciate the *"freshness"* and *"coolness"* that trees provide by cleaning the air and creating shade.

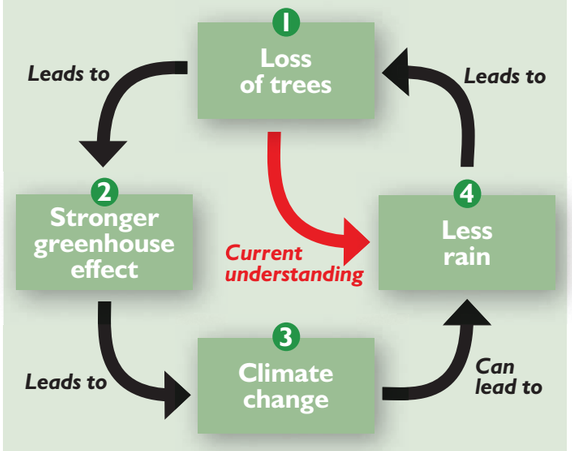
In some countries, people see trees as a means of protection against extreme weather, such as flooding, landsides and high winds. A Nigerian woman is typical in explaining that *"cutting down trees... allows heavy wind that blows off houses' roofs."* A woman from Tampaala, Ghana similarly notes that trees *"act as wind barriers."*

The implications of the emphasis on trees are both positive and negative. On the one hand, people may be motivated to plant and preserve trees, which is good from a climate change perspective, and from an environmental perspective. On the other hand, their understanding could provide a false sense that all climatic problems, such as drought and desertification, can be solved at a local level through tree-planting. A man from Tendouck, Senegal is typical in his belief that *"if [the forest] lives, the rain will fall as it should."*

Given that trees and their importance are a strong presence in the African consciousness, they could provide a useful entry point for raising awareness of climate change and introducing new information and locally relevant adaptation strategies.[41]

Figure 2

Understanding how trees can affect rain



Comprehensive understanding
Deforestation prevents trees from storing carbon, and releases the carbon they have stored back into the atmosphere. The result is a higher concentration of greenhouse gases in the atmosphere, which in turn has a heat-trapping effect (the greenhouse effect). This leads to warming and other climatic changes, including less rainfall in certain parts of the world.

Current understanding
Fewer trees in a specific location directly affects local rainfall. (In addition, many people relate loss of trees to an increase in local temperature and wind, and a decrease in soil quality).

The will of God

Some people link changes in the weather to their faith regardless of region. *"The secret is with Allah,"* explains an older woman from Afar, Ethiopia. *"Allah brings the rain. The one who causes the drought… is Allah."* In general, the will of God is mentioned most often by women, people in rural areas and people with a lower level of education.

Extreme weather events in particular are often viewed as punishment for human sin. *"[God] punishes people because we do bad things,"* says a young woman from Dakar, Senegal. *"He shows his strength with the hurricanes and storms."*

Religious faith, however, does not necessarily preclude acceptance that human beings can affect the weather. A man from Bakwa Nsumpi, DR Congo, explains: *"When God created the world it was perfect, but humans are causing [the changes we have observed]. When we cut down trees for example, we upset the rains."* Many are able to hold simultaneous beliefs that weather change is caused by God and humans. An Ethiopian man from Mille is typical in asserting that, *"According to the Qur'an, it is Allah's punishment. The other reason is due to cutting down of trees."*

Some, on the other hand, believe that climatic change is *"out of their hands"*. This is especially true of those in rural communities. *"Heavy wind… is from God, so we can only pray for the relief of it but no one can stop it"*, says a farmer from Jigawa, Nigeria.

Finally, some people feel that there are other supernatural causes for extreme weather. A few, for example, speak of the sea as a goddess (Nigeria) or a mermaid (South Africa), whose anger can unleash flooding and destruction.

Because of the importance of religion for many Africans, it is important to be sensitive to people's faith when communicating about climate change. Faith leaders themselves can be powerful allies in climate change communication, as ideas of environmental stewardship are present in many religions.

41 South Africans place less emphasis on the role of trees in climate change. This recommendation is therefore less relevant for South Africa..

Ozone confusion

Those African citizens with some awareness of the science and terminology of climate change often confuse it with stratospheric ozone depletion. Most people who make this mistake incorrectly attribute increases in temperature to ozone holes. They believe that holes in the ozone layer allow more sun to reach the earth, which makes it hotter. A man from El Obeid, Sudan, is typical in saying that humans *"are destroying ozone layers and causing a lot of global warming"*. Others think that the ozone layer causes global warming by trapping heat. A man from Cape Flats, South Africa, explains that, *"When they say greenhouse [effect] it means that the ozone layer starts to work as a greenhouse and traps heat, and the earth starts to get warm."* Finally, many inaccurately identify the activities most responsible for climate change as being responsible for ozone depletion.

> **"When they say greenhouse [effect] it means the ozone layer traps heat, and the earth starts to get warm"**
>
> **MAN FROM CAPE FLATS, SOUTH AFRICA**

"Global warming is being caused by the use of fertilizer... flaring of gas, and some other things," claims a man in Lagos, Nigeria. *"When it escapes into the air it causes holes in the ozone level and the ultraviolet sun now penetrates into all the earth."* In reality, although ozone holes allow ultraviolet radiation to reach the earth's surface, which damages human skin, they do not themselves cause an increase in the earth's temperature.

A woman from Kinshasa, DR Congo describes greenhouse gases as *"gases that destroy the ozone layer"*, and similar descriptions are given by others. This confusion may stem from the fact that CFCs are a greenhouse gas, as well as being responsible for stratospheric ozone depletion.

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 is 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. However, the image of *"ozone holes"* clearly appeals to the public imagination. This suggests that future climate change communication in Africa would benefit from similarly visual explanations of climate change, e.g. a growing blanket of heat-trapping gases surrounding the Earth.

Air pollution

Africans' understanding of environmental changes is influenced by their perception of air pollution. Many attribute increased temperatures, changes in weather, and to a lesser extent, ozone depletion, to smoke or gases they can see. They connect pollution to heat, but do not relate pollution to greenhouse gas emissions and the mechanism of global warming. Rather they see, and in some cases feel and smell, pollution changing the air around them. The examples of pollution that people give range from car exhaust to cigarette smoke to the burning of firewood. Yet most Africans are not aware of invisible gases such as carbon dioxide which contribute significantly to climate change.

This is especially true in urban areas, where people see, smell and breathe car exhaust fumes, smoke from industry and fumes from waste, and believe that the pollution they experience affects the air and temperature more generally.

Many Africans believe that the pollution they see increases temperatures. A Kenyan pastoralist explains: *"When the smoke is released in to the atmosphere it affects the clouds and as a result the sun becomes very hot."*

People who are aware of the ozone layer often see visible pollution as the cause of its depletion. *"It is man who is at the origin of the deterioration of the environment, through bush fires, pollution of the atmosphere, smoke which damages the ozone layer,"* says a young woman from Tendouck, Senegal.

> **"It is man who is at the origin of the deterioration of the environment, through bush fires, pollution of the atmosphere, smoke which damages the ozone layer"**
>
> **WOMAN FROM TENDOUCK, SENEGAL**

As well as visual cues like smoke, some Africans interpret the stench of pollution as a sign of environmental degradation. *"I also think littering destroys the weather,"* says a woman from Moshi, Tanzania, *"you find that some trash smells very bad and this interferes with the weather."*

> **"Everyone wants to build factories, and their heat, mixed with the heat of the burning forests, has weakened the clouds that cause the cold and the rain"**
>
> **RICE FARMER FROM TENDOUCK, SENEGAL**

Some Africans also believe that smoke directly causes changes in their climate. *"Change [in weather patterns] is also caused by these factories, when the smoke comes out and goes up to the sky,"* explains a man from KwaDukuza, South Africa, *"the polluted air comes out and mixes with the air in the sky and causes rain which in turn causes floods."*

There is a tendency amongst Africans to associate visible smoke with the concepts of climate change and global warming. As well as cars and factories, people cite smoking cigarettes, bush burning and cooking with firewood as causes of climate change. *"When we smoke we send bad air in [to] the environment, this leads to global warming,"* claims a young man from Kampala, Uganda.

Localised heat

Some Africans discuss global warming in terms of localised increases in ambient temperature. People feel heat emanating from a car's engine, a person's body, or the walls of a building, and infer that such heat has broader implications for the weather.

Some people understand this direct heat, produced in their immediate surroundings, to have an impact on other aspects of the weather, such as rainfall. *"Everyone wants to build factories,"* says a rice farmer from Tendouck, Senegal, *"and their heat, mixed with the heat of the burning forests, has weakened the clouds that cause the cold and the rain."*

Many Africans mention overpopulation as a source of heat. A man from Bagamoyo, Tanzania, expresses a view that many hold: *"When humans were few, temperatures were okay but the moment they started multiplying then that is when the heat started"*. Overcrowding is seen as the main source of heat, as a woman from Bahir Dar, Ethiopia explains: *"For instance, densely populated areas and buildings that have been built closely are causes of warming."* Although ambient heat can indeed increase local temperature, this is not the mechanism by which global warming occurs.

Angelista Nashoni interviews Bertha Minja, Marangu, Tanzania.

Other frames

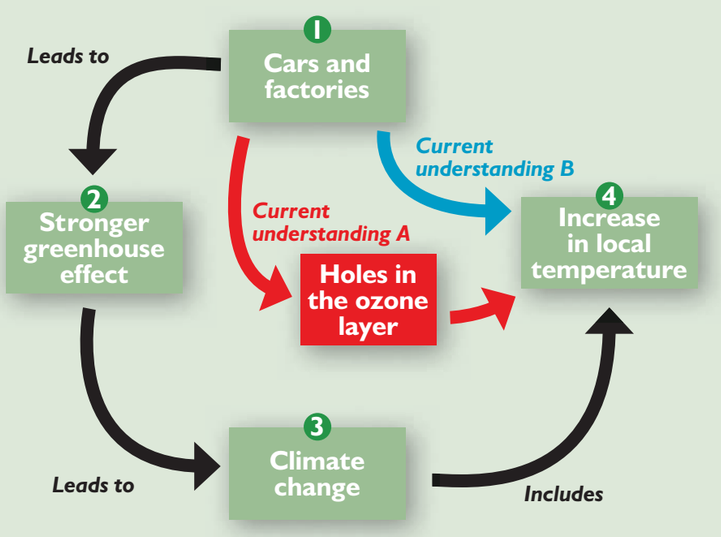
In some countries, other frames of reference emerged. In DR Congo, some people are concerned about the part played by science and technology in changing the weather. Most of this worry about science is expressed in relation to scientific research and its impact on the ozone, although a few people are concerned about the impact of weapons on temperature and climate. In South Africa, climate change is linked to large global events. Throughout South Africa, Ghana and Uganda, many say that as populations grow, they will exhaust available resources.

The five main themes that people mention in discussions on climate change and global warming are: emphasis on trees, the will of God, ozone confusion, air pollution and localised heat. These can function as barriers or as facilitators to effective climate change communication, so it is essential for communicators to understand and take them into account when designing communication strategies.

South Africans also mention a number of additional barriers to engaging with climate change and protecting the environment, most notably that of convenience. Whilst they are aware that activities such as recycling and reducing car use can combat climate change and have a positive impact on the environment, there is a strong feeling that people *"want everything to be convenient"* and are unwilling to make personal sacrifices in their day-to-day lives, especially if it involves their *"time and money"*. Many people are also aware that a number of South Africans *"do not believe"* in climate change or else do not accept the seriousness of the problem, especially those from older generations.

Figure 3

Understanding how air pollution can affect temperature



Comprehensive understanding
Cars and factories emit carbon dioxide – an invisible gas – which increases the concentration of greenhouse gases in the atmosphere. These gases have a heat-trapping effect (the greenhouse effect), which leads to climate change. One aspect of climate change is higher temperatures in certain parts of the world.

Current understanding A
Some people incorrectly believe that ozone holes caused by smoke from cars and factories allow more sun to reach the earth, which leads to warming.

Current understanding B
Some people notice that heat produced by cars and factories directly increases local temperature. (While true, this is unrelated to climate change.)

What do African opinion leaders know and understand about climate change and what are their views on their country's response?

This research draws on 188 interviews with opinion leaders from six different sectors[42], including:

Government: Representatives were consulted from national and local (regional and municipal) government. for example, the Minister of Agriculture was one of the three national government interviews in Kenya. In Ethiopia, the Mayor of Bahir Dar was interviewed as one of the two local government representatives. Every effort was made to speak to the climate change focal point within national governments. Remaining government ministries were selected to represent a range of departments.

Media: Interviewees included journalists, editors and station managers. Interviewees worked in public, private and community media, including radio, television and print outlets.

Private sector: Representatives were drawn from a range of sectors such as agri-businesses, extractive industries, finance and telecommunications.

Religious: Representatives including Priests, Bishops, Imams and pastors (among others) from religious institutions were interviewed.

Local and community: Interviewees representing community interests such as pastoralists, farmer co-operatives and female market traders.

NGOs and academic: Interviewees working on climate change or related issues such as disaster preparedness.

Understanding of climate change varies among opinion leaders. Although knowledge tends to be highest among those from national government, and NGOs working on the issue, misconceptions exist across all sectors. Local leaders, including heads of associations and religious leaders, have unrivalled access to communities and are respected and trusted sources of information. However, they are also some of the least informed about global climate change.

Opinion leaders who know about climate change agree that Africa is already being affected, and there is widespread recognition that industrialised countries are to blame. They are concerned about the local implications for their countries. They say that farmers and pastoralists are the most severely affected by the changing climate, due to the impacts of drought, flooding, and erosion on agriculture. They are also concerned about the urban poor, who are faced with the rising costs of food and fuel. Many say that climate change will impact the continent's water resources, food supplies, economy and public health, as predicted by climate scientists. They also fear future impacts on national security.

Many opinion leaders think that climate change remains an elite debate. They also recognise that the African public does not know enough about climate change, and emphasise the need for more information. They stress the importance of positioning climate change in a way that is relevant to the African public, particularly the poor and marginalised.

42 With the exception of the pilot in Nigeria where more interviews were conducted, a total of 17 or 18 opinion leader interviews were conducted in each country. Opinion leaders were selected according to a predetermined quota for each country: national and local government (5 interviews), the media (3), the private sector (3), religious leaders (2), NGO or academia (2) and local associations (2).

National Government

Understanding of climate change is generally high among national government officials. This includes a keen awareness that global climate change is primarily caused by the developed world, although Africa is among the most vulnerable to its impacts. *"Everybody knows where the problem came from. It came from the gases that industrialised countries threw up into the atmosphere"*, explains Dr. Tewolde Berhan Gebre Egziabher, Director General of Ethiopia's Environmental Protection Agency. *"So, they are the ones to blame for bringing about the climate change, but we're all going to be affected by it."*

With this awareness comes a strong desire to see those countries with the highest emissions take responsibility for their actions. Many also mention that industrialised countries must cut their emissions: *"[We want a] commitment from the developed countries to reduce emissions by 45%,"* declares Mr William Kojo Agyeman-Bonsu, of the Environmental Protection Agency, Ghana. Most national government leaders agree that the developed world has the largest role to play in addressing climate change, through financial aid, advice, technology transfer and capacity building. *"The developed countries need to support the developing countries to shift from dirty development to a cleaner development path,"* says Uganda's lead negotiator Philip Gwage. Kenya's Environment Secretary Alice Kaudia, asserts that *"We need to see that developing countries like Kenya, that are highly vulnerable to the negative effects of climate change, are supported to come out of this situation and to generate national adaptive programs that can ensure that the poorest of the poor are not denied their rights to exist because of the impacts of climate change."*

There is anger from some opinion leaders that climate change funding for developing countries is viewed as aid. *"Many developed countries think that financing or funding climate change activities is donation,"* says Philip Gwage. *"It is not donation, it is paying for pollution. They have polluted."*

Although most national government leaders recognise that Africa's emissions are a *'drop in the bucket'*, they emphasise mitigation when discussing their domestic strategies. However, several government leaders stress the need for adaptation: *"To us the main work should be on how to adapt the conditions of Sudan to the changing climate"* explains Dr. Saadeldin Ibrahim, Secretary General of the Higher Council for Environment and Natural Resources, Sudan.

When discussing their responses to climate change, national government representatives mention researching potential strategies, carrying out assessments, attending and holding climate change conferences, and looking at ways to raise awareness of the issues. They make some references to adaptation projects, mostly tree planting. A few mention working with farmers and water conservation projects, but generally these are works in progress or limited in scale.

Opinion leaders within other sectors are often critical of their national government's response to climate change, and some are unaware of any action they are taking.

NGOs

Representatives from NGOs working on climate change initiatives are among the most knowledgeable. They are concerned that African populations are already being affected by the impacts of climate change and are worried that Africa's changing climate will bring worse problems for its citizens in the future. They are very likely to criticise their governments for failing to provide leadership and resources that will support citizens to adapt to the impacts of climate change.

> *"Third world countries need to be serious with climate change issues and they need to allocate budget to address climate risk reduction and adaptation. And this is something that governments even in the third world should be doing. It should not be just for international donors and international NGOs to address those issues."*
>
> Abdi Shakur Abdullah, Kenya Red Cross

However, most NGO representatives recognise that there are many other calls upon the resources of African governments and that climate change requires funding and resources that are currently in short supply.

Similar to their government counterparts, NGO representatives are likely to attribute responsibility to industrialised countries. They say that these nations are overwhelmingly responsible for the greenhouse gas emissions that cause global climate change, and should act on these responsibilities:

> *"I would like to see all the developed countries that have contributed to destroying the environment fulfilling their promises, for example we are told that America and Japan, who have the biggest factories and are the producers of a lot of products, are the ones who are contributing to the pollution of the environment… they give us promises that they will help or contribute in reducing the pollution of air... but they do not fulfil these promises."*
>
> Josiah Mshuda, DONET, Tanzania

The comments of opinion leaders suggest that NGOs, with their varied connections to wider society, are able to bridge the gap between different sectors as African countries develop their national responses to climate change.

Some opinion leaders from NGOs also feel that there is a need for climate change funding and support mechanisms to be simplified: *"make it easy for developing countries to access money under the different climate change programmes like REDD and CDM"*, says Rose Hogan of the UNDP in Uganda, *"They need to make it far easier and not give the developing countries so many bureaucratic hoops to jump through."* Similarly, Imran Patel, Director of Science & Technology for Economic Impact in South Africa, adds: *"we need to see an agreement on an improved framework that allows countries to get technologies [for] adaptation without the barriers"*.

Local Government

Knowledge of climate change concepts and processes among local government officials is mixed. Deforestation is the most commonly cited cause of climate change, followed by bush burning and general pollution.

> *"I think human beings are contributing a lot, as they cut down trees that God has put into place."*
>
> Galma Wabera, Isiolo Councillor, Kenya

Interestingly, local government officials also mention poverty as a cause of climate change. They stress that people are compelled to burn coal and wood, cut down trees, and overwork the land in order to survive:

> *"In my opinion [the cause] is poverty. The reason is because people don't have work to do; people who don't have licenses go to the forest and cut down trees just to make some money."*
>
> Osei Ramsford, Assembly member, Berekum District Assembly, Ghana

Tree planting is by far the most common environmental activity mentioned by local government officials. Some say they are working to combat local problems that pose an immediate threat, such as flooding. Others say they

The HIV and AIDS comparison

In many countries, opinion leaders compare the challenges of communicating climate change to those of communicating about HIV and AIDS. They are concerned that, as in the early days of the HIV and AIDS dialogue, the most affected groups do not have access to information about the issue. *"You know, this is like the HIV story,"* says Joyce Mhaville, Managing Director of ITV in Tanzania, *"When it started nobody wanted to believe it, 'it's got nothing to do with me, and it's not going to touch me,' but before we knew it, it hit us left, right, and center... And the same thing is going to happen with climate change."*

Opinion leaders use the comparison to stress the need to raise awareness, to use accessible terminology and to make it clear how climate change is relevant on a local level. Nzungu Luntadi, Cabinet Director of the Bas Congo Regional Ministry for Agriculture, Fishing, Livestock and Rural Development, DR Congo, claims that: *"These are phenomena that take time, so you have to be informed about them. You saw how many problems we had to spread the message about AIDS. It's the same thing – if AIDS killed the same day, I think people would understand straight away... But when there is more time, I think people start to underestimate the problem."*

Some leaders, particularly In South Africa, also emphasise that lessons learned from HIV and AIDS campaigns should be applied to communicating about climate change.

"The media has been doing a lot in terms of enlightening the society but we need to do more" Ahmed Set, from the Islamic Foundation in Kenya, explains, *"The media is in Kiswahili and English, and we need to translate this into local languages. These programs should be in vernacular radio stations... There were a lot of campaigns and now everyone understands what HIV/AIDS is and how it affects the society. So what we require is a lot of campaigning on climate change."*

are working on land conservation, providing 'green' farming advice and improving irrigation. Although they are helping their communities respond to the changing climate, they rarely refer to these efforts as climate change adaptation strategies.

> *"We plant trees, make green areas, protect our water bodies, especially our great lake, Lake Tana, and work on proper waste disposal systems."*
> Alemayehu Sewagegn, Mayor, Bahir Dar, Ethiopia

> *"During floods we are trying to make a few trenches, so that when it is flooded the water flows towards the lake or the streams..."*
> Fredrick Oriwa, Councillor, Ahero, Kenya

Several mention that they are enforcing stricter regulations on tree-cutting.

"The unit committees we recruited contacted the GNFS [Ghana National Fire Service] and were trained in fire fighting, and the committee was given the power to arrest and report people who cut trees... and it has actually minimized the rate at which people are cutting and burning trees, and that has helped"

Naa Batholomew Debpuur, Community leader, Betaglu, Ghana

Some local government leaders are concerned about the changing climate creating conflict, as people fight over dwindling resources such as water. Prefect Cheikh Boukunta of Mbacke, Senegal, explains that *"water-related conflicts have already started in some areas"*, and adds *"water is vital and we think that it is inexhaustible. But we are realising more and more that it is becoming rare, and if we are not careful, there will be countries going to war not because of an oilfield, but because they have a common water-related problem"*. In Sudan, the Commissioner of Juba County, Dr. Pius Subek, raises similar concerns: *"as soon as we begin to run short of water then everybody will struggle for usage of what is there, and that will eventually cause either a war between countries or between people"*.

Private Sector

Many private sector opinion leaders express an interest in working to address climate change. However, most are not taking action yet, and those who are usually mention tree planting in the context of corporate social responsibility.

> *"What we are doing now is encouraging farmers to plant trees and we are giving farmers tree seedlings at very subsidized rates."*
> Lerionka Tiampati, CEO of KTDA [Kenya Tea Development Agency], Kenya

Others claim that they have developed their own environment regulations, or that they are attempting to reduce their carbon emissions:

> *"We have automated our coal boilers, which optimises the amount of coal we use. We've done one up in Upington where we've found a 5% per annum savings"*
> Johann Van Wielligh, KWV [Wine merchants and growers cooperative], South Africa

A few are working on cleaner technology, collaborating with the government and other private sector organisations:

> *"We have been contacted by a variety of companies to see what opportunities there are available to efficiently operate; in particular our combustion equipment. One proposal that we are considering is to operate completely on gas, which contributes less to climate change. So we have boilers now which have gas and oil burners. So if gas is available, we can switch only to gas and that will be a major contribution. We also contribute to programmes to develop an inventory for Ghana so that Ghana can report to the UN the volume of CO2 it emits."*
> Mr Mark Quist, Environmental Officer, Tema Oil Refinery, Ghana

Some private sector representatives, particularly those who work in agri-business, are concerned about the direct effects of the changing climate on their businesses. Others are more concerned about indirect effects, such as consumers having less disposable income.

> *"Our business is affected by liquidity... in the pockets of our customers. So if strong measures are not put in place to mitigate the negative effects of climate change, then maybe in the long run it will affect the liquidity of our customers, and maybe [then] our business will be affected."*
> Daniel Nsibambi, Communications Manager, Stanbic Bank, Uganda

Although many private sector opinion leaders blame industrialised countries for climate change, they are unlikely to mention a need for international funding. Some believe that climate change could provide business opportunities.

> *"The western world is the consumer of coffee and they want to be seen promoting better environmental practices and therefore decreasing the impacts on [the] environment. So if you are seen to be involved in these practices, there is a lot of growth in that segment. And people are willing to pay a premium to buy this sustainability and willing to pay the farmers premiums and a bonus as well. So yes, there is a possibility of development."*
> Mr Robert Whitman, Chief finance officer, Kyagalanyi Coffee Ltd, Uganda

Some private sector organisations appear to be equipped to take on mitigation initiatives. For some, this could fall under a corporate social responsibility mandate; for others, it could be another line of business, such as a partnership with government to work on green technology.

Media

Media representatives are aware that they are a main source of climate change information for most people, and many express a desire to cover the issue more than they do at present.

> *"It should not be a one off; we should continue reporting on these issues whenever we get an opportunity and where possible even have a communication strategy, so that our messages are consistent...more people should be trained to talk about this issue to the locals."*
> Mr Gerald Tenywa, Environmental reporter, The New Vision, Uganda

However, people working in the media also recognise that they lack sufficient knowledge, resources and experience to inform and engage audiences effectively. Indeed, much of the media appears to lack a clear understanding of climate change concepts and processes.

Media representatives claim that most African citizens are not aware of global climate change, and that only an elite few fully understand the topic. Many talk about a lack of 'information sharing' with the general public, which they see as a barrier to understanding and effective public responses.

> *"A lot of us are ignorant about this whole concept of climate change. We don't even believe it's real... ignorance is one critical thing that is causing a lot of us to destroy our earth."*
> Mr Kobby Asmah, Political editor, Daily Graphic Newspaper, Ghana

Media in some countries claim that there is a lack of interest in climate change stories, from both the public and editorial viewpoint. This lack of 'buy-in' is sometimes seen to be connected to a lack of understanding of the implications of climate change.

Media representatives often say that reporting on climate change is event-led; it appears if there is a new law passed, a conference, or an environmental disaster to cover. Some point out that, when a climate change expert writes a media story, the language is inaccessible. A few also mention radio programmes that deal with practical farming concerns.

While the media are clear that information about climate change must be disseminated from the national government down to the person on the street, they do not mention the need for information to come from the local level to the government.

Local associations

Awareness of climate change terms and concepts among the heads of associations is less developed than in most other sectors and is highly varied; while some speak knowledgeably of the greenhouse effect and emissions from industrialised nations, others blame deforestation or see it as a natural change in seasons.

Although levels of activity are varied, associations show more evidence of taking action on environmental issues than most sectors: they are teaching alternative farming methods, running projects to promote livelihoods that do not use coal or wood, as well as the usual tree planting and conservation. Some focus on helping those who need to burn or cut trees to live. A few mention teaching people about environmental issues:

> *"If we went into forestation we should be able to mitigate the effects of climate change. Resettlement of those affected and enterprises like perennial crops and livestock, which occupy small spans of land [would also help]."*
> Charles Aben, District National Agricultural Advisory Services (NAADS) Coordinator, Uganda

Most leaders of local associations do not relate their initiatives to climate change impacts, but rather local environmental degradation issues such as water quality and waste management.

Religious leaders

Dhaya Kosi, Qallu of Borena, Oromia, southern Ethiopia

Religious leaders are in a good position to communicate climate change information to communities and to support the implementation of local adaptation strategies, due to their proximity to African citizens and the respect many Africans accord them. Given that many Africans understand their changing climate in the context of religious belief, religious leaders may be especially well positioned to communicate to people on climate change. This is particularly true in DR Congo, Ethiopia, and Nigeria.

However, if religious leaders are to fulfil this role, they need more information on the topic. They are currently among the least informed about global climate change and occasionally hold some significant misconceptions. Although many allude to the responsibility of industrialised countries in causing global climate change, few isolate greenhouse gas emissions produced by industrialised countries as the cause of global climate change. Instead, those who refer to industrialisation tend to say that it is just one of a number of causes, and disproportionately blame individuals who cut trees.

> *"People cut trees to get firewood and charcoal which has brought climate change. So [I] am calling upon those that can extend electricity in [to] the rural areas, [as] this will reduce tree cutting in the rural areas."*
> Reverend Sylvester, Uganda Joint Christian Council

Although most think that climate change is caused by humans, some religious leaders connect changes in climate to the will of God.

> *"There could be a scientific measure to this which is due to our negligence, due to our disrespect for nature and the environment we reside in. At the same time, we should be open to the fact that God could be making a categorical statement that he is God: the creator of the universe."*
> Religious leader, Jigawa State, Nigeria

However, this belief does not necessarily preclude an understanding that humans have caused the climate to change; indeed, most religious leaders say that people need to develop a stronger commitment to environmental stewardship.

> *"It is a religious teaching in Islam about caring for the trees. Cutting down a tree is like sinning; you are destroying the environment."*
> Ahmed Set, Administrator for the Eastern Province, Islamic Foundation of Kenya

Many religious leaders believe that religious teachings can promote the idea of environmental stewardship. This correlates with a belief held by some participants in the focus group discussions that religious leaders would be well placed to communicate on the importance of protecting the environment. In order for religious leaders to advise their communities on the most appropriate local adaptation strategies, they need better information on the causes and implications of global climate change.

Conclusion and recommendations

This research has shown that while most Africans are aware that weather patterns are changing, understanding of global climate change is limited. Climate change terminology is poorly understood and does not have standard translations in African languages. Climate change is often literally interpreted as 'changes in weather'. Many people link local human activities, such as tree felling and pollution, to degradation of the local environment and changes in local weather patterns. There is a limited understanding of the role that rising levels of greenhouse gases play in causing climate change.

The exceptions are people living in urban centres and in South Africa. While awareness of global climate change is higher among these groups, it is often not well understood. Many are uncertain about the processes driving climate change; and they tend to associate it with remote global impacts.

Although people have established strategies to cope with their changing climate, many, particularly those in rural areas, feel that that these methods are failing in the face of increasingly unpredictable weather. They say that they lack information and resources to cope. Opinion leaders agree that the changing climate is already affecting Africa and are particularly concerned about the impacts on rural communities. Yet, those local opinion leaders best placed to support community-based adaptation and to help communities respond to climate change are among the least informed about it.

The media and schools are the main sources of information on climate change for the general public, but there is evidence to suggest that journalists, editors and others in the media feel that they lack sufficient knowledge and resources to inform and engage audiences effectively about climate change and facilitate public discussion.

Communication and information provision will be central to Africa's response to climate change. 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 set out to present the perceptions of the African public on climate change, rather than a detailed climate change communications strategy, various communication recommendations are outlined below.

Recommendations

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

Opinion leaders also need access to information on climate change. Local leaders from government and the community, including religious leaders, have unrivalled access to communities; they are in a position to communicate climate change information and inspire citizens to respond and to implement local adaptation strategies. Yet they tend to be some of the least informed about global climate change. They need support if they are to fulfil their potential role as communicators on climate change.

There is evidence to suggest that a faith-based approach could be especially effective, particularly In DR Congo, Ethiopia and Nigeria. Religious representatives across all countries recognise the value of religious leadership in promoting environmental stewardship.

Public debate will also be key to increasing 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.

Media representatives recognise that more needs to be done to develop climate change awareness in the media sector. The media clearly has a critical role to play in responding to climate change, and in supporting others to communicate about climate change, including governments, national and international NGOs, scientists, religious leaders and community leaders. Recommendations for all those charged with communicating on climate change fall into three categories: providing information, facilitating policy and public debate and encouraging accountability:

Provide information

- Raise awareness of global climate change and the ways in which it relates to people's lives and livelihoods.
- Confirm people's observations that weather patterns are changing and that extreme weather events are likely to occur more often.
- Build simple, correct mental models of how climate change works. In doing so, be mindful of people's existing knowledge (e.g. in relation to trees, God, ozone depletion, pollution, and heat) which can function as a barrier or facilitator to effective climate change communication.
- Invest in efforts to develop appropriate climate change terminology in African languages.
- Provide people and communities with access to information on practical ways to adapt to climate change and prepare for extreme weather events.[43]
- Pay particular attention to the needs of information-poor rural communities. For them, climate change represents a tipping point. They need targeted information and resources that will enable them to adapt to climate change impacts.
- Communicate in ways that are locally relevant, using a variety of news and non-news platforms (such as public service announcements or radio drama).
- Increase opinion leaders' understanding of global climate change so that they can communicate confidently on the issue and incorporate it into their decision-making.
- Increase opinion leaders' understanding of adaptation and its importance for Africa's response to climate change.
- Provide local leaders with access to information on climate change, bearing in mind that local adaptation strategies need to take into account local leaders' understanding of the issue.
- Provide information about climate change to the African public through the media and schools.

Facilitate policy and public debate

- Build the capacity of the news and non-news media to support more effective public debate on climate change in Africa.
- 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 cross-sector communication between government, NGOs, the private sector, the media, and local leaders, as well as with international actors.
- Draw on a range of African voices and experiences in discussions and debates: engage citizens, local interest groups, civil society actors, religious leaders, and policymakers from all levels of government.
- Facilitate between opinion leaders already working on climate change and those who are not, to break down perceptions of it as an elite discussion.
- Harness Africans' understanding and experience of their changing weather and environment to create a relevant discourse that promotes citizen engagement in Africa'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 African 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, emission reduction and other response strategies. Such mechanisms will also help African citizens and their representatives to communicate their own perspectives and demands to the rest of the world.

Urban pollution, Lagos, Nigeria, 2004

43 The importance of communication to and with populations affected by disasters and humanitarian crises is detailed in *Left in the Dark: The unmet need for information in humanitarian responses*, BBC World Service Trust (2008)

ACKNOWLEDGMENTS

The BBC World Service Trust (BBC WST) is grateful to the British Council for their support throughout this project. We would also like to acknowledge Peter Upton for his role in commissioning and supporting *Africa Talks Climate*. Thanks also go to Kit Vaughan, Susanne Moser, Savio Carvalho and our *Africa Talks Climate* advisory group for their guidance prior to fieldwork and their feedback on reporting.

Fieldwork was conducted by BBC WST in collaboration with Synovate, CMCT-draftFCB Kinshasa, l'Institut Panafricain de Marketing (IPAM) and Nile Care Limited. Many thanks to Vivien Marles and Patrick Maina for their ongoing support. Thanks also to George Waititu and Roger Steadman.

Analysis and reporting was conducted by the BBC WST's Research and Learning Group in Africa and the UK. Special thanks go to the *Africa Talks Climate* research team.

The research was funded by the British Council. We also gratefully acknowledge the support of the UK Department for International Development (DFID) to the BBC WST's policy and research programmes.

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The authors are grateful for the feedback provided by our colleagues at BBC WST: Grace Davies, James Deane, Jimmy Innes and Gerry Power. The authors welcome feedback on the findings. This and all *Africa Talks Climate* publications are available from **www.africatalksclimate.com**.

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Registered charity number: 1076235

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