



Ghana Talks Climate

The public understanding of
climate change

www.africatalksclimate.com

ACKNOWLEDGMENTS

The BBC World Service Trust (BBC WST) is grateful to the British Council Ghana for their support throughout this project, particularly Moses Anibaba and Benjamin Manu. Thanks also go to Kit Vaughan and Susanne Moser, and our Ghana advisory group – Angie Dazé, Kees van der Geest, Monica Idinoba and Gilbert Kwapong – for their guidance prior to fieldwork and their feedback on reporting. Fieldwork was conducted by Synovate and the BBC WST. Many thanks to Evelyn Koko, Ato Laing, Kate Langkono and Augustine Yelfaanibe. Analysis and reporting was conducted by the BBC WST’s Research and Learning Group. The research was funded by the British Council. We also gratefully acknowledge the support of the UK Department for International Development (DFID) for the BBC WST’s policy and research programmes.

CREDITS

This report was compiled by Lucy Neville and Anu Mohammed with contributions from Miriam Burton, Anna Godfrey, Emily LeRoux-Rutledge and Geoffrey Marsh. The authors welcome feedback on the findings. This and all *Africa Talks Climate* publications are available from www.africatalksclimate.com.

Editor: Louise Daniel. Sub-editors: Rob Kingston, Dan Hancox. Designer: Lance Bellers.
Series Production: Grace Davies (*Africa Talks Climate* Communications Manager).
Series Editors: Anna Godfrey (*Africa Talks Climate* Research Manager) and Emily Le Roux-Rutledge.

Readers are encouraged to quote or reproduce material from the *Africa Talks Climate* initiative, but as copyright holders, the BBC World Service Trust requests due acknowledgment and a copy of the publication. This report has been produced for the BBC World Service Trust independently from the BBC and BBC World Service and should not be taken to reflect official BBC policy, or that of any of the project’s funders. Any mistakes are those of the authors.

© BBC World Service Trust 2010

BBC WORLD SERVICE TRUST

The BBC World Service Trust is the BBC’s international development charity. It aims to reduce poverty and promote human rights. The Research and Learning Group (R&L) specialises in the design and delivery of research that provides insights into the role of media and communications around development issues.

Registered charity number: 1076235

BBC World Service Trust, Bush House, Strand, London WC2B 4PH, UK
Tel +44 (0) 20 7557 2462
Fax +44 (0) 20 7397 1622
Email ws.trust@bbc.co.uk
Web bbcworldservicetrust.org



PHOTOGRAPHY

Cattle carcasses in Ethiopia AP PHOTO/Sayyid Azim, 2000 (page 11); Traffic jam, Lusaka courtesy of Chris Lock, 2008 (pages 11,14); ‘Open sewer playground’, Freetown, Sierra Leone courtesy of Adam Cohn, 2009 (pages 11,14); Crop failure, Somalia BBC, 1992 (pages 11,13); Deforestation courtesy of Zlatan Celebic, 2008 (pages 11,12); Bush burning, Ghana courtesy of Grete Howard, 2009 (pages 11,12); Floods in Nairobi AP Photo/Khalil Senosi, 1998 (pages 11,13).

CONTENTS

About <i>Africa Talks Climate</i>	
Executive summary	
Recommendations	
Acronyms used in this report	
1 Background	7
Climate change in Africa	
Climate change in Ghana	
2 Research methodology	9
Focus-group discussions	
In-depth interviews	
3 Citizen focus group discussion findings	10
What changes have Ghanaian citizens experienced in their climate and environment over time?	
How do Ghanaians explain and respond to changes they are experiencing?	
Deforestation and bush burning	
Drought and crop failure	
Flooding	
Pollution and poor sanitation	
Awareness of responses to environmental issues	
What do Ghanaians know and understand about global climate change?	
Terminology	
Reaction to the concepts	
Frames of reference	
4 Interviews with opinion leaders	17
What do Ghanaian opinion leaders know and understand about climate change and what are their views on Ghana’s response to climate change?	
Climate change is happening now	
Understanding climate change	
Perceived impacts of climate change	
Where does responsibility lie?	
Who is affected by climate change?	
Do the worst affected understand climate change?	
Climate change terminology	
What response is required?	
5 Conclusion	23
References	24
Appendices	25
Appendix 1 Opinion leaders interviewed	
Appendix 2 Ghana advisory group	
Appendix 3 Methodology overview	

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 Ugandaⁱ. They also carried out interviews with nearly

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

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

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

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

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

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

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

For further information, including the latest policy briefings, reports and publications from the *Africa Talks Climate* project, visit www.africatalksclimate.com.

Executive summary

In May 2009, the BBC World Service Trust's Research and Learning Group, on behalf of the British Council, conducted research in Ghana to gauge public understanding of climate change. The research consisted of 12 focus-group discussions with Ghanaian citizens, as well as 18 in-depth interviews with opinion leaders from government, religious institutions, the private sector, the media and civil society. The overall objective was to find out what people think about climate change and to determine how to tailor communication and media strategies to support Ghana's response to climate change.

Key findings

- Many Ghanaiansⁱ do not understand the science of climate change, although they have noticed changes in the weather and seasons. They tell of rising temperatures, extended periods of drought and increasing variability in seasonal rainfall. Most people, however, do not connect these with global climate change.
- Changes in climate are not noticed by Ghanaians in isolation from broader environmental changes. People in Ghana are keenly aware of environmental degradation and natural resource depletion. They make little distinction between environmental degradation and climate change.
- Drought and crop failure are causing frustration and despair. Farmers and pastoralists do not have a sense of how they would cope if the problems became worse. Other issues that people are worried about include bush burning, deforestation, flooding, pollution and poor sanitation. Opinion leaders are particularly concerned for rural communities and the urban poor.
- There is a strong tendency for Ghanaians to hold themselves individually and collectively responsible for local changes in the weather. They believe that their own activities, such as cutting down trees and burning the bush, have directly brought about these changes. There is little awareness that climatic problems – now or in the future – are likely to have causes that extend beyond Ghana.
- Opinion leaders recognise that climate change is a global problem and that industrialised countries are most responsible for causing it. As such, opinion leaders feel industrialised countries should do more to help Ghana adapt to the potentially devastating effects of climate change.
- Among the Ghanaian public there is limited awareness of the concepts of climate change and global warming. Many understand climate change to mean changes in the weather or seasons. Those that have some familiarity with the concepts rarely have sufficient knowledge to explain them with reference to greenhouse gases.
- Climate change terminology is poorly understood and does not have standard translations in Twi and Dagaare. The language of climate change is not accessible to most Ghanaians; opinion leaders agree that climate change terminology is a barrier that prevents public engagement.
- The media in Ghana, together with schools, are people's main source of information on climate change; opinion leaders agree that the media has an important role to play in raising public awareness. However, journalists feel that it is difficult to report

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

on climate change because of a lack of information and technical expertise within the media sector.

- Ghanaians draw on existing knowledge and beliefs to explain the effects of climate change. For example, many think that deforestation in their local area reduces local rainfall and some incorrectly believe that smoke from cars and factories damages the ozone layer, making it hotter. Many Ghanaians link their country's growing population to climate change, both in terms of the strain it places on natural resources and the creation of ambient heat through higher population density. Some also believe that changes in the weather are the will of God.
- Ghanaians emphasise that preservation of the environment is often hampered by poverty. Many people rely on the exploitation of Ghana's natural resources to make a living and cannot see any other viable means of survival.
- Opinion leaders agree on the need to raise awareness of climate change. Yet there has been a tendency to focus on addressing the causes of climate change rather than adapting to its impacts. Several opinion leaders emphasise the need to prioritise the provision of information that will enable the most vulnerable people to adapt.
- Many people criticise government at all levels for a lack of visible action on climate change and the environment. Those government representatives interviewed say that more will need to be done to tackle the impacts of climate change on Ghana's rural poor; to regulate carbon dioxide emissions; and to reduce bush fires and deforestation. They suggest that the major challenge is one of financial resources.

RECOMMENDATIONS

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

Opinion leaders need access to information on climate change. 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.

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

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

Provide information

- Raise awareness of global climate change and the ways in which it relates to people's lives and livelihoods. Help people to see the links between the current socio-economic issues they face and climate change.
- Confirm people's observations that weather patterns are changing and that extreme weather events are more likely to occur.

- Provide people with access to correct information about the causes of climate change.
- Build simple, correct mental models of how climate change works. In doing so, be mindful of people’s existing frames of reference (in relation to trees, ozone depletion, smoke, overpopulation, and God, for example) which can function as barriers or facilitators to effective climate change communication.
- Invest in efforts to develop and test appropriate climate change terminology in local languages. Bear in mind that in many Ghanaian languages people tend to provide explanations to depict meaning, rather than giving just one or two words.
- Clarify how climate change does and does not relate to environmental degradation.
- Provide people and communities with access to information on practical ways to adapt to climate change and prepare for extreme weather events.
- Pay particular attention to the needs of information-poor rural and urban communities. For them, climate change represents a tipping point and they need targeted information and resources that will enable them to cope with the impacts.
- Provide information to those who depend on Ghana’s natural resources for their survival about alternative livelihoods and more effective ways of managing and replenishing those resources.
- Communicate in ways that are locally relevant, using a variety of news and non-news platforms
- 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.
- Increase opinion leaders’ understanding of adaptation and its importance for Ghana’s response to climate change.
- Use schools and the media to provide information about climate change to the Ghanaian public more effectively. Make climate

change information and technical expertise more available to journalists.

Facilitate policy and public debate

- Build the capacity of news and non-news media to support more effective public debate on climate change in Ghana.
- 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 Ghanaian voices and experiences to discussions and debates: engage citizens, local interest groups, civil society actors, religious leaders, and policymakers from all levels of government.
- Harness Ghanaians’ understanding and experience of their changing weather and environment to create a relevant discourse that promotes citizen engagement in Ghana’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 Ghanaian citizens and their representatives to move climate change on to the political agenda; and to exert pressure on their own governments with respect to climate change policies, adaptation funding, technology transfer, emissions reduction and other response strategies. Such mechanisms will also help Ghanaian citizens and their representatives to communicate their own perspectives and demands to the rest of the world.

I Background

Climate change in Africa

As climate change threatens Africans’ health and homes, and the natural resources upon which many depend to survive, Africa’s population faces an urgent crisis.¹ It is predicted that Africa will be one of the regions worst affected by climate change.¹ 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.² 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.³ Indeed, there have been recent food crises in Kenya, Uganda, Somalia and Ethiopia.⁴ 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.⁵ Increased incidences of cholera and meningitis are also thought to be linked to variations in climate. Health threats such as diarrhoea, asthma and stroke affect more people when temperatures rise.⁶

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

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

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”.⁷

The links between environmental degradation, political tension and conflict have been highlighted for many years.⁸ 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.⁹

Climate change in Ghana

Climate change presents an additional stress for Ghanaians already struggling with the challenges posed by environmental degradation and widespread poverty. The projected outcomes are likely to include more variable weather conditions and extended periods of drought, with potentially devastating implications for water and food security, power supply, and Gross Domestic Product (GDP).¹⁰

Ghana’s economy is one of the most stable in West Africa and has experienced impressive per capita GDP growth over the last few years.¹¹ Agriculture currently employs approximately 56% of Ghana’s workforce and accounts for 37% of the GDP.¹² Cocoa is the main cash crop and is of particular importance to the export economy. Critically, most of this agriculture is rain-fed and thus largely depends on the climate.¹³

Extreme weather events such as droughts, floods, and storms constitute the main source of agricultural production risk in Ghana. Over the past decades, the Ghanaian climate has become drier and more variable. Historical climate data observed by the Ghana Meteorological Agency between 1960 and 2000 show a perceptible

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

To communicate effectively about climate change, it is critical to know how people understand it. While this review is not exhaustive, it is clear that here is a dearth of research on perceptions of climate change in Africa, and it will be essential to address this problem if communication is to improve. Opinion polls to date have largely focused on Nigeria, Kenya and South Africa. They reveal that many people are unfamiliar with “climate change”, “global warming” and related terms.^{13, 14} 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,^{15, 16} which may point to a lack of information concerning the relevance and implications for Africa, but could also reflect a lack of understanding of the questions asked.

Some small-scale perception studies hint at the impact climate change is having on African lives.^{17, 18, 19} Lack of information regarding climate change is seen by some as a critical barrier in dealing with its effects.^{20, 21} 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.²²

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

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

change in the UK reveals public understanding as “patchy, but generally poor”.²³ Similarly, research in the United States has shown that people often have basic misconceptions about climate change.^{24, 25} 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.^{26, 27} This is less likely to be the case in Africa, where most people are already experiencing the effects in their daily lives.

Although the media are seen to have a critical role to play in raising awareness and information provision on climate change, and disaster preparedness,²⁸ 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.²⁹ It concludes that while news coverage of climate change in non-industrialised countries is increasing, the quantity and quality of reporting does not match the scale of the problem. It goes on to point out that a reliance on reports from Western news agencies, rather than locally relevant news, as well as sparse coverage of adaptation measures, means that audiences, particularly the world’s poor, are being underserved.Finally, it hints at the potentially important role that non-news media (such as talk shows, dramas and public service announcements) can play in providing information to audiences on climate change.

Acronyms used in this report			
BBC WST	BBC World Service Trust	NGO	Non-governmental organisation
CFC	Chlorofluorocarbon	R&L	BBC World Service Trust Research and Learning Group
EPA	Environmental Protection Agency		
GDP	Gross Domestic Product	UNFCCC	United Nations Framework Convention on Climate Change
IPCC	Intergovernmental Panel on Climate Change		



rise in temperature and an accompanying variability in rainfall throughout the country. Based on these data, climate models predict that the temperature will rise on average by 2C by 2050 throughout Ghana. Rainfall is also predicted to decrease in these areas by an average of 11%.³¹ The implications for food security are particularly concerning for northern Ghana, where environmental conditions are already characterised by desertification, land degradation, deforestation, soil erosion, and an inadequate water supply.

Food security is further threatened by declining fish stocks, which, like agriculture, are susceptible to the impacts of climate change. Ten percent of the Ghanaian population depends on coastal fisheries for their livelihoods,³² and more rely on inland fisheries and rivers. A vulnerability assessment for the fisheries industry found that changes in climate, mainly in temperature and rainfall, will have a severe impact on the productivity of coastal and river ecosystems. In 2004, the Food and Agriculture Organisation stated that fish comprise nearly two thirds of daily animal protein intake in Ghana.³³

Climate change has also had drastic effects on the Volta River system. Rivers and streams which, in the past, never dried up have recently been experiencing seasonal drying and lake levels are declining as a result of inadequate rainfall.³⁴ The Akosombo Dam was constructed on the Volta River primarily for the generation of hydropower, but the decline in the Volta Lake levels has reduced its power output significantly. In 2007, a long period of drought meant the level of the Volta Lake fell below the point at which the hydroelectric turbine could function, effectively switching off 60% of Ghana’s power supply, with fundamental economic consequences.³⁵

In addition to the threat posed by declining energy production, a number of sources point to possible conflict arising in Ghana over the management of depleting regional water sources. On a regional scale Burkina Faso and Ghana will have to share water in the coming years, especially if climate change continues to mean significantly lower rainfall and run-off. Together Ghana and Burkina Faso constitute 85% of the Volta River Basin and much of the Volta River’s flow travels through Burkina Faso before reaching Ghana. The flooding that displaced an estimated 285,000 people in Ghana in September 2007 is an example of how the issue of water sources may become more important in the future. Despite two weeks’ warning, opening the Burkinabe Bagré Dam in Burkina Faso to release excess water led to widespread flooding in northern Ghana.³⁶

Poverty levels in Ghana are decreasing and currently affect around 28% of the population. The figure is higher in the rural areas of

northern Ghana, however, at about 60%.³⁷ Here, inhabitants are the most dependent on natural resources for subsistence farming and are thus highly vulnerable to climate change. The difficult conditions in the north have forced people to migrate to urban and peri-urban areas in the south, exacerbating access to basic services such as sanitation and water supply. In a 2004 survey of internal migrants from north-west Ghana, most mentioned environmental reasons for leaving their homes.³⁸ The situation is likely to get worse with climate change.

Ghana is also likely to be adversely affected by rising sea levels, as approximately 25% of the population live in coastal areas. At current rates of sea level rise, more than 100 sq km of land area will be lost by 2050 and 132,000 people are likely to be displaced.³⁹ Sea-level rises are also likely to contaminate fresh water with saltwater, and internationally important wetlands are likely to be flooded, having negative implications for biodiversity, particularly migratory bird populations.

Ghana Health Services has stated that the spread of disease in Ghana is likely be affected by climate change⁴⁰. For example, climate data indicates that increased temperatures and reduced rainfall will heighten the risk of guinea worm infection. Measles, meningitis and diarrhoeal diseases such as cholera are also likely to increase.⁴¹

Climate change awareness and activities started early in Ghana and climate change is currently high on the national agenda. Ghana hosted the United Nations Framework Convention on Climate Change (UNFCCC) conference on cooperative action in August 2008. The Accra talks were opened by the President of Ghana, John Agyekum Kufuor, who pointed to the fact that northern Ghana, in particular, has witnessed serious drought and flooding in recent times.

“There is a real need for strengthening the capacity of countries, particularly in Africa, to cope with such climate shocks,” the president said. “I would therefore like to call for an international deal or ‘contract’, in which developing countries commit to plan for climate resilient development. In return the international community should commit to providing adequate, predictable, long-term funding and support in terms of technology transfer and capacity building.”

President Kufuor warned that time is running out to negotiate the crucial international climate change deal that would not only drastically reduce greenhouse gas emissions, but generate the “billions of dollars” poor countries needed to adapt to the inevitable effects of climate change. *“The clock is ticking,”* he said. *“We need to be pragmatic and move beyond rhetoric to make progress.”*⁴²

2 Research methodology

Research objectives

The overall objective of *Ghana Talks Climate* is to assess the public understanding of climate change and identify how communication and media can raise awareness, provide information and promote more accessible public debate on climate change in Ghana.

The research focuses on four key questions:

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

The research’ consisted of 12 focus-group discussions with citizens and 18 in-depth interviews with opinion leaders across five locations in Ghana in May 2009 (see Appendix 1). The locations were: Accra, Berekum and Amomaso (Brong Ahafo Region) and Jirapa and Tampaala (Upper West Region) (see Figure 1 on page 11). The environmental challenges represented in these areas have already been linked to climate change, to some extent, or could be further exacerbated by climate change in the future.

- As the capital and largest city, Accra continues to experience a high level of migration and urbanisation. Most problems have more to do with environmental degradation than climate change per se and include: poor solid waste collection, inadequate facilities for sewage and clean water distribution, and increasing traffic and industrial pollution. Problems associated with sanitary conditions in the rapidly expanding urban and suburban areas have provoked and aggravated the spread of a number of air- and water-borne diseases.⁴³ These environment-related diseases represent 60-80% of the cases reported in the capital’s hospitals and health centres.
- In the Brong Ahafo region loss of soil fertility has lead increased land pressures. The reduced rainy season is adversely affecting cocoa production. Over 800,000 families in western Ghana depend on cocoa production for their livelihoods. For them, cocoa represents 70-100% of their household income. Cocoa farms are small and do not use technology, instead relying entirely on rain-fed irrigation. Their ability to adapt to reduced water supplies is limited.⁴⁴ Deforestation is also a problem in this once

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

densely wooded region. More than 90% of the original 8.2 million hectares of natural forest have been logged since the 1940s,⁴⁵ mainly for timber export. The woodlands are also threatened by exploitation of wood for domestic and industrial fuel: wood is still the main source of energy in Ghana.

- In the Upper West region, droughts have increased food insecurity and caused animal losses and crop failures that have led to famine.

Focus group discussions

The research set out to gather a broad range of views. Discussions were held with women and men, rich and poor, rural and urban. Given the implications of climate change for certain livelihoods in Ghana, individuals working in fishing (Accra) and farming (Brong Ahafo and Upper West regions) were also purposefully targeted. In Accra focus groups were conducted in Twi, Ga, and English; in Bhong Ahafo they were conducted in Twi; and in the Upper West region they were conducted in Dagaare.

In-depth interviews

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

The advisory group

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

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

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

3 Citizen focus group discussion findings

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

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

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

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

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

Ghanaians are aware that their weather is changing, although the word 'climate' is rarely used. As well as excessive heat and seasonal variability, people have noticed reduced agricultural productivity, corresponding changes in the availability and quality of food, and a loss of forests and animals. Ghanaians living in coastal areas have also noticed increasing coastal erosion and a reduction of fish stocks. Ghanaians universally view these changes as negative and are concerned for the future of their country if the pace of change continues.

Ghanaians relate nearly all the changes they have experienced to rising temperatures and reduced rainfall. They say they have noticed

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

“Thirty years ago there were a lot of trees around us here, but we cannot see them today... we see deserts in places of forests now”

WOMAN FROM AMOMASO

“I was born in Mamprobi and the sea was [near] our house... Now the coastline is no longer where it used to be, it has moved forward some metres”

WOMAN FROM ACCRA

a large increase in the heat and intensity of the sun over the years, which dries up rivers and leads to drought and desertification. “Our rivers have dried up because the sun is getting hotter,” explains a woman from Berekum. “Direct rays from the sun dry up rivers and streams.”

Ghanaians also note that seasons have become increasingly unpredictable. They say the rainy seasons no longer come as and when expected and the overall amount of rain is less. “The way it used to rain, it is now different,” says a man from Tampaala. “The period for rainfall has become very short.”

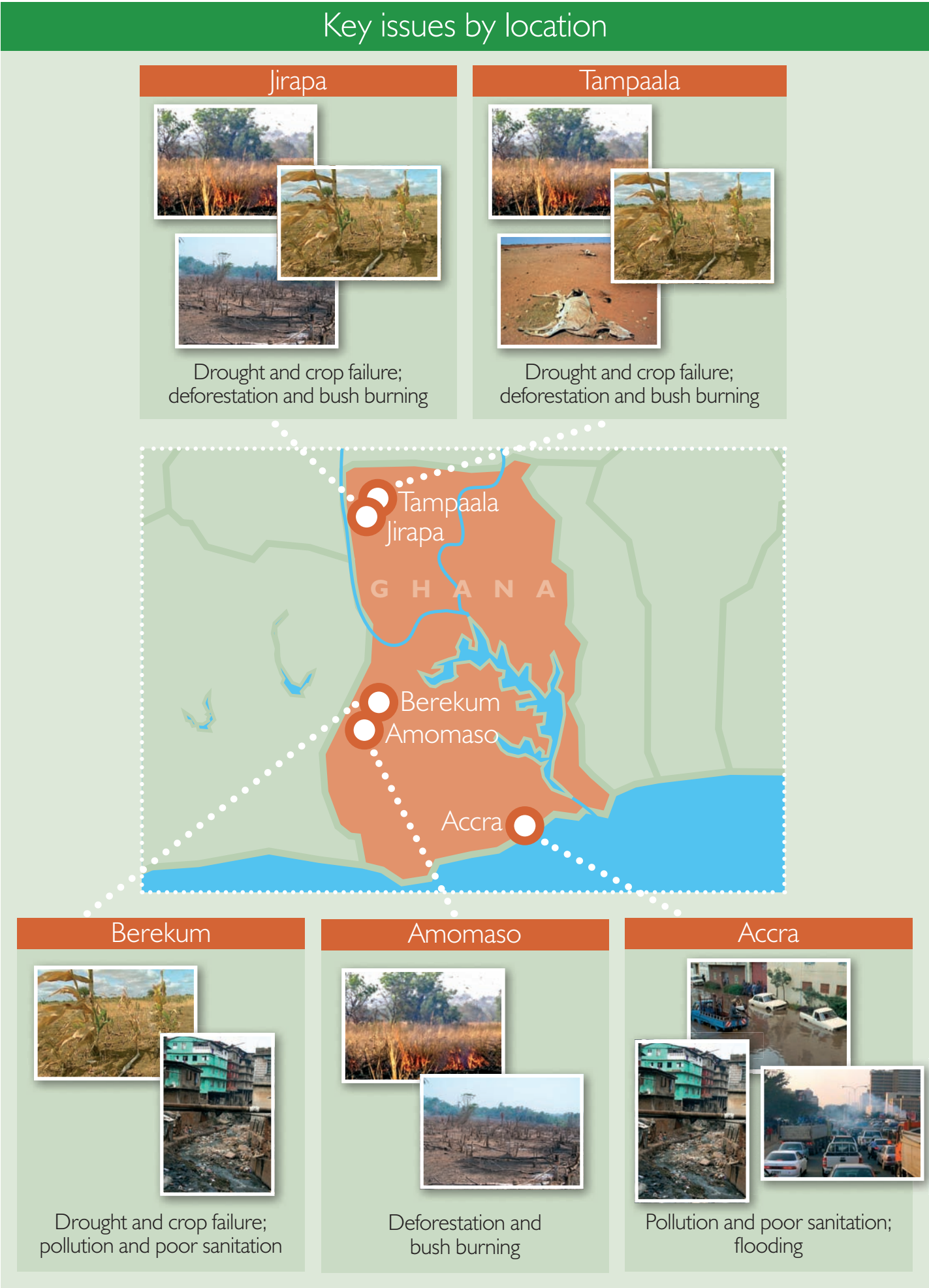
Primarily as a result of these changes in heat and rainfall, Ghanaians note a marked reduction in agricultural productivity. “It does not rain the way it used to,” states an older woman from Jirapa. “If it used to rain as before we would be able to harvest wild vegetables and eat, as we used to. But because the rains don’t come anymore, all these [wild vegetables] are gone.” A woman from Berekum agrees: “Nowadays even our cocoa does not grow as expected. Our sales have been down for some time now. [and this effects everybody] because there is no money in the system due to poor harvests by cocoa farmers.”

Low agricultural yields have led to hunger and poverty and a corresponding decline in the availability and quality of food. Many urban Ghanaians note that they now rely heavily on tinned food instead of their own produce or that from neighbouring rural areas. Rural Ghanaians note an increasing dependence on fertilisers, which they feel affects the quality and flavour of their food. Ghanaians also believe this change in diet has had negative impacts on their health. “You used to grow a lot of nutritious leaves and plants,” says a man from Amomaso, “but these days, because of the chemicals used in produce, we end up getting sick after eating it.”

Over the years, Ghanaians have also observed an increase in bush burning and the destruction of forests for agriculture, industry, and housing. They note the corresponding effects this has had on their surroundings and on the birds and animals that used to live there. “Thirty years ago there were a lot of trees around us here, but we cannot see them today,” says an older woman from Amomaso, “That is a big change: we see deserts in places of forests now.” And a young man from Berekum says: “There used to be a lot of animals in the forests, big ones like the elephant, but now they are not there.”

Many Ghanaians living in coastal areas have noticed rapid coastal erosion in recent years. “I was born in Mamprobi and the sea was

Figure 1



“As a brewer I need firewood... So I have to cut trees, or buy charcoal from somewhere. If I do not brew I can’t survive”

WOMAN FROM JIRAPA

[near] our house, we used to go there a lot during my childhood,” explains a woman from Accra. “Now the coastline is no longer where it used to be, it has moved forward some metres up towards [the house].” Additionally, people have noted a marked decrease in the availability and quality of fish. “In the time past, when it rained I could pick fish from the sea, but now it is not the same,” says a fisherman from Accra. A young woman who works in a fish market in Accra adds, “When the fishermen go fishing, they have to do a lot of roaming before they get a small catch, which is not enough... and these days the fish are not so tasty. Because the fish close to the shore are few, the fishermen will have to go deep into the sea for those which are immature and not ready for catching – hence their tastelessness.”

Finally, urban Ghanaians have observed increases in pollution and industrialisation which they believe has adversely affected their health. “We often fall sick because we are not living in a safe environment,” states a man from Accra. “Waste is disposed of indiscriminately and even the air you take in is polluted.”

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

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

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

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

- 1. Deforestation and bush burning
- 2. Drought and crop failure
- 3. Pollution and poor sanitation
- 4. Flooding

Figure 1 shows the images selected in each location.

The issues that people selected tended to be immediately linked to the struggles they face in their daily lives. Many Ghanaians talk about deforestation and the impact this has had on their ability to make

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

charcoal and gather fruit. Farmers talk about drought, crop failure, and bush fires. Flooding is an issue of interest to urban dwellers, who discuss how drains have been blocked by rubbish. Indeed, issues of pollution – visible pollution from cars and factories as well as rubbish – are a prevalent theme for urban residents. The research did not seek to restrict conversation and, as a result, discussion sometimes moved into environmental degradation and broader social problems.

Deforestation and bush burning

Most Ghanaians feel that deforestation and bush burning are necessary to clear land for agricultural purposes. They also see a need for stricter regulation so that such things do not happen in an uncontrolled manner. Ghanaians tend to focus on the short-term impacts of these practices, as opposed to the longer-term implications.



Deforestation and bush burning are of concern, particularly in the rural areas of Amomaso, Tampoala and Jirapa. Ghanaians generally believe that bush burning and deforestation are necessary in order to clear land for agricultural purposes. However, they feel that recently both practices have gone “too far”. Large-scale bush burning is blamed on a mixture of carelessness (such as people leaving fires unattended) and reckless burning of the bush by hunters trying to catch bush meat.

Some rural Ghanaians are superstitious about the causes of bush fires. An older man from Tampoala comments: “Dwarves can also start bush fires. We have a hill here called Kontonbille Tangsoglaa. We are told dwarves live there. Sometimes we will be in our village and suddenly we see fire burning from this hill, which then extends to burn a vast area.”

It is also noted that people cut trees down to sell charcoal or brew pito.ⁱⁱ While saying this is damaging practice, interviewees acknowledge it is difficult to tell people not to do something they depend on for their livelihoods. “As a brewer I need firewood to make my pito,” explains an older woman from Jirapa. “So I have to cut trees, or buy charcoal from somewhere. If I do not brew I can’t survive.”

Bush burning and deforestation are seen as “destroying the land” and “causing droughts” (as trees are believed to attract rain) which lead to “hunger”. The loss of traditional food and income sources poses problems for many Ghanaians. “At the moment, getting shea nut fruits is a problem,” explains a young man from Jirapa. “Most trees are dying and others are being cut and not replanted.” As well as fruit and nuts from trees, the availability of meat is affected. “We did not have to buy meat from the market when I was a child, rather my father hunted for animals easily,” says an older woman from Amomaso, “That is not the case these days – bush fires have killed almost all the animals and the snails.” An older woman from Jirapa adds, “These animals used to give us protein.” She goes on to explain that protein is now absent in peoples’ diets. Additionally, rural Ghanaians believe that widespread deforestation and bush burning affects soil fertility: “When there are grasses and trees, the fertility of the soil is enhanced,

ii Beer made from fermented millet or sorghum in northern Ghana.

but because they have all been burnt the fertility is declining,” says an older man from Tampoala.

Bush burning can also have devastating effects on peoples’ farms and property: “It burnt my house one time and I lost everything... We left for a funeral and when we got back to our farm, all the crops were burnt. We had nothing and we had to go out begging for food,” says a woman from Jirapa.

Loss of trees also means that winds cause more structural damage to houses. “Because formerly there were many trees around, the wind hardly disturbed us,” explains an older man from Tampoala. “Now that the trees are fewer, the wind easily removes the roofs of our houses.” Additionally, Ghanaians believe that deforestation can lead to higher temperatures. “When there were many trees, we used to have shade, but now that a lot of the trees are cut, the sun warms up the whole area and we don’t get shade,” says a young woman from Jirapa. “We suffer.”

Additionally, some Ghanaians mistakenly believe that there is a link between bush fires, ozone depletion and changing weather patterns. “Bush fires affect me because they deplete our ozone layer which makes the rains not come regularly,” says a young man from Jirapa.

Many Ghanaians have developed practical responses to deforestation and bush fires, such as creating fire belts around forests and introducing better irrigation systems so there is easier access to water. They feel that hunters need to be better educated about alternative ways of catching bushmeat and that tougher laws need to be introduced to punish people who irresponsibly or maliciously start fires.

The majority of Ghanaians acknowledge that they personally need to play a role in preventing these problems from getting worse by participating in “crusades” aimed at creating awareness about the dangers of deforestation and bush burning. They also feel that the government has a responsibility to deal with the problem, at both the national and local level.

Drought and crop failure

Most Ghanaians feel that drought and crop failure are caused by deforestation. They say the government needs to regulate deforestation better. Many see internal migration as the only long term solution to failing harvests.



Many Ghanaians living in rural areas across Ghana attribute crop failure to drought and lack of rain, which they think is caused by deforestation. This is because they think that trees attract rain. “The trees help us to get rain – if there are no trees, we will not get rain,” says a young man from Jirapa.

There is also a strong feeling that the soil is no longer as rich as it used to be, meaning that harvests often fail or are less abundant than in previous years. “When I was young I used to go to the farm with my mother and we used to bring a lot of food home,” says a young man from Berekum, “but these days we get very little food. All the nutrients in the soil have been lost.” Many Ghanaians feel that the soil has become less fertile because there has been too much strain put

on the land by rapid population growth. “We are now so many and yet we are still farming the same amount of farmlands, over and over again,” explains an older woman from Jirapa. “So if you were getting six bags [of maize] you will now not even get half a bag.”

Crop failure is seen to lead to a shortage of food which causes “hunger and poverty”, as well as malnutrition and illness. “These conditions are making things difficult,” says an older man from Tampoala. “There is no food to eat and no money to buy food to keep the family. There is no livestock to sell to make money and buy food. So we become stranded. It is always a struggle nowadays.”

Many also mention wider social effects: “It has led to an upsurge of vice in our communities,” explains a man from Tampoala. “You are critically in need and you can’t find any help, so the only option may be to steal somebody’s goat to go and sell it to survive.” Additionally, the failure of harvests and the lack of grazing pasture for animals has led to an increase in internal migration within Ghana. “[When the harvests fail] we are forced to go to jongoⁱ. We need to go elsewhere for better fortunes,” says a man from Tampoala. A young woman from Jirapa agrees: “Because of this [crop failure] our brothers cannot stay here during the dry season. They have to migrate down south.” While north-south seasonal labour migration has long been a feature of life in the north of Ghana, Ghanaians note that it is becoming more and more common as conditions worsen.

Again, Ghanaians feel that there is a strong need for local government to educate people about the importance of trees and to pass stronger laws against deforestation. “Cutting down trees causes the unavailability of rain. So we need to stop doing these things... and make it a law,” says a young man from Jirapa. “If you are found cutting trees, these are the consequences you are going to face.”

However, some feel there is little they can do to prevent or adapt to widespread crop failure. In these cases they see the only permanent solution as migrating to the wetter and more fertile south. “I will run away south to look for food,” says a young woman from Tampoala.

Flooding

Ghanaians feel that the government needs to take stronger action to maintain drainage systems and prevent people from building on waterways, which they think causes flooding. They often lack strategies to deal with floods.



Flooding is a concern in Accra and its suburbs. As well as acknowledging an increase in extreme weather, people tend to blame floods on poor town planning, blocked drains and a lack of infrastructure. “We don’t plan. We just build on the land,” explains a woman from Accra, adding that people often build over existing waterways, leaving runoff with nowhere to drain safely. Ghanaians also note that the amount of waste disposed of in gutters often causes blockages and floods. “Any time it rains people drop their rubbish into the gutters, thinking that the rain will carry it away,”

i This term is used among the Dagaaba to refer to seasonal labour migration to southern Ghana.

explains an older man from Accra, “but it gathers and chokes the gutters and drainage systems.”

Urban Ghanaians note how flooding destroys infrastructure, such as buildings and roads. “When it rains, it breaks down buildings and washes away cars... It gets under my house, so if I don’t repair it the building would eventually fall down,” says a young woman from Accra. Another adds: “The flood means that roads and bridges become immersed and are impassable... it can rain such that we are unable to go out.”

Additionally, people are aware that floods can lead to increasing incidences of diseases, such as cholera. “When the floods come, the whole house gets flooded with human excrement and no-one can do anything about it,” states a woman from Accra.

Ghanaians generally feel that the government needs to take action by improving and maintaining drainage systems and regulating urban planning. They feel there is little they can do to avoid storms and floods from happening, or mitigate the damage they cause. Many Ghanaians simply react to the situation by finding temporary shelter in flood-free areas until the waters subside. “We [have to cope] with the rain – it is a time of disaster... we just look on helplessly,” says a woman from Accra, with a male respondent adding: “[When it floods] I move from my place and resettle somewhere else.”

Some Ghanaians mobilise themselves to construct drainage channels in an effort to reduce the problem of flooding. However, they still feel national and local leaders need to play a larger role in educating people about how to deal with floods.

Pollution and poor sanitation

Ghanaians group together problems of air pollution, poor sanitation and rubbish, describing them under the umbrella term “pollution”. They tend to feel only government action can address these problems.



Poor sanitation in slums and pollution from industry and traffic are a concern especially in Accra and its suburbs. Ghanaians tend to view these problems under the umbrella of “pollution” and often talk about them interchangeably, stressing their combined health impacts. Most Ghanaians, particularly those in urban areas, think that the rubbish they see in the streets and gutters comes about as a result of poor waste disposal and attribute air pollution to emissions from old vehicles. They are aware that cars emit gases that have negative effects on the atmosphere and air quality, although they rarely mention these gases by name or explain the process clearly.

There is a strong feeling that people aspire to own cars and that few people think about the damage cars can do to the environment. “The problem is we all want to own cars,” explains a woman from

“It is the will of God for these things to happen. When it comes to rainfall, it looks as though God has changed his calendar”
FISHERMAN FROM ACCRA

Accra. There is also acknowledgment that it is hard to regulate the use of old, fuel inefficient cars on the roads. “The police see these old cars on the road and they don’t do anything, they just collect their one cede [bribe] and leave the offenders,” explains a young woman from Accra.

With regard to waste disposal, Ghanaians feel that the government and municipalities do not do enough in terms of providing bins, dumps, and sewage systems to safely dispose of rubbish and human waste. They feel that overcrowding has exacerbated the problems of litter and air pollution. “[These problems might be] because of the trickling down effect: people migrating to Accra, that might affect the environment... as more people move here... [there is more] air and wastage pollution, cutting down of trees,” says a woman from Accra.

Several people mention a link between plastic bags and changes in the environment, although their understanding of the issues is not always complete. “We have come to embrace foreign ways of packaging, but we have not gone back and learnt what they do to stop pollution,” says an older man from Accra. “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. If we have decided to use these foreign ways of packaging, we must find better ways of disposing of them.”

Pollution, be it rubbish or air pollution, is seen to have a major impact on health. People say that inhaling fumes gives them headaches and coughs and that poor sanitation and waste disposal leads to diarrhoea, typhoid, and malaria. “In the area where I live [the rubbish and sewage] everywhere means there are a lot of mosquitoes,” says a young man from Berekum. “I got sick [with malaria] and had to stay in the hospital and was unable to do my job.”

Whilst most Ghanaians feel they can play a role in keeping their own environment clean and safe, ultimately they feel there is little they can do when faced with the growing scale of the problem of pollution. Instead they feel the government needs to do more. “The

Rural–urban migration and urbanisation

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

While it is impossible to attribute increases in urban population exclusively to climate change, many speak of leaving rural areas to escape drought as agriculture becomes less viable. “Urbanisation is not good,” says a woman from rural Jirapa, “but because people cannot get land to farm the way they used to, they move.”

Life in the city is not without its problems, however. People speak of pollution, sanitation, health, crime, housing, and the high cost of living. Many rural Ghanaians rely on money sent from relatives who have moved to cities and regard urban migration as a way to better themselves and their prospects. Urban Ghanaians, on the other hand, tend to see migration to urban areas as a problem, saying it stretches already limited infrastructure and resources: “We have [too much] rural–urban migration where people come from the rural areas to the cities without any skills or profession,” says a man from Accra.

government needs to improve infrastructure... because we are growing, giving birth, and the population is increasing,” explains a woman from Accra, “so I think the government needs to step in.”

Ultimately, many Ghanaians feel that unless the government is able to radically improve sanitation and waste disposal facilities, as well as provide adequate public transport, the only option open to them is to move away from densely populated city centres. “I want to move,” says a young woman from Accra. “At our place, even when people come and clean it, by the following morning [it] will be dirty again. I will move [if it gets worse], I will go and find another place.”

Awareness of responses to local environmental issues

People lack information on how the government, religious organisations, NGOs, communities, and individuals are responding to environmental and climate change challenges. Local authorities and religious leaders are said to have significant influence in communities, and should be engaged in communications strategies around climate change. There is little awareness of climate change as a global problem, or of the need for the Ghanaian government to take action on an international level.

Ghanaians believe they need to take more personal responsibility for the protection of their immediate environment. There is a feeling that, leading by example, individuals can encourage fellow community members to behave in an environmentally responsible manner. “We need to continue to impress on people to stop these negative practices, to stop burning,” says an older man from Tamapala, adding: “Sometimes this can be difficult to achieve as an individual.” There is also a sense that even at a community level it can be difficult to regulate the protection of natural resources and pollution. “It appears the traditional authorities don’t know how to handle these problems,” says a young woman from Jirapa.

There is therefore a strong feeling that the government needs to be more proactive in both educating people about looking after their environment and passing stricter laws to protect the climate. “The best way to control this problem is for the government to make sure that a law is in place that is known by everybody in the country. Every man should know that if you burn down bush, you will face this penalty. So the government should make a law that everybody knows and that is the best way to stop [environmental destruction],” says a young man from Jirapa

However, a number maintain that the government is not taking a strong enough stance on environmental issues. “The government has done something, but not enough,” explains a woman from Berekum. Many comment that while laws are in place (with regards to deforestation and emissions from vehicles for example), they are rarely enforced. “Some of the things the government [tries to do] are just not realistic,” explains a woman from Accra. She continues, “The government just sits up there [and passes the laws], but there is no-one to ensure that people are following them. So they pass the law all right, but they don’t have any enforcement agency to back it up.”

Several Ghanaians also emphasise the importance of educating people on how to care for their surroundings. A young woman from Tappaala says the government needs to include environmental education in the curriculum. “It can give an opportunity to the children from this village to go to school and as part of their education the teachers can teach them about the natural environment and how to look after it – tell them not to burn the bush or cut down trees.”

Several people are aware of NGOs already doing just this, such as Care International. However, they point out that warning people about the dangers of activities such as deforestation is not enough. Where peoples’ livelihoods are at stake, there is also a need to provide realistic and practical solutions to current practices that damage natural resources. “[If they tell us not to burn the bush] some of us will get up and say ‘what are we going to do to get honey?’ They don’t know how to extract it without going and burning the whole place. But if the [NGOs]... can train us on how to take honey without burning the whole tree [then the problem is solved],” says a young man from Jirapa.

What do Ghanaians know and understand about global climate change?

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

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

Terminology

Despite recognising the impact of their changing weather, people have a low awareness of climate change, as both a term and a concept. Most people tend to understand the term to refer to seasonal changes or immediate changes in the weather. A man from Accra is typical in describing climate change as “when it changes from the dry to the wet season”. People often relate the term “climate change” to the weather forecast.

“[The government] can give an opportunity to the children from this village to go to school, and as part of their education the teachers can teach them about the natural environment and how to look after it – tell them not to burn the bush or cut down trees”
YOUNG WOMAN FROM TAMPAALA

Words for “climate change” and “global warming”

In Ghana, three different terms for “climate change” were explored by the focus groups.

All groups were asked about the English term climate change. In Twi-speaking groups, people were asked about the term *ewienu nsakraye*, a literal Twi translation of “climate change” suggested by the Ghanaian advisory group.

In the Dagaare-speaking Upper West Region, people were asked about the term *gbangbal tegbu*, which again is a literal translation of “climate change”. Similarly, three different terms for “global warming” were explored: the English phrase, the Twi *senea wie mu ye hye* and the Dagaare *dunia zaa tulbu* and *tendaazaa tulbu*.

A few urban Ghanaians understand climate change as referring to a more permanent and specific change in weather patterns over time. “I think initially we had a specific weather pattern in which we had the time that it rains... I remember my grandmother would say, ‘the rains will start at this time’, so we used to have that. But these days the rains come at [random] times: that is climate change,” says a young woman from Accra

Those who have heard the term “climate change” have generally heard it in the media. Some cite television or radio general and others list specific radio or television stations. Several also say that they have heard the term in school, but school is often mentioned in conjunction with media.

Recognition of the term “global warming” is generally much higher, with many describing it as an increase in global temperatures. For example, an older man from Accra says: “I know that experts have been measuring the temperature over a period of time and have come to realise that it is excessive these days and if we don’t do something about it we will be in trouble. So they have come up with that term, global warming, to tell us the alarming rate of temperature increase in the system.”

As with climate change, people who have heard of global warming often cite local radio and television, and sometimes school, as the source of their information.

Despite relatively low awareness of climate change and global warming, a number of Ghanaians are aware that carbon dioxide is “detrimental to the environment”. In both rural and urban areas people speak of it by name as a gas which is produced by industry and which affects the atmosphere. However, the exact role of carbon dioxide in climate change is poorly understood and seldom fully explained.

While very few people are able to explain the processes of climate change or global warming, some urban Ghanaians display limited, and sometimes incorrect, scientific knowledge. Often, they describe what they think they know in visual terms, as this man from Accra did: “With global warming, the process is like this: the atmosphere is covered by oxygen, so that when the sun’s rays come they are reflected back into the sky. But the problem is the atmosphere is now covered more and more with gases like carbon dioxide and methane, such as it is not able to reflect [heat] back, so the earth ends up containing the sun’s rays and the temperature rises.”

Neither “climate change” nor “global warming” appears to be a household term in English, Twi or Dagaare, and there is little awareness of terms such as “the greenhouse effect”.

Reaction to the concepts

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

- 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 people agree with the idea that human beings are causing both an increase in global temperatures and a change in weather patterns over time around the world. However, in nearly all cases they see this link as being directly through mans’ involvement in deforestation. “Humans are causing these changes through deforestation,” explains a young man from Jirapa. “When the forest is cut down it affects the rain pattern... and the temperature increases.”

These changes are thus predominantly attributed to the local destruction and degradation of nature. As well as deforestation and bush burning, Ghana’s increasing population and localised pollution from factories and cars are mentioned as primary causes. Whilst there is awareness that industrial emissions contribute towards climate change and global warming, no one mentions the contribution of industrialised nations to greenhouse gas emissions.

Some Ghanaians also mention other causes of climate change and global warming such as the will of God and natural weather cycles.

Frames of reference

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

- 1. Emphasis on trees
- 2. Ozone confusion
- 3. Air pollution
- 4. Overpopulation and localised heat
- 5. The will of God

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

“I think initially we had a specific weather pattern... These days the rains come at [random] times: that is climate change”

WOMAN FROM ACCRA

Such pre-existing concepts are often referred to as “frames of reference”.⁴⁶ These are critical, because they shape people’s understanding of, and reactions to new information. When exposed to new information, people often use existing beliefs, knowledge, and values to help them process it. The likelihood that people accept or reject new information depends heavily on what they already know and believe.

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

In this way, 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 make their content relevant to their audiences. It is essential, therefore, to understand how existing knowledge and concepts are triggered when communicating about climate change.

Emphasis on trees

Ghanaians’ understanding of the concepts of climate change and global warming is shaped by the importance they place on trees. Many people have a keen awareness of trees and their effect at a micro-climatic level, with everyone commenting that trees “attract rain”, give out “fresh air” and “cool things down”. “Earthly things have changed and it is because we have started cutting down trees,” explains an older woman from Jirapa. “Now strong winds come and blow our farms away and the rain too doesn’t come regularly.”

Although scientists do not necessarily agree on whether trees attract rain, they agree that forests recycle rain through a process called evapotranspiration. This means that water vapour coming off the leaves of trees evaporates and falls again. Ghanaians are very aware that trees can play a role in the rainfall cycle: “Trees help to form clouds for rain,” says a young woman from Tappaala, “so if we cut them [down], we don’t get the rain.”

Ghanaians have also noticed that the shade from trees has an impact on the temperature of the immediate surroundings. “Because there are no trees to protect the ground, the temperature increases,” says a young man from Jirapa. As well as noting the roles trees play as wind breaks, several also believe that deforestation has led to a lack of cloud cover due to higher winds. “[Trees] act as wind barriers, so when there are no trees strong winds come and take the clouds away from this area,” explains a young woman from Tappaala.

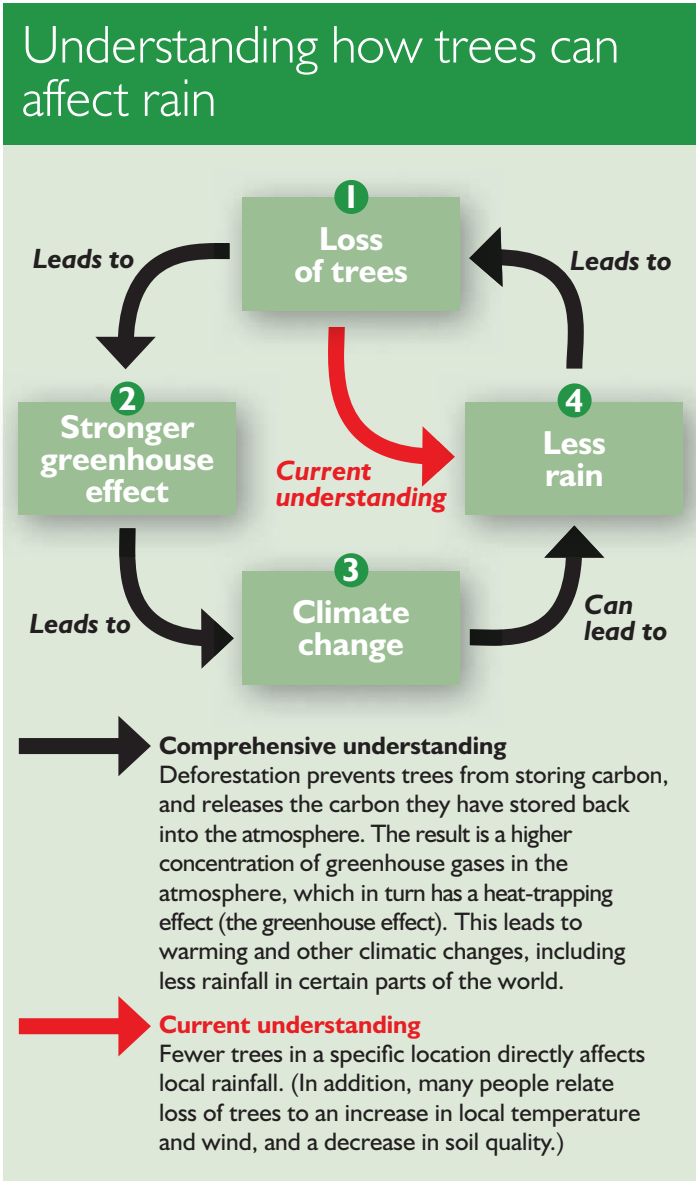
While there is almost no awareness that trees act as carbon sinks to reduce greenhouse gas emissions, many Ghanaians are aware that trees have a role to play in giving out oxygen and hence providing “clean” air for humans to breathe. “The trees... have died, so nothing is left to give us fresh air,” states a woman from Accra.

The implications of this 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 and environmental perspective. On the other hand, their understanding could provide a false sense that climatic problems, such as lack of rain, can be solved at a local level by planting trees.

Recommendations for communicators

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

Figure 2

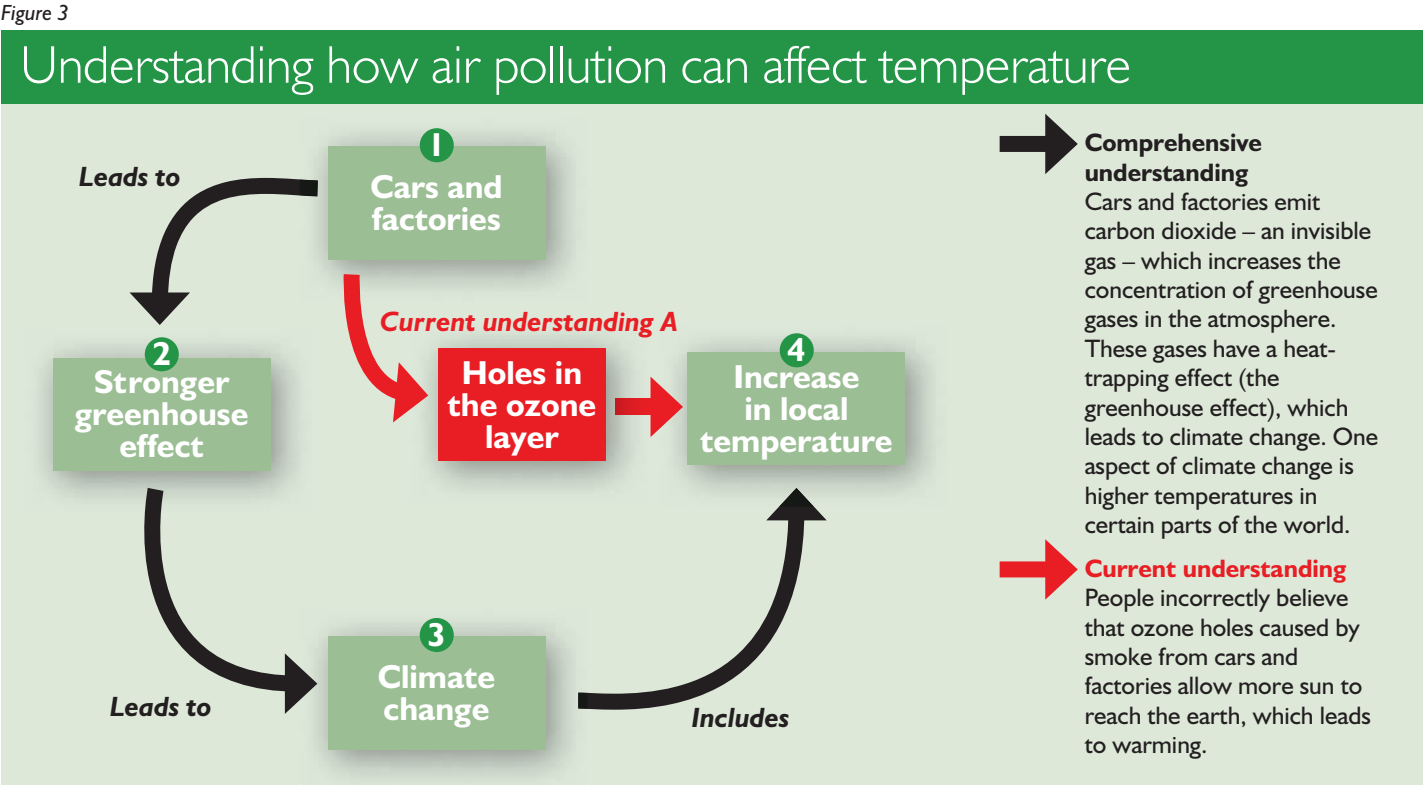


Ozone confusion

Many Ghanaians who have some awareness of the science of climate change tend to confuse climate change and/or global warming with ozone depletion. They say that human activities have created holes in the ozone layer, and often believe that these holes directly cause rising temperatures by allowing “more sun” to reach the earth. “The bush fires we have deplete the ozone layer, and then we get direct sunshine onto earth and this dries up the ground and the water bodies,” explains a young man from Jirapa.

In fact, 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. Nevertheless, many Ghanaians believe that the depletion of the ozone layer is directly responsible for increasing heat and reduced rainfall. “These changes in the weather are caused by the depletion of the ozone layer,” says a young woman from Accra. “The fumes from our industries destroy the atmosphere and it becomes open: we don’t have that covering any more.”

Similar confusion between ozone holes and climate change is also noted in perception studies conducted in developed countries. It may arise because climate change and ozone depletion are both caused by gases emitted as a result of human activities, which is also something that Ghanaians believe. An older man from Accra states:



“The ozone layer is [made of] certain protective chemicals in the sky that stop the sun’s rays having any bad side effects on humanity. But certain activities here on earth, like the use of chemicals, gas emissions, deep mining that brings about the depletion of the forest; act negatively against the protective layer in the sky and so the sun’s rays shine directly on us.”

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

Recommendations for communicators

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

Air pollution

Widespread awareness of air pollution, particularly visible indicators of pollution such as smoke, influence the way people in Ghana understand climate change. Ghanaians frequently speak about how “smoke” is damaging their health, degrading their natural environment, polluting the air and changing the weather. Many Ghanaians directly associate smoke with climate change, particularly reduced rainfall. “I have observed that smoke from burning looks like clouds and I think that when we burn things the smoke chases away the clouds and the rains don’t come,” says an older man from Tampaala.

However, there is a tendency to associate all visible smoke with climate change and global warming. As well as smoke from cars and factories, they often cite people smoking cigarettes and smoking cured fish as causes of climate change. Additionally, when asked to explain the link between smoke and climate change in greater detail,

many Ghanaians speak of how smoke damages the ozone layer, increasing the sun’s heat and bringing about changes in temperature and weather. “When we burn the bush, the smoke goes up and affects the ozone layer,” explains a woman from Accra, “and if the ozone layer is destroyed by things like burning the bush, the rays will come directly to earth, making the weather hot.”

For many Ghanaians, the unpleasant smells associated with smoke, waste, and pollution are indicators that the environment is being degraded. “When we came to live in Accra we were living in ... Korle Gonno,” says an older man from Accra. “It was an area you could visit to see the fisher folk catching fish and doing all sorts of things, it was a joy. Today [because of pollution] I have to hold my breath even in a taxi when I go through there because the stench is so terrible. It has forced me to leave the area and live elsewhere because I cannot stand such a smell.”

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

Recommendations for communicators

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

Overpopulation and localised heat

In all locations, Ghanaians mention overpopulation as both a primary and secondary cause of global warming. Some Ghanaians see the relationship between population growth and climate change as an indirect one, with many stating that as populations grow, they will exhaust available resources, leading to famine, hunger and environmental degradation.

“For me it is all about the population explosion,” explains an older woman from Jirapa. “There is too much pressure on the natural environment... and also poverty, there are no alternative jobs so we have to cut trees, burn bushes, and cause damage to the environment in order to survive.”

Others see the relationship between overpopulation and global warming more literally. Some feel that higher population density leads to greater ambient heat. “When too many human beings are packed into a small place, it will automatically generate heat,” says a man from Accra. “Just imagine the two of us occupying this room... if the number grows into the tens, fifties, this room will become more and more hot.”

Recommendations for communicators

Draw on people’s understanding of the immediate relationship between humans and the environment to explain climate change at a global level.

The will of God

Ghana is a majority Christian country and some people, particularly those living in rural or poorer urban areas, discussion of weather and climate to their faith. Some feel that the weather is the domain of God and that only He can influence the weather events, particularly rainfall. “It is the will of God for these things to happen,” explains a fisherman from Accra, adding: “When it comes to rainfall, it looks as though God has changed his calendar.”

More commonly, Ghanaians accept that human activities have an influence on the climate, but feel that some of the extreme weather events they are experiencing are because God is punishing them for bad behaviour. “It is through our own sins that we have these problems,” says an older woman from Amomaso. “The time has

come to be punished; God is punishing us for our deeds.” A man from Accra agrees: “In the past we had lots of gods around us, but now because of our greed, our quest for money, we do all sorts of things [that destroy the environment] and as a result these gods have deserted us. That is why these changes [in the weather] have occurred.”

Recommendations for communicators

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

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

In addition, Ghanaians are aware of the conflict between preservation of the environment and the fact that many people rely on the exploitation of Ghana’s natural resources to make a living. Many state that even if people were more aware of the wider effects of activities like deforestation, it is unlikely they would change their behaviour. “The actions that give birth to these changes in the weather patterns are needed to keep us going,” explains an older man from Accra. “For example, you need a place to sleep so you must cut down trees to build. You must farm, so you clear the land. You need to build factories to create jobs for people.”

4 Interviews with opinion leaders

This research draws on 18 interviews with opinion leaders across six sectors:

Government

- Climate change focal point
- Ministry of Food and Agriculture, the Electricity Company of Ghana
- Volta River Authority
- Environmental Protection Agency (EPA)
- Local council representatives from Berekum and Nandomkpee
- Traditional leader from Accra

Media

- Radio
- Television
- Print media

Private sector

- Cocoa processing company
- Oil refinery
- Nationwide bank

NGO, religious, associations

- General secretary, Christian Council
- Traditional religious leader from the Upper West region
- Farmers’ union
- Mine workers’ union
- Academic from the University of Ghana’s Department of Ecology

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

Climate change is happening now

Opinion leaders in Ghana are aware that climate change is likely to have a severe impact on their country. Although they may not always be well informed about the science of climate change, they are clear about its projected effects on Ghana.

Although this research relies on relatively few interviews with opinion leaders, those interviewed are fairly knowledgeable about climate change, although they tend to frame their definitions in terms of effects rather than causes. They describe climate change as “changes in the atmosphere” meaning “the rains have changed, the winds have changed.” They say these changes have lead to widespread crop failure and increasing poverty. While opinion leaders are not always well informed about climate change science, there is widespread awareness that Ghana is vulnerable to climate change. All opinion leaders interviewed say that climate change is already having an impact on Ghana and that it is likely to increase in the future, and that Ghanaians need to adapt to these changes.

“[Climate change is] going to be a catastrophe for Ghana... we are at the brink of disaster and we have to act.”

Mr Kingsley Offei Nkansah, general secretary, Ghana Agricultural Workers’ Union

“Human beings have made [the climate change]. It is because we don’t handle the land very well. The way we burn and punish the land is why we have these problems. We are burning and cutting down the trees... bringing the absence of rain and destroying the beauty of nature”

COMMUNITY LEADER, NANDOM

Understanding climate change

Knowledge of climate change is generally high among opinion leaders. Those less directly involved with environmental issues have less understanding of the issues.

While their definition of climate change is often impact-orientated, most opinion leaders, especially those in government and the private sector, also have a clear understanding of the causes of climate change. They discuss the role of greenhouse gas emissions and deforestation and stress the pivotal role of human activity in bringing about these changes.

“Climate change is to do with drastic changes in the climate, resulting from the emissions of greenhouse gases, especially carbon dioxide ... It is the pronounced, consistent warming up of the globe as a result of certain specific [actions] ... which are largely man-made.”

Mr Kingsley Offei Nkansah, general secretary, Ghana Agricultural Workers’ Union

Those less familiar with climate change science often attribute climate change directly to local deforestation without explaining the role trees play as carbon sinks or mentioning the role of greenhouse gases and global emissions. However, there is still a high level of awareness that humans have caused the rapid and negative shift in weather patterns.

“Human beings have made [the climate change]. It is because we don’t handle the land very well. The way we burn and punish the land is why we have these problems. We are burning and cutting down the trees... bringing the absence of rain and destroying the beauty of nature.”

Naa Batholomew Debpuur, community leader, Nandom

Additionally, a few opinion leaders from fields less directly associated with climate change (religious organisations, local government and community organisations) confuse global warming with ozone depletion. This model is generally pervasive in the minds of Ghanaians.

Perceived impacts of climate change

While climate change is understood as a global phenomenon, opinion leaders are most concerned about the implications for Ghana, particularly for rural communities.

Opinion leaders in Ghana are aware that climate change is having real impacts on their country. They mirror the discussions above with citizens when they speak of the devastating effects recent flooding and droughts have had on the Ghanaian people.

“In fact two years ago, in 2007, there was a major flood ... lots of farms were devastated ... people died. I think that was one of the major effects that started raising people’s awareness of the impact of climate change.”

Mr Delali Nustukpo, director of crop services, Ministry of Food and Agriculture

As well as the loss of life and possessions that happen as a direct result of extreme weather events, opinion leaders are keen to stress the secondary impacts of climate change: unpredictable rain patterns and rising temperatures are leading to increased incidences of a wide range of diseases, such as cholera, livestock diseases and malaria. The effects of such illnesses are exacerbated by the fact that people are often unprepared for them and Ghana lacks the infrastructure to deal with widespread epidemics.

“Malaria is [growing] more extensive, guinea worm is coming back because the place is getting drier and people have to get into the water to be able to fetch [it].”

Mr William Kojo Agyeman Bonsu, UNFCCC focal point, Environmental Protection Agency

As well as the direct impact that failing harvests and devastation of crops has on the livelihoods of subsistence farmers, opinion leaders are also aware of the indirect affect it can have on consumers. “When farming lands are affected by [climate change] farm produce becomes less, resulting in higher prices of food items,” explains Mr Osei Ramsford (a member of Berekum District Assembly).

Others mention that falling water levels in the Volta River system is reducing Ghana’s ability to generate powerⁱ, and that this is having knock-on effects on the cost and availability of electricity.

“In Ghana... [we use] hydropower, so if we are not getting enough rain as a result of climate change... the water bodies, [like] the almighty Volta River, will go down and we will not be able to generate enough power to power all the industries. We saw it two years ago, [the drop in water levels] really affected most industries and some even had to spend additional money on generators and plants just to keep their businesses going... In the end you have to pass this cost [on] to the consumer.”

Mr Nathan Quao, quality assurance manager, Cocoa Processing Company Ltd

Opinion leaders believe that such factors have placed massive financial stress on ordinary Ghanaians and have had corresponding social impacts, in particular people migrating from the rural north to the more affluent south.

“Young people have no future [on the farms anymore], they have to walk across the desert to migrate into [towns],” explains Mr Kofi Owusu (programmes director, Joy FM Radio). “Then crime levels [become] higher, [there are] less jobs, [higher] unemployment levels ... poverty becomes endemic.”

ⁱ Hydropower is the major source of electrical power in Ghana, with Lake Volta supplying 60% of Ghana’s energy needs.

Where does responsibility lie?

Most opinion leaders recognise that core responsibility for climate change lies with industrialised countries, and that without their involvement, mitigation is not possible. Ghana’s limited contribution to climate change is thought to be primarily through deforestation.

With the exception of local leaders, who tend to view climate change primarily as a product of local environmental degradation, opinion leaders are unanimous in viewing the primary causes of climate change as a combination of emissions from industry, especially from developed countries and lack of forest conservation from within Ghana.

“Our contribution is minimal, but if we contribute something, then it is the removal of our forested areas, of our vegetation ... but [in terms of] greenhouse gases we don’t contribute much. Our livestock industry is small, our transport industry is not big enough to contribute to emissions, [and nor is] our refrigeration industry. But the removal of our [forests] that could provide a sink for those [sources of] carbon dioxide – that’s our problem.”

Dr Delali B Dovie, research associate, University of Ghana

Several opinion leaders stress the importance of trees in understanding climate change. “When trees are cut down... it leads to changes in the weather patterns,” explains Mr Osei Ramsford (a member of Berekum District Assembly), adding that the absence of trees leads to droughts and desertification. Mr Stanislaus Nasaal (a member of Lawra District Assembly) agrees, stating that deforestation is the “main thing we do which contributes to climate change... we cut the trees and the rains don’t come.” There is a strong feeling among opinion leaders that citizens do not understand the value of trees and so fell forests indiscriminately.

“People need to be educated [about the importance of trees]. When people know that when the last tree dies, the last person will also die, I think this will break their conscience because nobody wants to die. Because there [are] a lot of uneducated people in Ghana and... they cut down trees to make money for themselves and they don’t [understand the damage this does].”

Mr Nathan Quao, quality assurance manager, Cocoa Processing Company Ltd

“[We use] hydropower, so if we are not getting enough rain as a result of climate change... we will not be able to generate enough power”

QUALITY ASSURANCE MANAGER, COCOA PROCESSING COMPANY

However, Reverend Fred Degbe (general secretary, Christian Council of Ghana) points out that it is difficult to tell people not to cut down trees when they need to make charcoal to survive. “We must take care not to deprive the people of their livelihoods, because a lot of these people do not do these things deliberately,” he explains, adding: “Sometimes they are driven by the need to survive. So [we can’t just] apply sanctions, we must also try to provide alternative [livelihoods] for people.” Several opinion leaders voice concerns that, as Ghana’s population grows, more and more people will need to exploit the country’s natural resources in order to make a living.

A number of opinion leaders also recognise that emissions from cars cause climate change. “[We need to] stop the importation of old cars,” says Mr William Kojo Agyeman Bonsu (UNFCCC focal point). “These old cars have very poor [fuel efficiency] and some were even banned in the 1970s and 1980s in their home countries.”

However, while there is acceptance that Ghana contributes to climate change via car emissions, this is “insignificant”, says Ernest Addison (director of research, Bank of Ghana). “Yes, we may be contributing greenhouse gases in our part of the world, but it is [marginal] when you compare [it to] what is being done in bigger economies.”

Mr Osei Boakye (head of current affairs, TV3) agrees and emphasises the need for industrialised countries to take the lead: “I don’t want anyone to sit in London or Las Vegas and tell us that we must help restore the climate, because our effect is minimal,” he argues. “It doesn’t in any way justify [the fact] that we continue with what we are doing but a lot more depends on the industrialised north. They must do their homework first before they come and push the idea down our necks. We are not in any way responsible for even a quarter of the problems related to climate change.”

There is a strong feeling that Ghana should therefore be seen as a victim, rather than a perpetrator, of climate change and that industrialised countries should take most of the responsibility for the adverse weather conditions Ghanaians are now experiencing.

“The rich industrialised countries must know how much they have contributed to global climate change and they must be ready to take the initial first steps and show full commitment. I think the rich of this world can be more responsible and responsive to the challenges [for the poor] of this world. There are none that [emerge as] glaringly as the climate change challenge.”

Mr Kingsley Offei Nkansah, general secretary,
Ghana Agricultural Workers’ Union

Who is affected by climate change?

Ghanaian opinion leaders are aware that Africans are likely to be disproportionately affected by climate change, despite being minimal contributors. They also note that those with existing vulnerabilities, such as those living in poverty and in locations cut off from basic services, are likely to be the worst affected.

Ghanaian opinion leaders feel that everyone will be affected by climate change, but that the poorest Ghanaians will endure the worst of its impacts, particularly those whose work is directly associated with the climate for a living.

“For us in Africa, it’s the poor and the vulnerable who will suffer the most as a result of [climate change]. When we speak of the poor and vulnerable, we’re talking about peasant

“I don’t want anyone to sit in London... and tell us that we must help restore the climate, because our effect is minimal. A lot more depends on the industrialised north. They must do their homework first before they come and push the idea down our necks. We are not in any way responsible for even a quarter of the problems [of] climate change”

HEAD OF CURRENT AFFAIRS, TV3

farmers, fishermen... even though it affects everybody, it is the poor who will really suffer from the results of climate change.”

Mr Kobby Asmah, political editor,
Daily Graphic newspaper

Opinion leaders are aware that poor people from both rural and urban areas are particularly vulnerable because they are unable to adapt quickly to the resulting changes. “Who [climate change] really affects most is the poor,” explains Mr Abudulai Dramani (programme officer, Third World Network-Africa). He continues: “Wherever the poor person finds himself or herself, whether in a rural area or an urban area – they will be the most affected. Rich people in [both] areas will be [less] affected because of their capacity to resist.” The general consensus amongst opinion leaders is that the Ghanaians most vulnerable to climate change are those who have done the least to contribute to its causes. They are also the least equipped to deal with its impacts.

Opinion leaders in Ghana are also acutely aware that African citizens will be disproportionately affected compared to the rest of the world – in terms of impacts and because the African continent is less resilient to the economic and social implications of extreme weather events than other parts of the world.

“World leaders must realise that the people of Ghana have contributed probably much less than any other country [to the causes of climate change], yet they are going through dire difficulties because of climate change.”

Mr Kingsley Offei Nkansah, general secretary,
Ghana Agricultural Workers’ Union

Do the worst affected understand climate change?

Opinion leaders feel that the Ghanaian public know the climate is changing through personal experience, even if they are not familiar with climate change terms. However, they note that many Ghanaians may attribute these changes to something other than human causes. They also stress that Ghanaians have a variety of other socio-economic issues to contend with.

The general consensus is that the public, particularly those living in the rural areas, do not fully understand the phenomenon. “No more than 30% of Ghanaians [would] understand climate change,” says Mr Kobby Asmah (political editor, Daily Graphic newspaper).

Whilst opinion leaders feel that most people do not fully understand the science and mechanisms of climate change, they do believe that people are aware of its effects. “If you take the farmers or fisher folks, if you asked them about climate change, [even if they don’t know what it is] they should be able to tell you that it is happening,” says Osu Mantse Nii Nortey Owuo III, a traditional leader in Accra. “It will [not] be difficult for people who live in areas severely affected to tell you, because their lifestyles may have changed. Everybody knows the weather is changing today, that when it rains now there is a deluge.”

There is also a strong feeling that Ghanaians have so many other pressing concerns, such as food, health, and finding employment, that even when they do understand climate change, it still is not likely “to be put on a very high pedestal”. “Ghana, like most developing countries, is already grappling with difficulties,” explains Mr Kofi Owusu, such as “economic difficulties, unemployment, lack of resources, lack of proper education for its citizens.” The Reverend Fred Degbe agrees: “For most people it is still bread and butter that we think about: survival.”

A number are also aware that many Ghanaians frame their understanding of climate change in terms of their spiritual beliefs, as Mr William Kojo Agyeman Bonsu explains: “[some people] think [climate change] is happening because of lack of respect for the gods, or our inequities.” The danger is that Ghanaians may then assume that human activities have little or nothing to do with the changes in climate they are witnessing.

However, opinion leaders do not feel that spiritual beliefs and knowledge of climate change are mutually exclusive:

“[Sometimes] traditional people will tell you [climate change is happening] because people have destroyed all the shrines. The rivers and streams that we have, some of them are seen as gods that must be handled in certain ways. [But] we can then explain to them the science behind these things. And tell them activities [they are] doing do affect the natural resources.”

Mr Delali Nustukpo (director of crop services,
Ministry of Food and Agriculture)

Climate change terminology

Opinion leaders think that climate change terminology can be a barrier to public engagement with the problem. There is a need to find meaningful ways of communicating climate change to people who have little scientific knowledge of the issues but a deep understanding of their natural environment.

Opinion leaders are united in feeling there is a need to provide more information to people affected by climate change and note that the most vulnerable people are also often the least informed. They stress that there is a real need for these people affected by climate change to be educated about its causes and about how they can respond to the changes they are experiencing.

“I think the ordinary Ghanaian is probably not aware that they care about climate change, because the word sounds a little abstract. But the ordinary Ghanaian cares when it is very hot out there. They care when they cannot get water or any of the things that result from the changes in weather conditions. So they care. [But] they may not make the connection between what they are experiencing and climate change. This is what they need to be educated about.”

Mr Ernest Addison,
director of research, Bank of Ghana

Several opinion leaders point out that one way to do this is to tap into peoples’ existing knowledge about what they have witnessed and already have had to adapt to. “People can see that things are not going as they should,” says Osu Mantse Nii Nortey Owuo III. “They just need to see the correlation between their activities and the effects of what they are experiencing in terms of fishing and farming outcomes.” As Mr William Kojo Agyeman Bonsu explains, people “don’t think ‘climate change’, but they know that something is happening with regards to the weather”. Mr Abudulai Dramani adds that people need to “evolve the concept themselves rather than you evolving it and imposing it on them”.

Others say that providing climate change information should focus on issues pertinent to the lives of people who depend on the land. Mr Osei Boakye explains: “Messages should be tailored to suit specific communities,” before emphasising the needs of rural communities: “If you go to the village, you either talk to them in their dialect or show them a video. A good picture is worth a thousand words and they tell their own stories.”

Mr Kobby Asmah agrees: “Instead of staying with this English concept of ‘climate change’, we need to bring it into the native languages and let people really see what we’re talking about.”

If Ghana is to address the challenges of climate change, the information needs of its worst-affected people must be a priority.

What response is required?

Opinion leaders feel that whilst steps have been taken to address climate change, much more needs to be done. So far responses have been largely reactive, and have focused exclusively on tree-planting. Opinion leaders note the need to shift the focus to longer-term adaptation strategies.

The feeling of opinion leaders is that, although Ghana’s government and civil society have taken steps to address climate change, much is still to be done. Many say responses so far have been largely reactive.

“In Ghana, it’s about disaster management as opposed to managing the impacts of climate change, so the [government] don’t see that climate change is leading to such disasters. [We have] the National Disaster Management Organisation... and they only look at: how do we provide shelter; how do we save lives; how do we feed people in terms of, say, flood or drought or fires? But that does not really address the basis of the climate change.”

Dr Delali B Dovie, research associate,
University of Ghana

“Messages should be tailored to suit specific communities. If you go to the village... talk to them in their dialect or show them a video”

HEAD OF CURRENT AFFAIRS, TV3

So far most response strategies in Ghana have focused exclusively on planting trees. “There were campaigns in the late 1980s and |early 1990s on... how we need to plant trees so that the rains will come,” says Mr Kingsley Offei Nkansah. “Many ordinary Ghanaians now have an idea that the rains are not coming because we have cut down a lot of trees. That is their appreciation of what climate change is.”

Dr Delali B. Dovie echoes what many say in noting there needs to be an emphasis on adaptation rather than mitigation: “Local people have already found ways to adapt to some of these changes... like floods, droughts, water shortages. Leaders need to see that these people are already doing something on their own to adapt and then focus on how best we can help them to improve upon what they are already doing.”

Government response

The Ghanaian government has been making attempts to mitigate the causes of climate change and adapt to its effects, although opinion leaders think it has yet to prioritise the issue. They also believe the government is hampered by a lack of cohesion and resources.

Government opinion leaders believe that the government is responding to the issue of climate change, but faces several challenges. Mr Delali Nustukpo, director of crop services at the Ministry of Food and Agriculture draws attention to work on reforestation and emissions regulations and points out that a number of other programmes exist that “may not been ‘labelled’ as climate change [related]” but they “address the effects of climate change”. Such initiatives are often limited by funding, however, and the need to devote time and resources to other pressing socio-economic issues.

“[Climate change] is not easy to cover because the people [who can write about it] are academic and they lose sight of the fact they’re writing for a mass audience; so they use technical jargon, big words... they don’t reduce it to ordinary simple English that people can understand”

MR KOBBY ASMAM, THE DAILY GRAPHIC NEWSPAPER

“We have not been bold in taking decisive actions as to how to solve the problem of climate change. We have always been looking at its effects on our pockets and our economy. As a result we have only paid lip service to it.”

Mr Owura Sarfo, chief executive, Volta River Authority.

Those outside government agree that financial constraints mean it is difficult for those in power to tackle climate change as effectively as they would like. “Awareness of climate change is there, but we are operating a very small economy,” explains Mr Osei Boakye. “The government is responding to the health needs of the people which are basic and primary. [They] are more interested in infrastructure development, so that issues that appear a little more remote from our basic needs are not given the attention they need.”

The general consensus of opinion leaders outside national government is that the government of Ghana is only just beginning to respond to climate change and “there is room for improvement.” There is awareness that the government has taken action on tree-planting campaigns and brought in laws to regulate emissions and has promoted the use of energy-saving light bulbs. However, the general perception is that the government response to climate change is often reactive (giving aid to people after floods and droughts) rather than proactive (educating them on what to do to avoid or cope with disasters). “[They’re] lethargic,” explains Mr Kobby Asmah, “not really hands-on. They just wait and then a disaster comes and they just go in there to do the firefighting.”

There is also the feeling, both outside and within the government, that not enough has been done to raise the profile of climate change among the population.

“From where I sit, the government has spoken about it [to people], but not enough. For instance, I don’t think the Ministry of Environment has spoken enough about it.”

Mr Owura Sarfo, chief executive, Volta River Authority

In terms of mitigation, there is general agreement that the government, through the Environmental Protection Agency and Forestry Commission, is trying to address the problem of climate change through policies on deforestation but rarely enforces the laws or takes strong action. “I am sure you will find that so many things have been said on paper and [at] all the climate change conferences around the world I am sure you will see Ghanaian participation,” says Mr Ernest Addison (director of research, Bank of Ghana), “but on the ground, there is very little to show for it.”

Opinion leaders note that whilst the government is actively trying to raise awareness with regard to climate change, there is still a general sense amongst policymakers or the general public that climate change is not a “serious enough” problem and hence attitudinal change is too slow.

“It’s very slow and we can do a lot better. It’s slow because I think we have this mentality that it’s not really a big problem and therefore scarce resources must go on other things. Why must you waste them on, say, information dissemination? So I think that a little bit of slowness is there, even though the government is aware, the government is well informed about it, but [they are not good at] disseminating the problems and how to tackle and handle them.”

Mr Kobby Asmah, political editor, Daily Graphic newspaper

Private-sector response

Private-sector opinion leaders interviewed are aware that climate change could have a severe impact on their businesses, but they believe that the sector as a whole will only become concerned about the issue when it starts having a clear impact on profits.

All three representatives from the private sector are aware that climate change has the potential to impact negatively on their businesses in the long term. However, they acknowledge that, in general, environmental concerns are not a priority for the private sector.

“If it’s not affecting their core business, they won’t mind and [companies will often pollute] if they don’t have the money to pay for certain things. For instance, [a factory might think] who cares about the Volta River, let’s release waste into it.”

Mr Nathan Quao, quality assurance manager, Cocoa Processing Company Ltd

“Frankly, I don’t think climate change is at the forefront of the private sector’s concerns. It is the least of their worries. This is probably because they have other more pressing problems; interest rates, inflation, taxation, crime. The only thing that may [relate] closely to climate change is power supply. But I don’t think they even see it as related to climate change.”

Mr Ernest Addison, director of research, Bank of Ghana

Several mentioned efforts they have made to reduce their emissions and promote forestation. However, as Mr Kingsley Offei Nkansah says, “a drop in the ocean is not much to talk about”. Despite this, there is some acknowledgement from outside the private sector that things are improving.

“By having peer control, they bind each other, for instance the Association of Ghanaian Industries has certain standards for emissions whereby every member has to comply with this requirement.”

Mr Owura Sarfo, chief executive, Volta River Authority

Media response

Media coverage tends to be reactive, with reports focusing on the effects of natural disasters and extreme weather events. Journalists feel that it is difficult to report on climate change because it requires technical expertise and they lack the relevant information. Yet they still believe the media has an important role to play in raising public awareness.

There is agreement that the media does report on climate change but “it could do much more”. Coverage usually happens in response to disasters or crises such as floods and droughts. It is rarely aimed at raising awareness.

“We tend to report on the ‘news’ aspect [of climate change] – the consequences, the effects on people – but in terms of advocacy or sensitising society in terms of what they should do to prevent such disasters, we don’t do it.”

Mr Kofi Owusu, programmes director, Joy FM Radio

Others agree: “Not many environmental issues get on the front page – awareness creation is on the low side,” says Osu Mantse Nii Nortey Owuo III. Media employees agree that climate change can be difficult to report on because of the level of technical knowledge required to make sense of it.

“[Climate change] is not easy to cover because the people [who can write about it] are academic and they lose sight of the fact they’re writing for a mass audience; so they use technical jargon, big words... they don’t reduce it to ordinary simple English that people can understand,”

Mr Kobby Asmah, political editor, Daily Graphic newspaper

Several journalists point out that it can also be difficult to get enough relevant information to write a well-informed piece on climate change, particularly on the political machinations associated with it. Mr Kobby Asmah feels that the government is not transparent enough in its dealings with climate change to allow journalists to report the whole story: “They handle climate change like a secret. It’s like they go into a four star hotel, it’s locked and then they do everything there and whatever is happening there... it doesn’t come out. So what we [as journalists] are lacking is the passion, the knowledge needed to cover [climate change].”

All those interviewed were keen to emphasise the important role they feel the media can play in educating people about the causes of climate change and how to adapt to its impacts.

“I strongly think that the media should focus on the environment and disseminate it to people in a language they understand. [The thing is] corporations are not keen on providing sponsorship for [coverage] of issues to do with the environment, for obvious reasons. In journalism, corporate sponsorship limits editorial independence so what is needed is for [people like] the European Union or USAID and NGOs to commit part of their money to [media coverage] of issues on the environment.”

Mr Osei Boakye, head of current affairs, TV3

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

Other responses from community leaders

Actions by community organisations on climate change are so far limited. Religious leaders believe there is a role for religion to play in encouraging good stewardship of the environment.

Whilst local leaders and civil society organisations are aware of climate change, their response has been limited. Both religious leaders interviewed are aware of climate change and aware that religious beliefs offers a way of understanding and framing the issue for their adherents.

Reverend Fred Degbe (general secretary, Christian Council of Ghana) points out that there are plenty of passages in the Bible encouraging people to look after the environment: “When God created the earth, he put it in the form of a garden with plants and trees and other animals and He mandated man to take care of them. So man was created to take care of the creation of God. From the biblical perspective, man has a responsibility to take care of his natural environment.”

The church is also actively involved in encouraging people to take better care of nature, as the Reverend Fred Degbe explains: “We work closely with Friends of the Earth and the government to address climate change. During the ‘Ghana at 50’ [event], as part of the programme, the secretariat organised what they called ‘Green Ghana at 50’. We joined [the] government to plant several acres of trees and advocate that [Christians] do the same.”

5 Conclusion

This research has shown that public awareness and understanding of global climate change is limited in Ghana. Climate change terminology is poorly understood and does not have standard translations in local languages. More Ghanaians recognise that their climate is changing than are aware of the term “climate change”. The term is often literally interpreted to mean “changes in weather”. In this context, many Ghanaians have their own ways of explaining why their weather patterns and environment have changed. They draw on existing knowledge and beliefs, both to explain the changes they have witnessed and to process new information on climate change. While most Ghanaians see a link between human activity and changes in climate, this is not because they understand that rising levels of greenhouse gases in the earth’s atmosphere lead to climate change. Instead, they link human activities, such as tree felling and pollution, to degradation of the local environment and changes in weather patterns.

Ghanaian opinion leaders are very aware that climate change presents a significant challenge to their country. However, they currently feel that their response is limited by a lack of funding and resources. Although the media, together with schools, are the main source of information on climate change for the general public, there is evidence to suggest that media lacks the resources and technical expertise to effectively inform audiences about climate change and facilitate public discussion.

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

Provide information

Firstly, the media have a critical role to play in providing information on climate change and supporting others to do so, including governments, national and international NGOs, scientists, religious leaders and community leaders. Ghanaian citizens have a fundamental right to access information on an issue that affects their lives; increased awareness and understanding of climate change will enable citizens and communities to discuss the problem, adapt to climate change effects and make informed long-term choices.

Building on the public’s current understanding of climate change, efforts to improve communication on climate change need to raise

awareness of global climate change and the ways in which it relates to people’s lives and livelihoods, equip people with the knowledge that weather patterns are changing and that extreme weather events are more likely to occur.

Efforts also need to provide people with access to correct information about the causes of climate change, to help people build simple, correct mental models of how climate change works (being mindful of people’s existing frames of reference and their misconceptions) and to develop and test appropriate climate change terminology in local languages.

Clarifying how climate change does and does not relate to environmental degradation and providing information on how to adapt to climate change and prepare for extreme weather events is also crucial. Evidence and facts need to be communicated in a way that is locally relevant using a variety of news and non-news platforms (such as public service announcements or radio dramas).

Facilitate policy and public debate

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

Encourage accountability

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

References

1 Global Humanitarian Forum Human Impact Report: *Climate Change, The Anatomy of a Silent Crisis* (2009), ghfgeneva.org/Portals/0/pdfs/human_impact_report.pdf

2 “By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%”: IPCC Fourth Assessment Report: *Climate Change 2007*, Intergovernmental Panel on Climate Change, www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html

3 “Declining crop yields, especially in Africa, are likely to leave hundreds of millions without the ability to produce or purchase sufficient food”: Stern, Lord N, *Stern Review: The Economics of Climate Change* (2006), www.hm-treasury.gov.uk/stern_review_report.htm

4 *UN set to double Kenya food aid* (BBC News, 18 March 2009, news.bbc.co.uk/1/hi/world/africa/7951332.stm); *Ethiopia appeals for urgent aid* (BBC News, 12 June 2008, news.bbc.co.uk/1/hi/world/africa/7451936.stm); *Somalia ‘worst drought in decade’* (BBC News, 13 May 2009, news.bbc.co.uk/1/hi/8047273.stm); *Uganda facing food crisis* (The Guardian, 6 July 2009, www.guardian.co.uk/katine/2009/jul/06/uganda-food-crisis)

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

6 IPCC Fourth Assessment Report: *Climate Change 2007*, op cit

7 Global Humanitarian Forum: *Climate Change, The Anatomy of a Silent Crisis*, op cit

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

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

10 Vulnerability of National Economies to the Impacts of Climate Change on Fisheries by Edward H. Allison et al (2009), *Fish and Fisheries* 10, pp173–196 www.worldfishcenter.org/wfcms/HQ/article.aspx?ID=223

11 *Ghana Country Brief*, World Bank, September 2009

12 *Trade Reforms and Food Security Project*, Ghana, FAO Commodities and Trade Division (2003)

13 *Ghana’s Experience at Integrating Climate Change Adaptation into National Planning* (November 2007) Document prepared for the UNFCCC, Rudolph S. Kuuzegh, Ministry of Local Government, Rural Development and Environment, Accra, Ghana www.un.org/esa/sustdev/natlinfo/nsds/egm_ClimateChange/ghana.pdf

14 Research carried out with 3,164 South Africans in 2008, for example, revealed that more than a quarter (28%) of respondents had not heard about climate change, and that very few (less than 25%) knew either “a lot” or “a fair amount” about the subject. See *Blowing Hot or Cold? South African Attitudes to Climate Change* by J Seager (2008), in *Human Sciences Research Council Review* 6(3), www.hsrc.ac.za/HSRC_Review_Article-105.phtml. Similarly, a 2008 Gallup poll showed that 63% of South Africans had either never heard of climate change or global warming, or they said they didn’t know or refused to answer: www.gallup.com/poll/121526/major-economies-threat-climate-change.aspx

15 A 2007 BBC World Service poll revealed that about 50% of Nigerians and Kenyans had heard or read either nothing at all or not very much about global warming or climate change: *All Countries Need to Take Major Steps on Climate Change: Global Poll* news.bbc.co.uk/1/shared/bsp/hi/pdfs/25_09_07climatepoll.pdf

16 A 2009 BBC World Service poll revealed that 52% of Kenyans and 48% of Nigerians regard climate change as a “very serious” problem: *Climate Concerns Continue to Increase: Global Poll* news.bbc.co.uk/1/shared/bsp/hi/pdfs/04_12_09climatepoll.pdf

17 *The World Speaks*: an Annual BBC Global News Poll, in Association with Globescan, BBC Global News (2010), downloads.bbc.co.uk/worldservice/the_world_speaks/presentation.pdf

18 Internal migrants in Ghana mentioned scarcity of fertile land, unreliable rainfall and low crop yields as reasons for leaving their homes. See “We Are Managing!”: *Climate Change and Livelihood Vulnerability in Northwest Ghana* by K Van der Geest, 2004, Leiden: Afrika-Studies Centrum

19 *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*, 64, pp 210-221

20 *Farmers’ Perceptions of Climate Change and Agricultural Adaptation Strategies in Rural Sahel*, by O Mertz et al (2009) in *Environmental Management*, 43(5), pp 804-816

21 A 2007 survey of southern Africa found that farmers saw a lack of information on climate change effects and potential adaptation strategies as significant barriers to adaptation. See *Micro-Level Analysis of Farmers’ Adaptation to Climate Change in Southern Africa*, by C Nhemachena and R Hassan (2007), IFPRI Discussion Paper 00714, www.ifpri.org/publication/micro-level-analysis-farmers-adaptation-climate-change-southern-africa

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

23 *Climate Change in the American Mind: Americans’ Climate Change Beliefs, Attitudes, Policy Preferences, and Actions*, by A Leiserowitz et al (2009), Center for Climate Change Communication, Dept of Communication, George Mason University, www.climatechangecommunication.org/images/files/Climate_Change_in_the_American_Mind.pdf

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

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

26 A small study in Pittsburgh identified that people confuse existing knowledge of stratospheric ozone depletion with the greenhouse effect. People also conflate weather and climate. The greenhouse effect is often literally interpreted as being the cause of a hot and steamy climate. See *What Do People Know About Global Climate Change? I. Mental Models*, by A Bostrum et al (1994) in *Risk Analysis* 14(6), brynnnevans.com/Climate-Change-Part1.pdf

27 *Fear Won’t Do It: Promoting Positive Engagement With Climate Change Through Visual and Iconic Representations*, by S O’Neill and S Nicholson-Cole (2009), in *Science Communication* 30(3): pp 355-379

28 *Communicating Climate Change – Motivating Citizen Action*, by S Moser (2008), The Canada Institute of the Woodrow Wilson International Center for Scholars, in *Encyclopaedia of Earth*, editors Cutler J Cleveland, Washington, DC: Environmental Information Coalition, National Council for Science and the Environment, www.eoearth.org/article/Communicating_climate_change_motivating_citizen_action

29 See: *UNEP Climate Change Strategy 2010-11*, www.unep.org/pdf/UNEP_CC_STRATEGY_web.pdf; *UN Gender Perspectives: Integrating Disaster and Risk Reduction into Climate Change Adaptation*, United Nations (2008); *Left in the Dark: The unmet need for information in humanitarian responses*, BBC World Service Trust (2008); *Micro-Level Analysis of Farmers’ Adaptation to Climate Change in Southern Africa*, by C Nhemachena and R Hassan (2007), op cit

30 Synthesising the findings of studies from more than 35 non-industrialised countries, this report suggests that resources need to be devoted to bringing journalists and potential sources together into professional networks and that editorial support for climate change needs strengthening. It concludes: “such steps could help to shift climate change coverage from environmental stories to the more marketable political, economic, and human interest stories... less often told”. See *Time to Adapt? Media Coverage of Climate Change in non-Industrialised Countries*, by M Shanahan (2009), in *Climate Change and the Media*, edited by T Boyce and J Lewis, Peter Lang Publishing

31 *Ghana’s Experience at Integrating Climate Change Adaptation into National Planning* (November 2007) Document prepared for the UNFCCC, Rudolph S. Kuuzegh, Ministry of Local Government, Rural Development and Environment, Accra, Ghana www.un.org/esa/sustdev/natlinfo/nsds/egm_ClimateChange/ghana.pdf

32 *Climate Change and Poverty in Ghana*, December 2007, Care International

33 *Vulnerability of National Economies to the Impacts of Climate Change on Fisheries* by Edward H Allison et al (2009), *Fish and Fisheries*, 10, pp173–196 www.worldfishcenter.org/wfcms/HQ/article.aspx?ID=223

34 *Environmental Impacts of the Akosombo Dam and Effects of Climate Change on Lake Levels*, by G Gyau-Boakye (2001), *Environment and Sustainability*, 3, pp17-29

35 *Climate Change and Energy Access*: International Parliamentary Hearing for West African Legislators’, September 20-21 2008, Volta Hotel, Akosombo, Ghana, www.e-parl.net/eparliament/hearings/31

36 *Climate Change: A New Threat to Stability in West Africa? Evidence from Ghana and Burkina Faso*, by O Brown and A Crawford (2008), *African Security Review*, 17 (3), pp 39-57, Institute for Security Studies www.iisd.org/pdf/2008/asr_vol17_no3_climate_west_africa.pdf

37 *Climate Change Screening of Danish Development Cooperation with Ghana, Final Report* (2008), Danish International Development Assistance

38 *Climate Change and Displacement*, by K van der Geest and R de Jeu (2008), *Forced Migration Review*, 16, p 31

39 *Climate Change and Poverty in Ghana*, op cit

40 *Climate Change Screening of Danish Development Cooperation with Ghana, Final Report*, op cit

41 *Climate Change and Poverty in Ghana*, op cit

42 APO (2008), appablog.wordpress.com/2008/08/22/ghana-accra-un-climate-change-talks-kick-off-with-warning-that-“clock-is-ticking-down”-to-new-international-climate-change-deal-in-copenhagen/

43 *Environment, wealth and health: Towards an analysis of intra-urban differentials within the Greater Accra Metropolitan Area, Ghana*, by J Songsore and G McGranaham (1993), *Environment and Urbanization*, 5 (2)

44 *Climate Change and Poverty in Ghana*, op cit

45 EPC, 1991

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

Appendix I Opinion leaders interviewed

Name and title	Organisation	Sector
Mr Daniel Asah <i>Environmental officer</i>	Electricity Company of Ghana	National government
Mr Delali Nustukpo <i>Director of crop services</i>	Ministry of Food and Agriculture	National government
Mr Owura Sarfo <i>Chief executive</i>	Volta River Authority (VRA)	National government
Mr William Kojo Agyeman-Bonsu <i>UNFCC focal point</i>	Environmental Protection Agency (EPA)	National government
Osei Ramsford <i>Assembly member</i>	Berekum District Assembly, Brong Ahafo Region	Local government
Mr Stanislaus Nasaal <i>Assembly member</i>	Lawra District Assembly, Upper West Region	Local government
Mr Kobby Asmah <i>Political editor</i>	<i>Daily Graphic</i> Newspaper, Graphic Communications Group	Media
Mr Kofi Owusu <i>Programmes director</i>	Joy FM Radio Station	Media
Osei Boakye <i>Head of current affairs</i>	TV3	Media
Ernest Addison <i>Director of research</i>	Bank of Ghana	Private sector
Mr Mark Quist <i>Environmental Officer</i>	Tema Oil Refinery	Private sector
Mr Nathan Quao <i>Quality assurance manager</i>	Cocoa Processing Company Ltd.	Private sector
Reverend Fred Degbe <i>General secretary</i>	Christian Council of Ghana	Religious
Naa Batholomew Debpuur <i>Community leader</i>	Betaglu, Nandom traditional area, Upper West Region	Traditional leader
Osu Mantse (chief), Nii Nortey Owuo III, David Nortey Oshong <i>Traditional leader</i>	Traditional Leader, Accra	Traditional leader
Mr Abudulai Dramani <i>Programme officer</i>	Third World Network Africa, Mining Union	Association
Mr Kingsley Offei Nkansah <i>General secretary</i>	Ghana Agricultural Workers' Union	Association
Dr Delali B. Dovie <i>Research associate</i>	University of Ghana	Academia

Appendix 2 Ghana advisory group

Name	Organisation
Angie Dazé	Care International
Kees van der Geest	Environmental Protection Management Services
Monica Idinoba	Institute of Resource Assessment, University of Dar es Salaam
Gilbert Kwapong	Centre for Energy, Environment, Science, and Technology

Appendix 3 Methodology overview

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

A total of 12 focus groups with citizens and 18 in-depth interviews with opinion leaders were carried out across five locations in Ghana in May 2009.

The five fieldwork locations were selected based on desk research and consultation calls with the Ghana advisory group. The locations represent areas experiencing environmental challenges which have been, to some extent, linked to or exacerbated by climate change. Selection also sought to ensure suitable geographic, ethnic, linguistic and urban/rural diversity. The locations selected for research were as follows: Accra, Berekum and Amomaso (Brong Ahafo Region) and Jirapa and Tapaala (Upper West Region).

Focus group discussions

Focus groups were held with farmers and fishermen, pastoralists and business people, women and men, rich and poor, rural and urban. Given the implications of climate change for certain livelihoods in Ghana, individuals working in fishing (Accra) and farming (Brong Ahafo and Upper West Regions) were targeted.

Of the 12 focus groups, four were convened in Accra and two in each of the other locations. The focus groups were single sex and contained approximately eight participants who fell within a similar age range. The age ranges were 18-24 years, 25-34 years and 35-50 years. Age and gender were taken into consideration in order to facilitate easy conversation among participants.

Participants in each focus group occupied a similar socio-economic class or profession. Socio-economic class was determined by income in Accra; however, it was not possible to determine socio-economic class outside of the capital due to limited data on socio-economic indicators. Profession was therefore used as basis to recruit participants in these areas.

Moderators for each group were matched to participants in terms of gender and language. In Accra focus groups were conducted in Twi, Ga and English, in Bhong Ahafo they were conducted in Twi and in the Upper West region they were conducted in Dagaare.

Structure of the discussions

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

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

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

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

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

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

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

The subsequent sections of the guide explored responses to climate change, barriers and facilitators to environmental stewardship, rural-urban migration and the potential role of media.

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

In-depth interviews

The research team conducted 18 in-depth interviews with opinion leaders to elicit the views of policymakers and opinion formers in on the issue of climate change. These opinion formers were individuals who have a particular interest in climate change, or an informed opinion from a certain field, region or subject area within that country.

Interviewees were selected based on desk research and consultation with the local advisory group and local researchers.

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

Sector	Quota	Achieved in Ghana
National government	3	4*
Media	3	3
Private sector	3	3
Local government	2	2
Religious leaders	2	3
Local associations	2	2
NGOs, academics	2	1
Total	17	18

In Ghana, as in all *Africa Talks Climate* countries, every effort was made to speak to the climate change focal point at the national government level. The remaining ministries were selected according to the ways in which climate change played out in the country. In Ghana, representatives were chosen from the Ministry of Food and Agriculture, the Electricity Company of Ghana (controlled by the Ministry of Energy), the Volta River Authority, and the Environmental Protection Agency.

At the local government level, local council representatives from Berekum and Nandom were interviewed, as was a traditional leader

* In Ghana, the quota was achieved for each sector, with an additional interview carried out at the national government level in order to include the Electricity Company of Ghana, the state-run energy provider.

from Accra.

In the media sector, representatives were sought from radio, television, and print media. Both private and public media were represented and both national and local media.

In the private sector, a cocoa processing company, an oil company and a national/regional bank were represented.

The two religious leaders who were consulted were the general secretary of the Christian Council and a local religious/traditional leader from the Upper West region.

The two associations/groups represented were a farming union and a mine workers union.

Finally, an academic from the University of Ghana’s Department of Ecology was interviewed.

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

Analysis and reporting

All focus group discussions and interviews were recorded and transcribed. Transcripts were produced in both the original language of discussion and in English. For focus groups held in Kampala, English, Twi and Ga’ transcripts were produced by the moderators, while for the Bhong Ahafo and Upper West regions, Twi and Dagaare transcripts were produced respectively. English transcripts were then generated from the Twi, Ga and Dagaare transcripts by a team of translators in Ghana. These translators first read through the vernacular transcripts for inconsistencies and anomalies which, if found, were raised with the researchers in Ghana. The researchers in Ghana then returned to the original vernacular transcripts and, if necessary, the audio recordings, to clarify the issues raised. Most vernacular transcripts were refined several times before being translated into English, to ensure accuracy in the creation of the English transcripts.

i Often English and Ga/Twi were used interchangeably by participants throughout the discussion

In-depth interviews were conducted in English and transcripts produced in the same language, the exception being the traditional/religious leader from the Upper West region who was interviewed in Dagaare. Dagaare and English transcripts were produced.

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

Guiding principles

Africa Talks Climate endeavoured to adhere to the following guidelines:

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

ii A ‘buddy system’ comprising a lead Research and Learning Group researcher in-country and a Research and Learning Group coordinator in London will be introduced for each country.

BBC WORLD SERVICE TRUST

The BBC World Service Trust is the BBC's international development charity. It aims to reduce poverty and promote human rights. The Research and Learning Group (R&L) specialises in the design and delivery of research that provides insights into the role of media and communications around development issues.

Registered charity number: 1076235

BBC World Service Trust, Bush House, Strand, London WC2B 4PH, UK

Tel +44 (0) 20 7557 2462

Fax +44 (0) 20 7397 1622

Email ws.trust@bbc.co.uk

Web bbcworldservicetrust.org

B B C WORLD SERVICE TRUST

BRITISH COUNCIL

The British Council is the UK's international organisation for educational opportunities and cultural relations. Dedicated to the exchange of knowledge and ideas, the British Council works in the arts, education, science, sport and governance in over 100 countries, last year reaching more than 128 million people. For more information, please visit www.britishcouncil.org.



www.britishcouncil.org/africa

www.britishcouncil.org/climatechange



Printed on paper from recycled and sustainable sources