Africa Talks Climate

Research Report

DEMOCRATIC REPUBLIC OF CONGO

BBC WORLD SERVICE TRUST

BRITISH COUNCIL

COURTESY OF PHILIP REYNAERS/GREENPEACE

Democratic Republic of Congo Talks Climate

The public understanding of climate change

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About *Africa Talks Climate*

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

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

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

Africa's response to climate change will be dictated by how well it is understood by its people. *Africa Talks Climate* is founded on the belief that those worst affected by the issue have the right to be better informed, in order to understand and respond effectively to their changing climate. Providing people with the information they need will therefore be crucial. Unfortunately, little is known about how climate change is currently perceived and understood by Africans; *Africa Talks Climate* seeks to address this. It is the most extensive research ever conducted on the public understanding of climate change in Africa. The research teams held discussions with more than 1,000 citizens from the Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Nigeria, Senegal, South Africa, Sudan, Tanzania and Uganda[i]. They also carried out interviews with nearly 200 opinion leaders, including policymakers, religious and community leaders, business people, and media and NGO representatives.

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

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.

Executive summary

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

Key findings

- There is a universal perception among Congolese people[i] that their climate is changing. They tell of changes in the rainy seasons and increases in temperature and use the word 'climate' to describe these.
- Many people talk about the "disruption" of the dry and rainy seasons and say that it is causing crop failure and affecting the country's forests. People are particularly concerned about these changes because of the population's reliance on natural resources.
- Many are aware of the terms "climate change" and "global warming" and cite the media and schools as their main sources of information. However, few relate these terms to increasing concentrations of greenhouse gases in the atmosphere. Most simply use the terms to refer to the changes in the rainy seasons and increases in temperature they are experiencing.
- People have a number of misconceptions. Some people inaccurately link climate change to ozone depletion, and outside the capital, most think that "global warming" refers to an increase in the temperature of the air or earth over a short period of time.
- There is a strong notion of environmental stewardship linked to people's faith. People have seen how human activity has harmed their natural environment, and they perceive that human activity could also have an effect on the weather. Many think that the natural environment, including the weather, is God's creation, and believe that they have a responsibility to protect it.
- Many people believe the weather changes that they are witnessing have local causes. For example, they say that deforestation in their local area is leading to a reduction in local rainfall, and some believe that local smoke and pollution from wood fires and industry lead to increases in temperature.
- Some also inaccurately relate increases in temperature to ozone depletion, which they think is caused by smoke, air pollution and other factors such as rockets and weapons. Some see changes in temperature and weather as the will of God – a view particularly prevalent among female rural populations.
- Opinion leaders say that the term "climate change" should have standard translations in local and national languages, and that awareness-raising initiatives should contextualise the term so that people understand its relevance to their own lives. They say that the media has a role to play in providing people with information about climate change, and media representatives recognise that more needs to be done to develop climate change awareness in the sector.

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

- Many people place great value on the country's forests[ii] and recognise their importance to both the economy and the people who depend on them directly for their livelihoods. Many believe that loss of trees leads to problems such as erosion and flooding; they also allude to the health benefits of trees.
- A few in the capital are aware of the existence of a political debate around funding for forests, and understand that there is potential monetary value to DR Congo in preserving the country's forests. However, only governmental and NGO opinion leaders recognise the global value of DR Congo's forests in relation to their ability to act as "carbon sinks", sequestering large quantities of carbon dioxide that would otherwise enter the atmosphere and strengthen the greenhouse effect.
- NGO and local opinion leaders also recognise that forests are invaluable to rural people, and to indigenous and local communities who depend on them for gathering food and traditional medicines.
- Most people mention practical measures they have taken to tackle the environmental problems they say are most relevant to their lives (erosion, flooding and crop failure), with some support from communities, NGOs and to a lesser extent the government. Most people, however, also feel they have too few resources to effectively address environmental problems, and need more government support.
- Congolese citizens are angry at the level of unemployment in the country. They say a lack of jobs means they have no choice but to engage in environmentally-damaging activities such as tree-felling to survive. They feel that it is the government's responsibility to create employment that will break this cycle. Some opinion leaders and many members of the public criticise governmental mismanagement of agricultural policy, forestry and urban planning.

RECOMMENDATIONS

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

Opinion leaders also need access to information on climate change. Community, government, religious and media representatives at the local level have unrivalled access to communities, and are in a position to communicate and inspire citizens to respond to climate change and implement local adaptation strategies. There is evidence to suggest that a faith-based approach could be particularly effective, and religious representatives recognise the value of religious leadership in promoting environmental stewardship. Yet local leaders tend to be some of the least informed about the global climate change debate and need support from national government and specialist organisations as they begin to address this.

Public debate will also be key to increasing understanding of climate change. It will provide a forum for sharing experiences, inform people of the implications of climate change for their own lives, and enable people to exert political pressure, both internationally and on their own governments. Media representatives recognise that more needs to be done to develop climate change awareness in the media sector. They clearly have a critical role to play in responding to climate change, and in supporting others to communicate about climate change: including governments, national and international

ii People use "forests" and "trees" interchangeably.

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 in DR Congo.
- Confirm people's observations that weather patterns are changing and that extreme weather events are likely to occur more often.
- 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 knowledge (eg in relation to trees, God, and ozone depletion) which can function as a barrier or as a facilitator to effective climate change communication.
- Invest in efforts to develop and test appropriate climate change terminology in local and national languages.
- Harness widespread concern about deforestation and environmental degradation and develop people's commitment to the idea of environmental stewardship to promote adaptation and mitigation strategies.
- 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 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.
- Communicate in ways that are locally relevant, using a variety of news and non-news platforms (such as public service announcements or radio drama).
- 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 global climate change and develop the debate beyond deforestation so that they can communicate confidently on the issue and incorporate it into their decision-making.
- Develop opinion leaders' understanding of adaptation and its importance for DR Congo's response to climate change. Expose people to adaptation and mitigation strategies that take account of the importance of forests in DR Congo and acknowledge the role of other factors in global climate change.
- Provide information about climate change to the Congolese public through the media, schools, and through religious leaders.

Facilitate policy and public debate

- Build the capacity of news and non-news media to support more effective public debate on climate change in DR Congo.
- 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 Congolese voices and experiences in discussions and debates: engage citizens, local interest groups, NGOs, religious leaders and policymakers from all levels of government.
- Build a sense of immediacy and encourage the sharing of current examples of adaptation to climate change. Harness Congolese understanding and experience of their changing weather and environment, to create a relevant discourse that promotes citizen engagement in DR Congo's response to climate change.

Encourage accountability

- Develop mechanisms which enable Congolese 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, the REDD process, and other response strategies. Such mechanisms will also help Congolese citizens and their representatives to communicate their own perspectives and demands to the rest of the world.

Acronyms used in this report

BBC WST	BBC World Service Trust
CDM	Clean Development Mechanism
CEPECO	Centre pour la Promotion et l'Education des Communautés de base
CFC	Chlorofluorocarbons
COP15	Copenhagen Conference of the Parties
CSO	Civil Society Organisations
IDRC	International Development Research Centre
IPCC	Intergovernmental Panel on Climate Change
KHRT	Kasaï Horizon Radiotélévision
NGO	Non-government organisation
NAPA	National Adaptation Programme of Action
OCEAN	Organisation Concertée des Ecologistes et Amis de la Nature
REDD	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
R&L	BBC World Service Trust Research and Learning Group
RTGA	Radio Télévision Groupe l'Avenir
RTNC	Radio Télévision Nationale Congolaise
UNFCCC	United Nations Framework Convention on Climate Change

1 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.[i] 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 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 DR Congo

Climate change presents an additional stress for Congolese already struggling with the challenges posed by years of conflict in addition to widespread poverty and ongoing environmental degradation.

Covering a land area the size of western Europe, the Democratic Republic of Congo straddles the equator and receives copious amounts of rainfall. The predominantly tropical climate nurtures the second largest rainforest in the world, and has given rise to the Congo River basin, a network derived from the Congo River and its numerous tributaries that cover the entire country. The central plain is bordered by grasslands and mountain ranges to the north and west, savannahs along the south, and glacial peaks in the eastern highlands.

DR Congo has two peak rainy seasons in a wet period that can last up to seven months.[10] Regions lying to the south of the equator experience frequent heavy rains between October and May, while the wet season for areas to the north extends between April and November. These rainy seasons dictate the rhythm of the traditional agricultural calendar.

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

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

To communicate effectively about climate change, it is critical to know how people understand it. While this review is not exhaustive, it is clear that here is a dearth of research on perceptions of climate change in Africa, and it will be essential to address this problem if communication is to improve. Opinion polls to date have largely focused on Nigeria, Kenya and South Africa. They reveal that many people are unfamiliar with "climate change", "global warming" and related terms.[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.[i] A review of research on the perceptions of climate 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.

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.

DR Congo

Region: Central Africa

Population: 66 million *(UN, 2008)*

Capital: Kinshasa

Major languages: French, Lingala, Kikongo, Swahili, Tshiluba

Major religions: Christianity, Islam

Terrain: Vast central basin is a low-lying plateau, while mountains rise to the east

Climate: Tropical. Hot and humid in equatorial river basin, cooler and drier in the southern highlands, cooler and wetter in eastern highlands

The Congolese economy depends heavily on rain-fed agriculture,[28] which is the mainstay of livelihoods for almost 90% of the population and is still based on the shifting cultivation[i] system.[29] The relationship between climate change and other factors is complex and still evolving, but rising temperatures are predicted to cause a surge in crop diseases such as cassava mosaic virus,[30] and droughts will cause major disruption to the agricultural calendar,[31] resulting in failure of both food and cash crops, and intensifying food insecurity[32] and poverty.[33]

Climate simulations for the region indicate that rainfall will become more intense and more destructive over the coming years,[34] bringing floods, landslides and soil erosion, especially in the region of the central Congo Basin. Torrential rains are already causing loss of lives and damage to infrastructure in peripheral urban areas.

By contrast, the rainy seasons will become shorter in the south, which is largely made up of the dry savannah belt and accounts for 80% of the rural population. These effects are already being felt, and it has been predicted that the Katanga region will see its rainy season shorten by at least two months by 2020.[35]

Coastal erosion, rising sea levels,[36] seasonal droughts and the encroaching desert are also set to disturb the day-to-day existence of much of the Congolese population.[37] The urban poor, closely followed by small farmers, are those who will be most exposed to the risks presented by climate change.[38]

Malaria is expected to become even more widespread. With a public health system that has suffered from years of conflict, it will be difficult to provide the necessary treatment to those affected.[39] Sleeping sickness and cardiovascular and water-borne diseases will proliferate, and present a great threat for DR Congo's youngest and oldest people.[40]

Water resources will be disturbed by the altered climate, and as rural populations migrate to urban centres, water stress will become increasingly acute. The energy sector will experience the indirect effects of climate change, as most of the energy used in DR Congo is derived from its hydroelectric potential.

Forests, along with countless faunal species, will be jeopardised by the effects of climate change.[41] Mangroves and their unique biodiversity are especially vulnerable to the changing climate and the devastation wrought by coastal erosion, as has already been seen in the Mangrove Marine Park in Moanda.[42]

The Congolese government signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, ratified it in 1994,[43] and presented its Initial National Communication (INC) to the Convention in 2002. Its INC listed the national producers of greenhouse gases, gauged the country's vulnerability to climate change, and suggested policy-based approaches to adaptation and mitigation. The government produced a National Adaptation Programme of Action (NAPA) in 2006.[44]

The bulk of efforts deployed by civil society organisations (CSOs) in DR Congo are directed towards alleviating the difficulties stemming from the brutal conflict that has plagued the country for over a decade. However, CSOs have been involved in REDD (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) projects, and national and international NGOs were developing adaptation and mitigation programmes at the time of the research.

i Shifting cultivation is a system in which a plot of land is cleared and farmed for a short period of time, then abandoned and allowed to revert to producing its normal vegetation while the cultivator moves on to another plot.

2 Research methodology

Research objectives

The overall objective of *Democratic Republic of Congo Talks Climate* is to assess the public understanding of climate change and identify how communication and media can best support DR Congo's response to climate change.

The research focuses on four key questions:

1. What changes have Congolese 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 Congolese opinion leaders know and understand about climate change and what are their views on DR Congo's response to climate change?

The research[i] consisted of 12 focus group discussions with citizens and 17 in-depth interviews with opinion leaders across six locations in DR Congo between September and November 2009 (see Appendix 1). The locations were Kinshasa, Kimbaseke, Matadi, Kinzavuete, Mbuji Mayi and Bakwa Nsumpi.

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.

- Kinshasa is the capital of DR Congo and has experienced severe flooding and erosion. Kimbaseke is one of its suburban areas.
- Matadi and Kinzavuete were selected due to the area's history of deforestation and the importance of forestry in the region.
- Mbuji Mayi and Bakwa Nsumpi were chosen because of the significant presence of extractive industries in the area. Mbuji Mayi has experienced considerable problems of erosion.

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.

Focus group discussions

The research set out to gather a broad range of views. Discussions were held with women and men, rich and poor, in rural and urban contexts. Given the implications of climate change for certain livelihoods in DR Congo, individuals working in farming, mining and market trading were also purposefully targeted.

In Kimbaseke, Kinzavuete and one of the groups in Bakwa Nsumpi, focus groups were conducted in Lingala, with some respondents in these groups also providing some responses in French.

In-depth interviews

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

The advisory group

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

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 DR Congo 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 DR Congo; 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 Congolese people 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 Congolese citizens' 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 Congolese in isolation from broader environmental changes. People in DR Congo are keenly aware of environmental degradation and natural resource depletion. They mention, for example, deforestation, pollution and diminished crop yields. Many people in DR Congo are directly dependent on their natural environment as a source of food and water and for their livelihoods. The fields and forests on which they depend have been maintained by a reliable rainy season that people say is changing.

Given that climate change is viewed in the wider context of environmental changes, it is important to understand how people in DR Congo 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 Congolese citizens have experienced, and then focuses on the four key problems of erosion, flooding, deforestation and crop failure, which people say directly impact their lives. It moves on to examine people's understanding of climate terminology and concepts, and presents five key themes that shape people's understanding of the science of climate change. In subsequent sections, it explores what opinion leaders in DR Congo know and think about climate change, and concludes with recommendations.

> **"My parents live in a village in Bas Congo province. They have barely managed a harvest due to the lack of rain... They sowed a bagful of beans and they have harvested less than a bowlful"**
>
> **MAN FROM KINSHASA**

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

People in DR Congo say that the weather is changing and is making life much harder. The traditional agricultural calendar is determined by the dates and duration of the dry and rainy seasons, which people say are far less reliable than they used to be. People say that there is less rain, that when rainfall does come it is more intense, and that the weather is hotter than before. An older man[ii] from Kinshasa explains: "*My parents live in a village in Bas Congo province. They have barely managed a harvest due to the lack of rain. Before, it was around May 15 when the rains would stop, and they are not in the habit of following the weather forecast. They sowed a bagful of beans and they have harvested less than a bowlful.*"

In rural areas, changes in the weather and environment make life harder for people already confronting considerable challenges. "*We face hardship raising our children,*" explains a woman from Kinzavuete. "*If you don't go to the fields, you will not survive. It's a terrible situation for their education.*" Other women like her say that life in the fields is getting harder as staple crops fail. "*We plant,*" says one, "*but things don't grow because the earth is too hot… potatoes, bananas and plantain don't grow any more.*"

People say that it is hard for them to find jobs. Without the prospect of employment, they rely on natural resources, particularly the forest, to make money, by selling firewood and charcoal. But even this option is now more difficult than it once was, as an older man from Kinzavuete says: "*The environment today is different to the environment of yesterday. Here in Kinzavuete we no longer have any trees. As we don't have any industry here, everyone goes and cuts down the forest, but now to get any wood you have to go fifteen or twenty kilometres away – there are none left here.*"

Many are concerned that changes in the environment and weather threaten a way of life that relies on natural resources. An older man from Kinshasa explains that such changes caused family members to leave their rural home and come to the capital: "*I have family who have come here from Equateur province. There are significant changes happening there. Despite the presence of the trees, it is hotter than it used to be. And due to deforestation and the rise in temperature, the animals are moving further away.*"

Changes have occurred not just in the rural areas, but in the towns and cities. Many people in the districts in and around Kinshasa and Mbuji Mayi are very concerned about flooding and erosion. A young man from Kimbaseke, just outside Kinshasa, says: "*There never used to be erosion, but there is today… it never used to be as hot as it is now.*" An older woman from Mbuji Mayi recounts: "*When I was living in another area, we had a really good plot with fruit trees and then there was a ravine that opened up just next to the plot. It happened overnight and when we woke up the next morning we found this ravine, so we had to move. It was serious, it rained every day and whenever it rained the ravine came closer. These are the consequences of changes in nature.*"

Figure 1

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

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

How do Congolese citizens explain and respond to changes they are experiencing?

Many of the changes that Congolese people 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 flooding – and subsequent discussions sought to understand attitudes towards these issues and the perceived causes, effects and responses.

Across the locations, four issues were identified:

1. Erosion
2. Flooding
3. Deforestation
4. Crop failure

Figure 1 on page 11 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. In rural areas, people were concerned about crop failure, which they related to the burning and felling of wooded areas and a reduction in the quality of the soil. Across the groups, people were concerned about deforestation, although this was especially the case in rural areas. Erosion and flooding were issues of particular interest to urban dwellers, which they connected to problems of urbanisation, including deforestation and poor management of construction, drainage and waste disposal. The research did not seek to restrict conversation and, as a result, discussion sometimes moved into environmental degradation and broader social problems. In this way, the most pertinent climate change and environmental degradation issues facing residents in each location emerged.

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

> **“When it rains, you can be coming back along the road you took earlier, and find it divided by a ravine”**
>
> **OLDER WOMAN FROM MBUJI MAYI**

Erosion

People in urban areas are particularly concerned about erosion. Most people blame it on a lack of urban planning, which translates into a conviction that the problem could be addressed by improving environmental management.

Erosion is largely an urban problem. The residents of Kinshasa, Mbuji Mayi, Matadi and their surrounding areas are understandably concerned about a problem that they have known to destroy houses and cause loss of life.

One participant ascribes erosion to black magic, but most people agree that erosion is a natural phenomenon that has been made worse by construction and poor environmental management. A concern voiced by many is that tree-felling leaves the soil unprotected and more vulnerable to erosion. Urban residents point to a lack of adequate drainage to channel rainwater, and poor management of flood waters. Many say that a lack of planning leads to “anarchic” construction, with people building on land that is prone to erosion, or in close proximity to mining sites. There is a general feeling that people should know better than to build in such places, as an older man from Kinshasa explains: “*The soil that causes erosion is yellow soil that gets muddy… Before, people did not build in these places because they knew that these were sandy areas that were unsuitable for construction.*” Some add that people frequently build over existing drainage systems.

The majority of people agree that the state authorities bear responsibility for the problem of erosion because they are in charge of environmental and construction policy and because communities do not have the resources to act alone.

As the experience of an older woman from Mbuji Mayi illustrates, erosion can form ravines very quickly: “*When it rains, you can be coming back along the road you took earlier, and find it divided by a ravine.*” One man says ravines can leave whole areas of the capital isolated from one another. Many people consider that the problem of erosion will only get worse with time. A young man from Mbuji Mayi says that within a decade, the town will be “*destroyed by ravines, because there is no drainage, poor urbanisation*”. One participant from Kimbaseke outside Kinshasa says that the effect of erosion is to make some areas “*uninhabitable*”; these areas are then “*deserted*”. With some saying that they will have to move if the problem deteriorates, it seems that many more areas will be abandoned if solutions to erosion are not found.

Although most people say that they lack the means to tackle erosion, many suggest practical responses which they have already begun to implement in their local area, such as planting bamboo and grass or laying sandbags. A young man from Mbuji Mayi says that his community has “*fought body and soul*” to use such techniques to alleviate erosion. In Kinshasa, a few people say that NGOs such as the Belgian Technical Co-operation and FOLECO (the federation of non-religious NGOs for economic development in DR Congo) are working on the problem.

A few participants say that the state authorities are already taking action; one mentions the state authority for roads and drainage, while another says that the government sends sand supplies to his area so that the community can lay sandbags. According to residents of Mbuji Mayi, the local community, government authorities and a mining company are working together to tackle erosion.

Some suggest that the necessary knowledge and resources cannot be found in DR Congo. An older man from Kinshasa proposes that: “*We should appeal to our opinion leaders or international organisations that support the fight against phenomena [such as erosion].*” A young man from Mbuji Mayi says: “*We must appeal to the government, and they in turn must call on foreign specialists in this area.*”

Suggestions for future government intervention include a ban on construction in certain areas, the construction of drainage systems and basins to channel and collect water, the recruitment of experts to advise on the problem, and tree-planting in areas prone to erosion. However, some participants point out that the government hinders efforts to address the problem. Several say that Congolese laws concerning land rights can prevent people trying to provide solutions to erosion. Another says that unauthorised construction is already an offence that carries a fine, but that the government tends to respond to the offence only once construction is complete. One person says that members of the state authorities take bribes in exchange for permission to build in inappropriate areas.

Words for “climate change” and “global warming”

In DR Congo, two different terms for “climate change” were explored in some of the focus groups. All groups were asked about the French term *changement climatique*. In addition, Lingala-speaking groups were asked about the term *mbongwana ya tango*, a Lingala translation of “climate change” suggested by the Congolese advisory group. No different terms for “global warming” were explored as there were no Lingala translations considered suitable. Instead, the French term *réchauffement climatique* was used in all of the groups.

Flooding

Flooding is a concern for both urban and rural citizens. In rural areas, most people say that individuals can take action to limit the worst impacts of natural flooding. In urban areas, humans are blamed for causing flooding through construcation and poor waste disposal practices.

Flooding occurs in both rural and urban areas in DR Congo, but is more likely to be linked to poor waste disposal and perceived as a threat in Kinshasa and Kimbaseke, whereas in Bakwa Nsumpi people understand floods to be part of the rhythm of the seasons.

Whereas in rural Bakwa Nsumpi they say that God causes the rivers to overflow, in urban areas most people believe that the cause of flooding is poor environmental management and unplanned construction. An older man from Kinshasa says: “*[Before,] the authorities would come with trucks and throw the rubbish in the river, because we did not have a system… for incinerating or recycling the rubbish.*” The residents of Kinshasa and Kimbaseke say that flooding is caused by a lack of drainage, the inefficiency of hygiene services, and poor planning for waste disposal at local and national levels. This is perceived as a problem that has worsened over time.

As in discussions of erosion, many people think construction that fails to take account of other land use is also at the root of the problem. A woman from Kimbaseke says: “*When we build roads we do not take the drainage system into account.*” Another adds: “*We build on water channels and this makes them overflow.*” In some cases, people explain that land left empty by the state has been sold on by people without claim to it, and that this land is then used for construction, causing floods.

In Kinshasa, one man fears the “*malaria and typhoid*” brought by the combination of waste and flooding, and in Kimbaseke a woman explains the “*permanent danger*” threatened by the current running through the flood waters, while others are worried that floods could kill people there. Some residents say flooding has rendered parts of the capital “*uninhabitable*”. Yet in rural Bakwa Nsumpi, flooding is understood to be part of the rhythm of the seasons: “*the river overflows, and that’s what causes this.*”

In urban and rural areas alike, communities say that individuals can take action to limit the worst impacts of flooding. In Kinshasa, some feel that individuals bear responsibility for failing to keep their property clean, and that local people can work to resolve the problem. One man says that a community group in Kinshasa has taken action at a local level to clear their area of waste. In Bakwa Nsumpi, people say that they avoid building in areas prone to flooding, and that when it rains, people dig channels to direct the rain water to the river basin.

In all areas, people say that their communities are doing what they can, but most agree that there is a need for the state authorities to

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, some make a connection between climate change and migration: “*When climate change destroys their environments, [rural people] seek refuge in the towns.*” Many people in DR Congo speak of people leaving rural areas to escape drought, as agriculture becomes less viable and forest resources dwindle.

Life in the city is not without problems, however. People speak about issues of pollution, sanitation, poor health and the high cost of living. A man from Kinshasa is typical in saying that finding food is harder for some city dwellers than those in rural areas: “*[In the villages] you know you will find food, whether or not you have a job, which is not the case here.*”

Rural dwellers recognise these problems: “*In town you are not close to the natural environment – it is all modern and you have to pay for everything.*” Despite much reluctance to move away from the rural areas, many say that towns and cities are important to the country’s development and offer easier access to services such as drinking water, electricity and information than rural areas.

act on the problem. People in Bakwa Nsumpi and in Kimbaseke say that if flooding were to get worse, they would have to leave the area. They say that the authorities should do something to help. People there see it as their responsibility to alert the local authorities to the problem, so that they can in turn ask the state authorities to intervene. One person suggests that the governor of Kinshasa could do something to help, while another says that an NGO might be able to assist.

The main focus of people's concerns in the capital is drainage, which people agree the state should construct, as ordinary people lack the means to do so. People in Kinshasa want designated sites for waste disposal in every district, and information from the authorities on how they should dispose of waste. As one man explains: "*Kimbuta [the governor of Kinshasa] has just created a company to deal with waste, it is the complete responsibility of the state… which should take on its responsibilities.*"

In Kinshasa, one man suggests that the problem needs to be brought to the attention of opinion leaders in each district, in the hope that they can take it further "*through their government functions*". However, another does not believe that the authorities are doing enough: "*Our town mayors are in their offices from noon till night, and they don't visit the areas for which they are responsible. These mayors are not able to inform their fellow citizens about complex subjects like pollution.*" Another adds: "*The town hall carries out studies which are not appropriate to our customs and habits… the town hall will never be able to resolve this problem if they do not communicate with the population.*"

"As you can see, our life here has become one of deforestation, to make charcoal and sell wood. That is why the soil is drying out and the crops do not grow well any more"

WOMAN FROM MBUJI MAYI

"Whoever wants to take the wood just gives [the authorities] a little something so as not to be arrested"

WOMAN FROM KINZAVUETE

Deforestation

Deforestation is of great concern to Congolese people, particularly in rural areas. Many connect it to crop failure and increased temperatures. Yet people see tree-felling as a means of survival.

Deforestation is a particular concern for people in rural Bakwa Nsumpi and Kinzavuete, although people in Matadi and Mbuji Mayi are also worried about the loss of trees.

In rural areas deforestation is described as occurring in two ways: first, through the deliberate burning and felling of forested land to clear plots for farming. A woman from rural Kinzavuete explains: "*Now that we have cut down the trees, we will be able to create fields so that we can survive. Sometimes it is good to cut down the trees – otherwise if you plant manioc or bananas there is a risk that they might not grow.*" The second way deforestation occurs is through trees being cut down for charcoal and firewood: "*People fell the trees,*" says a man from Matadi, "*so that they can make bricks and charcoal.*"

What pushes people in DR Congo to fell trees? Almost everyone deplores tree-felling, and yet in conversations on the subject, all agree that unemployment leads people to the fields or the forests to survive – and both options entail deforestation. "*It is because of a lack of jobs,*" says a woman from Kinzavuete. "*People have created work for themselves making charcoal: they cut down the trees and burn them. People threw themselves into this activity to survive.*" Everyone points to a lack of jobs at both the local and national level as the principal cause of the problem: "*The destruction has advanced rapidly,*" says a man from Kinzavuete. "*When you see people leaving Kinshasa to come and set up fields to work here, then you know it is serious.*" Others say that they use the wood for building, and in urban Matadi, a man says that trees have been cut down to clear land to house a growing population.

Despite the considerable presence of multinational forestry companies in the country, only one man in Matadi mentions their contribution to the problem of deforestation. More typical is the view of a man from Kinzavuete who says: "*I have contributed because of my way of farming.*" Responsibility for deforestation tends to be understood to lie directly with local populations, and indirectly with the state authorities, who are perceived to have done little to create employment that would lessen the need for deforestation. A woman from Mbuji Mayi expresses frustration that "*humans do not know how to manage the earth that they have been granted*".

People are worried about the effects of deforestation on people's health and livelihoods. Older women from peri-urban Mbuji Mayi say that the loss of trees means that there is less oxygen and more "*carbon gas*", and link this change to health problems. Some say that people are more likely to get ill in the absence of trees. However they do not link *"carbon gas"* to atmospheric pollution and global climate change.

Many say that the loss of trees leads to an increase in heat. Often people say that the trees prevent the full heat of the sun reaching the earth, so that their loss results in higher temperatures. A man from urban Matadi says that the increase in heat is because smoke from wood fires damages "*the layer in the sky that protects us against heat*", suggesting that he thinks the smoke damages the ozone layer, which in turn causes the temperature to rise.

There are other risks associated with deforestation. A young woman from rural Bakwa Nsumpi fears that she could "*lose everything*" in a forest fire. This concern is echoed by other women from the area, including one who says: "*The men and the hunters burn the woods to catch their prey and also to clear the fields. When we burn them like that, we even lose the straw [used for roofing] – and we can't pay for other roofing materials.*" An older woman from Mbuji Mayi fears that a lack of trees threatens houses in her area: "*Most of our houses are made of bricks, and the wind could knock them down.*"

Others are concerned that deforestation causes the quality of the soil to diminish and leads to crop failure: "*Felling the trees creates desert,*" says a woman from Mbuji Mayi. "*As you can see, our life here has become one of deforestation, to make charcoal and sell wood. That is why the soil is drying out and the crops do not grow well any more.*" Others are worried that deforestation will in time cause drought.

In general, people are angry that human activity has so severely depleted the natural resources upon which they rely for their survival. Yet they feel caught in a vicious cycle which only new employment can break. The choices of women in Kinzavuete are very limited: "*Due to life's hardships,*" one explains, "*our husbands no longer work.*" The women in Kinzavuete appear to feel completely powerless to find a solution to the problem of deforestation, and the failure of their crops that they think results from a loss of trees. They say that the only response to the problems they face will come from God – and that the only option left to them is "*to pray that the good Lord will bring us a solution*".

There are several suggestions of ways in which people can find local solutions to the problem – through replanting trees and other vegetation, for example. However, most people think that the state needs to act on the problem of deforestation. The perception that state authorities currently do little to address the problem is widespread. "*The state should act on its responsibilities,*" suggests a man from Matadi, "*by reforesting areas that have been deforested, and by carrying out house-to-house campaigns to get everyone to plant a fruit tree on their property.*" When asked what the environmental authorities do to respond to deforestation, a woman from Kinzavuete replies: "*[They] don't do anything, because they are in the same position [as everyone else]. Whoever wants to take the wood just gives them a little something so as not to be arrested. They give them a 'tip'.*"

Besides creating employment, people say that the state authorities can act to tackle deforestation by using awareness campaigns, by engaging agricultural experts to advise on the problem, and by addressing corruption within forest authorities.

Crop failure

Crop failure is a major concern for rural populations. Rural people cite many causes, most of which they think cannot be addressed without government assistance.

People report that crops do not grow as they once did, and that yields have decreased. They say that traditional staple crops such as bananas, manioc, plantain and potatoes have been affected: "*Manioc doesn't grow properly any more,*" says a woman from Kinzavuete. "*It produces little flour and there is not enough to make [the traditional dish]* chikwangue*… It's hard.*"

Most people agree that the primary cause of crop failure and reduced yields is that soil is over-farmed and so becomes less fertile. Because of a lack of employment and little income, people are forced to cultivate small areas of land and cannot afford to let the soil rest. "*The more we farm,*" says a man from Mbuji Mayi, "*the more the fertility of the soil is diminished. An engineer told me that after five years the soil loses its fertility, and that you have to leave it even as long as five years in order for its fertility to return, so that you can sow.*" Many indicate a lack of resources as the reason that people cultivate the same plots constantly: "*Given that we have no resources, we just return to the same places,*" says a man from Kinzavuete. "*If we had the means we wouldn't return to the same land, but who wants to go ten kilometres away in order to allow this land to rest?*"

Another reason given for crop failure is inadequate agricultural knowledge and information. A man from Mbuji Mayi says: "*We ended up farming small plots with fertilisers that we did not know how to use through a lack of information – when we put these fertilisers on the soil, we thought we were fertilising the soil, when in fact, we were destroying it.*" Others in the same group add that people do not consider where it would be best to farm and that people neglect the need to employ farming practices that are appropriate to the soil. Another says that burning vegetation "*diminishes the quality of the soil*", but few people mention this.

Crops are also reported to fail as a result of harmful human activity and natural causes. In Mbuji Mayi, some say that people disregard the health of the soil when they farm. Another says that there are insects and other pests that "*ravage*" agricultural crops. For one man, the biggest problem is that people "*drop plastic packets and wrappers all over the place, and that prevents nutrition from passing into the soil*". People say that as a result of widespread deforestation, there are fewer trees to protect the soil, which gets "*hotter and hotter*", and causes crops to fail.

Many connect deforestation to a reduction in soil fertility and so to the failure of their crops. They argue that until the state does something to create more jobs, many people are left without options other than tree-felling. As more trees are felled, they say, the quality of the soil decreases, and crops fail as a result. In this way, people suggest that the problems affecting rural areas exist in a vicious cycle and that to break it, they need assistance from the state.

In Kinzavuete, people are frustrated that "*the state pretends not to know of our problems*", as one man says. Another is angry that government authorities are distanced from the people: "*We have a ministry of agriculture and environment,*" he says. "*What do they know of our problems here?*" A third complains: "*They have forgotten the farmers – they focus all their efforts on repairing roads. We do want them to construct buildings but if they could think of us as well, that would be good.*"

People with few resources feel that they can do very little to improve their crop yields without assistance from the government. Those with more resources, in the peri-urban area of Mbuji Mayi, say that if the problem gets worse, they will "*leave and go somewhere else*" or "*look for other land*". Yet for women in rural Kinzavuete there is no other option: "*We struggle to survive,*" says one. "*We can't do anything about it,*" adds another, "*so we will just keep struggling – and if we die, we die.*" One of their male counterparts, however, has an idea for ways in which the government could help: "*If the state could give us resources, as in the past when there were micro-credits, if I could get a loan from the government set against the value of my house, then I could go and farm away from here and leave the soil to rest.*"

How do Congolese citizens think their country and communities are responding?

Practical measures to tackle environmental problems are widely understood and implemented by individuals and communities, with assistance from NGOs and government, but people feel they have too few resources to take action without further support.

People are concerned about the way their local environments have changed. Practical measures to react to these problems are widely understood, and methods such as planting bamboo or laying sandbags to control the spread of erosion, or clearing rubbish, are widely practised by individuals and community organisations, with some support from the government and NGOs.

However, it is frequently pointed out that individuals and communities often fail to avert the crises described above: "*If the water had been properly channelled from the start,*" says a young man from Mbuji Mayi, "*then we wouldn't have ended up in this situation.*" The solutions that people say they use to tackle environmental problems are reactive, short-term and small in scale.

Despite individual engagement with environmental problems, many say they lack the resources to respond to environmental challenges effectively, and that the state authorities appear unable or unwilling to provide the assistance that communities require. Many people express frustration that the authorities do not respond when the situation requires their intervention, for example in the case of unlawful construction, which many link to erosion and flooding. People's comments suggest they would like the state authorities to "*act on their responsibilities*" by punishing unlawful construction and unauthorised tree-felling.

Despite saying that the state should punish those responsible for environmental offences, people frequently say that they themselves act in a way that damages the environment. While this appears paradoxical, people emphasise that they care about the environment, and only do harm to the environment – through tree-felling or over-farming, for example – because they have no other choice. They say that they need to be provided with alternatives to a way of life that harms the environment, and that this requires action and planning on the part of the government. The state authorities, people suggest, should create employment as an alternative to tree-felling, and provide farmers with micro-credits, so that they can buy more land and allow the soil to rest.

People say that state authorities need to lead responses to environmental challenges, at the local and national level. The governor and local mayors of Kinshasa are mentioned as people who would be able to act on unlawful construction, waste disposal systems and water management. In rural areas, where the problems of crop failure and deforestation are most strongly felt, people want the ministry of agriculture and environment to visit the areas and help communities there to develop solutions to the problem.

In the case of all of the environmental problems described above, people frequently say that individuals and communities are doing their best to respond. Overwhelmingly, however, people think that these challenges require the authority and resources of official state structures if solutions are to be found. As one man from Kinshasa says: "*If the population ends up doing what the state should be doing, it's chaos. Why pay taxes? What purpose do they serve? … We must recognise that when the people take on the role of the state any solution will only ever be temporary. We want long-lasting solutions.*"

> **"You will be waiting for the rains to come in the tenth month but you find that it rains two or three months later, or it doesn't rain at all"**
>
> **FARMER FROM KINZAVUETE**

What do Congolese know and understand about global climate change?

Although Congolese people discuss environmental challenges in detail, and recognise that their weather patterns are changing, only a few people link such changes to the global phenomenon of climate change. Some people recognise the terms associated with climate change, but very few people appear to accurately understand the concepts.

In this context, *Democratic Republic of Congo 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

Unlike in some of the countries in which research was conducted, the term "climate" is familiar to Congolese, and they use it frequently to describe abnormal shifts in the seasons, extremes of temperature and changes in rainfall. "*I can even see a change in the seasons,*" says a farmer from Kinzavuete. "*The climate is changing. You will be waiting for the rains to come in the tenth month but you find that it rains two or three months later, or it doesn't rain at all.*" Even in the capital, where fewer people rely on the agricultural calendar for the purposes of cultivation, these changes have been noticed. A man from Kinshasa says: "*Things are no longer as they were. Before, we had six months of rain, and now we have three in the whole year.*"

Most participants in DR Congo say that they recognise the term "global warming", with the exception of women in the rural communities of Bakwa Nsumpi and Kinzavuete. A young woman from Bakwa Nsumpi is typical of rural women in describing global warming as "*a period of a lot of heat*". In urban Matadi, where people say they have heard the term in the media, people say that global warming refers to "*when it is very hot*". Neither of these descriptions refers to the role of pollution in causing global warming, nor do they mention an increase in average global temperatures over time. However, in Kinshasa and Kimbaseke, where people also say they have heard the term in the media, people link global warming to climate change, and some say that "*it is because there is warming that there is climate change*". An unusually detailed description of global warming comes from an older man in the capital who explains that: "*Natural heat exists from the sun, and humans add to it through their behaviour. That heat can increase as a result of human intervention and industrialisation.*" Although he correctly refers to the impact of human behaviour on climate, he does not describe how industrialisation causes the climate to change.

Almost all participants in DR Congo say they are familiar with the term "climate change", apart from people in Bakwa Nsumpi, where none of the women have heard the term, and only a few men say that they recognise it. When prompted, a young woman from Bakwa Nsumpi suggests that "climate change" refers to "*the changing of the weather and the seasons*". A young woman from Matadi thinks the term refers to "*when we move from one season to another*". Neither explanation mentions a change in weather over time, nor makes reference to the global nature of climate change. However, a man in Bakwa Nsumpi says the term means "*the changing of the world's weather*", indicating the global nature of the changing climate. An older woman from Mbuji Mayi explains the phenomenon as when "*the climate no longer does what it used to do*", suggesting a change over time. There is confusion among some people, who inaccurately associate "climate change" with the depletion of the ozone layer. A man from Matadi indicates this confusion when he says that "climate change" is "*the destruction of the layers that protect us*". The most accurate definition of climate change comes from a woman from Kinshasa, who says: "*Humans created all this industry that pollutes the air, and this air pollution has brought about a change in the climate, and the changing of the climate has brought lots of things, [such as] drought.*"

Despite inaccurate understanding of climate change and global warming among most participants, a few spontaneously mention the "greenhouse effect". Although a few people in Kinshasa correctly link the greenhouse effect to climate change and pollution, no-one gives a fully accurate definition of the concept and it is more often mistakenly understood as a local phenomenon, or connected to damage to the ozone layer:

> *"I think urban Congolese are worse affected [by changes in the weather] than those in the interior of the country. Let's take the example of the ozone layer, which has been affected by the greenhouse effect. Our brothers in the deepest parts of the Equateur are not really affected… In towns, vehicles produce gases that affect everyone, but our brothers in Equateur are not really affected by this pollution".*

This explanation, from an older man in Kinshasa, gives an indication of the mistakes people make when they discuss the greenhouse effect. He suggests that the greenhouse effect has damaged the ozone layer. In fact, CFCs (chlorofluorocarbons) are responsible for depletion of the ozone layer; greenhouse gases, on the other hand, are responsible for trapping heat in the Earth's atmosphere and causing global climate change. CFCs play a dual role – they destroy the ozone layer, and they also act as a greenhouse gas, but the destruction of the ozone layer and the greenhouse effect are two separate phenomena. The above quote also suggests that people in urban areas are worse affected by pollution than those in rural areas. While it is true that air pollution is often poorer in urban areas than rural areas, the greenhouse effect is not the same as air pollution. Rather, global greenhouse gas emissions trap heat in the Earth's atmosphere and cause the climate to change around the world.

There are frequent vague mentions of "*gases*" or "*pollution*" throughout the discussions of climate change and broader environmental changes. People also name "*carbon gas*" and carbon dioxide specifically, largely in reference to the role of trees in absorbing carbon dioxide and producing oxygen. Discussion of tree-felling produces most of the mentions of carbon dioxide, although several people mention "*carbon gas*" and "*carbon dioxide*" in connection with pollution from industry and vehicles. While people understand the process of photosynthesis (through which trees take in carbon dioxide and produce oxygen) nobody appears to understand that forests act as "carbon sinks" which reduce the amount of carbon dioxide in the atmosphere.

> **"Natural heat exists from the sun, and humans add to it... [It] can increase as a result of human intervention and industrialisation"**
>
> **MAN FROM KINSHASA**

While almost everyone is aware of changes in the seasons and weather, very few have an understanding of the causes of climate change and global warming. Those who have heard the terms have generally heard them in the media. Some people cite television or radio generally, while others list specific radio or television stations. A few people mention the programme *Lingala Facile*. A man from Matadi gives a definition on the basis of information from the media: "*According to a programme on global warming that I was following on RTGA [Radio Télévision Groupe l'Avenir], global warming is linked to the destruction of the ecosystem.*" A handful say that they have heard the terms in school, but school is often mentioned in conjunction with media. A number of people say that they have heard friends or family discussing climate change or global warming.

Although many participants recognise climate change terminology, and others use it spontaneously, they frequently give inaccurate and confused definitions of these terms. This suggests that most people do not understand the terminology, despite exposure to it.

Recommendations for communicators

Many people use climate change terminology, but few understand it. Give clear explanations of the terms people recognise, and make a distinction between the greenhouse effect and ozone depletion. Re-enforce the awareness that industry and vehicles release polluting gases, including carbon dioxide. Support widespread understanding of photosynthesis to explain that forests act as "carbon sinks" and can absorb carbon dioxide. Develop both of these ideas to explain that climate change is a global phenomenon.

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 participants agree with the idea that human beings are causing long-term weather patterns to change around the world. An older man from Kinshasa is typical in saying "*I think that human beings are responsible, because they commit acts that go against the conditions of nature*". Human activities mentioned in connection to changes in the weather include deforestation, industrialisation, and scientific research and advances in technology. The loss of trees is often thought to affect rainfall, while smoke from wood fires and pollution from industry is believed to affect the ozone layer, with consequences for rainfall and temperatures. Some believe that

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.

scientific research and technological advances lead humans to interfere with "*the sky*" or the ozone layer, which they think causes a change in weather. People's conceptions of what the ozone layer is and the causes and consequences of it being damaged are vague and generally inaccurate. A few people in rural areas say that God is behind the changing weather. There is little recognition by anyone, however, that the problems they face are likely to have human causes that extend beyond their own continent.

Likewise, people agree that the temperature of the earth is increasing. Most people think that human activity is responsible for the change in temperature, and attribute it to deforestation, burning both rubbish and wood for stoves, and pollution from factories. Others do not give explicit reasons for their belief that human destruction of the natural environment is causing the temperature to increase. Some people think that overcrowding can cause the temperature to increase through the presence of larger numbers of people. Others say that an increase in heat is due to the will of God. A few think that excessive heat is a form of divine punishment. Women in rural Bakwa Nsumpi are adamant that God is the sole cause of changes in temperature. People are more likely to associate divine will with an increase in temperature than other weather patterns or changes.

"When God created the earth everything was perfect, but humans are at the root of [these weather changes] – we cut down the trees, for example, and that disrupts the rains"

MAN FROM BAKWA NSUMPI

"Humans caused industrialisation. Factories pollute the environment by producing gases..."

MAN FROM KINSHASA

Frames of reference

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

1. Emphasis on trees
2. The will of God
3. Localised heat and pollution
4. Ozone confusion
5. Science and technology

Such pre-existing concepts are often referred to as "frames of reference".[45] 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 them can help communicators in DR Congo 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

In a country as heavily forested as DR Congo, it is little surprise that trees play an important role in the way people understand their changing climate. Many people link deforestation to effects on rainfall and temperature, and as a result, to crop failure and a decrease in the quality of the soil. People value plants and trees for their benefits for people's health, and believe that illnesses are more common where trees are scarce.

Participants from all locations in DR Congo understand that trees "clean" the air. Many people refer to the way trees absorb carbon dioxide (or sometimes "*carbon gas*") and produce oxygen. A few people mention the role of trees in absorbing nitrogen ("*azote*"). Others have less technical knowledge, but all agree that trees purify the air. A woman from Kinshasa gives an indication of the variety of ways in which people associate trees with well-being: "*[They] give us purified oxygen and remove nitrogen, and also provide shade and beauty.*" Although people connect carbon dioxide to air pollution and health problems, very few associate carbon dioxide with global climate change.

Most think that trees play a part in maintaining temperature by providing shade, and some think that cutting down trees affects rainfall, as one man from Bakwa Nsumpi explains: "*When God created the earth everything was perfect, but humans are at the root of [these weather changes] – we cut down the trees, for example, and that disrupts the rains.*"

Scientists do not necessarily agree with this, but they do agree that forests *recycle* rain through evapotranspiration, whereby water vapour coming off the leaves of trees evaporates and falls again.

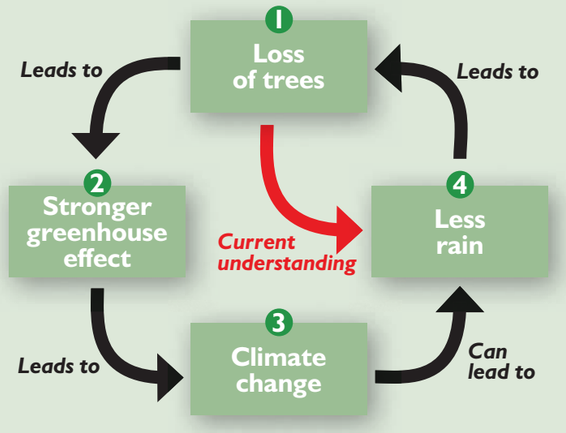
The opinion that the loss of trees has consequences for the weather is shared by rural and urban dwellers alike. "*Given that we are cutting down the trees today, [and] it is already very hot in Matadi,*" explains a young female resident, "*and given that… these trees lessen the heat a bit, then in 10 years it won't be good, it will be really hot.*"

Generally, the benefits of trees are understood to have an impact at a local level. An older man from Kinshasa illustrates this opinion when he says: "*Trees, which play a role in the absorption of carbon gas, do more for rural residents than urban citizens… The lack of trees is a disadvantage to city dwellers in the fight against temperature rises.*" In Kinzavuete, an older man explains how he understands the way in which forest coverage affects the weather from country to country: "*The forest plays an important role, because in other places where there aren't large forests, it doesn't rain enough… If you think about Egypt, they have the Sahara desert, and it doesn't rain enough there because they haven't any forests.*"

In the capital, trees have additional connotations. An older man from Kinshasa says: "*The climate change debate is very interesting, and highly important. The Congolese government and intellectuals must seize this opportunity. The Congo could earn a lot of money… To resolve the problem [of climate change], we must fight against the deforestation of our forests.*" Another adds: "*There are programmes on TV in which the international community asks us not to cut down our forests.*" From the comments of the male group, who have the most varied media exposure of any group involved in the research, the international debate surrounding the value of forests is familiar to at least some of DR Congo's citizens. However, it is hard to ascertain the extent to which people are aware that trees act as "carbon sinks" to store carbon dioxide, the most significant greenhouse gas causing climate change.

Figure 2

Understanding how trees can affect rain



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

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

However, outside the capital, some citizens are clearly much further removed from the climate change debate. An older man from rural Kinzavuete agrees that tree felling changes the weather, but is frustrated by a lack of information concerning the problem. "*How is it that when you cut down trees, the temperature changes?*" he asks. "*And how are we going to survive? I think the state is responsible, because they don't tell us anything about it, so we don't have any information.*"

Recommendations for communicators

Build on people's existing knowledge of the importance of trees to help create a wider understanding of deforestation as one of the drivers of global climate change. Broaden Congolese citizens' awareness of the international debate concerning funding for forests, and explain how this is relevant to their lives. Expose people to adaptation and mitigation strategies that take account of the importance of forests in DR Congo and acknowledge the role of other factors in global climate change.

The will of God

The majority of people describe their natural environment in relation to God's creation. Nature is "*first and foremost everything God created*", says an older man from Kinshasa. When asked if there is anything that is not part of the natural environment, a typical response comes from a younger man from Mbuji Mayi, who explains: "*God did not create vehicles, he created man alone, and man decided to create vehicles, houses – that's artificial.*" It is little surprise, then, that some Congolese believe God controls the weather, whether or not they believe that humans also play a part.

Sometimes, people's belief in God as creator of the natural world is connected to a belief that God controls the weather. A man from rural Bakwa Nsumpi says: "*I think that God is the creator of everything on Earth, and therefore God is at the root of all these changes.*" A woman from Kinzavuete says: "*We should have repented for our sins,*" suggesting that she understands changes in the weather as a form of divine punishment.

Some participants believe that God controls the weather and the temperature in particular. This is predominantly the case in rural areas. However, there is not consensus on the question. For example, a man from rural Bakwa Nsumpi disagrees with several others when he says: "*I disagree [that God is at the cause of these changes]. When God created the world it was perfect, but humans are the cause of this, when we cut down trees for example, we upset the rains.*"

A belief that God created the natural environment certainly does not preclude the understanding that humans can affect the weather. A man from Matadi says: "*God placed man in an environment that was natural, but man didn't know how to manage the environment.*" Many believe that the natural environment is God's creation. Widespread understanding of the damage that has been done to the environment through human activity means that most people are receptive to the idea that human activity can also cause the weather to change.

Recommendations for communicators

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

Localised heat and pollution

Many do not make a connection between the production of pollution in industrialised countries and the impacts of pollution in less industrialised countries. Even among those who say they have heard of climate change or global warming, nobody describes either term with reference to cause and effect on a global scale. Indeed, some tend to think of changes in the weather or temperature as being related to localised pollution or overcrowding.

A woman from Kinshasa is typical of urban residents when she says: "*Our houses are so closely packed together you can hardly breathe – so that is also a way of contributing to climate change.*" A young woman from Matadi says that humans contribute to changes in temperature "*through respiration, because when they breathe, that creates heat, and when more people breathe, that increases the temperature as well*".

One of the few people to make an explicit connection between changes in the weather and global pollution is a man from Kinshasa. "*Humans play a part in this change,*" he explains. "*Humans caused industrialisation. Factories pollute the environment by producing gases… the degree of pollution depends on the level of industrialisation of a region.*" He believes incorrectly, however, that "*the more industrialised regions are more exposed than the less industrialised regions*". In fact, the production of gases from sources such as industry is responsible for global climate change, which has consequences for the whole world.

Recommendations for communicators

Build on people's understanding of pollution to broaden their understanding of the global effect of greenhouse gases. Use health concerns connected with pollution to engage people and provide information about the causes of climate change.

Ozone confusion

There is evidence of people from urban and peri-urban areas conflating existing knowledge of ozone depletion with climate change and global warming. People think the ozone layer is being damaged by human activity, and incorrectly believe that damage to the layer affects the weather.

Mentions of the ozone layer occur primarily when people try to explain the terms "climate change" and "global warming". For example, a man from Matadi defines climate change as "*the destruction of the layer that protects us*". A woman from Mbuji Mayi says she heard the term "*global warming*" used in the media when "*they were talking about the ozone layer*". Similarly, a woman from Kinshasa describes greenhouse gases as "*gases that destroy the ozone layer*", and her description is echoed by others.

A man in Matadi is concerned about the effect of deforestation on the ozone layer, and its consequences for the temperature on earth: "*Tree-felling makes it hotter for us because when we cut down trees, we burn them [and] their smoke disturbs the layer up in the sky that protects us against the heat.*"

In Mbuji Mayi, one woman is concerned about how the temperature is affected by damage to the ozone layer: "*What with everything that humans are doing in the sky, they are destroying the ozone layer that protects us against solar rays, and that's why we are experiencing lots of heat. It's even affecting our climate.*"

Although human activity has damaged the ozone layer through the production of chlorofluorocarbons (CFCs), ozone depletion does not cause an increase in the Earth's temperature or cause the weather to change. It does, however, allow more ultraviolet radiation to reach the earth, which can damage human skin. This kind of confusion is also noted in Western contexts and may arise because climate change and ozone depletion are both caused by gases emitted as a result of human activity.

Knowledge of the ozone layer, however confused, is always accompanied by a belief that humans are changing the weather, as the comments of a woman from the capital illustrate: "*I think that when God created the world, he created the ozone layer that prevented the sun's rays reaching earth, and humans are destroying this layer. So humans are the only ones responsible for [the increase in temperature].*"

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

Recommendations for communicators

Make use of people's awareness of atmospheric ozone depletion to explain climate change, correcting misconceptions at the same time. 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.

Science and technology

There is concern from some people about the part played by science and technology in changing the weather. Much of this is expressed in relation to scientific research and its impact on the ozone layer. A few mention the effect of weapons on temperature and climate.

A number of people are anxious about space research. A young woman from Matadi makes a direct connection between scientific research and the change in seasons and temperature: "*Scientists send missiles up into the universe to do research and that has repercussions on the atmosphere. Before the rainy season lasted six months and we knew that on the fifteenth the rainy season would begin but now you can go beyond the fifteenth and the climate is the same. And it is getting hotter and hotter.*" Another makes an interesting connection: "*Two or three years ago,*" she says, "*the scientists themselves declared that there had been too many deaths of old people in Europe due to a [heat wave]. They said that the heat was caused by rockets that they were launching, which broke a layer in the atmosphere and caused this temperature.*"

"*Astronauts do their research, they go off to discover other planets,*" says a man from Kimbaseke, "*but they shouldn't be going up there… they destroy the ozone layer and that's what causes all these changes.*"

A few people mention "*weapons*" and "*nuclear weapons*" to explain why they believe humans are responsible for changes in the weather or the temperature. A woman from Kinshasa mentions the "*Hiroshima bomb*". It appears that people mention these in connection to the heat they understand they generate, and the negative effect on the environment. Yet they are not always explicit in making these connections.

Some people can picture changes occurring in the atmosphere because of missile or rocket activity, while others can imagine that the heat and energy from weapons could have repercussions on the temperature of the Earth. These mental models are highly tangible and appeal to the imagination, suggesting that communicators would find similar metaphors useful to their explanations of climate change.

Recommendations for communicators

Support people's understanding that human activity causes changes in the weather by providing tangible descriptions of or metaphors for the way in which atmospheric pollution causes global climate change.

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.

4 Interviews with opinion leaders

This research draws on 17 interviews with opinion leaders across six sectors:

Government

- Minister for Environment, Natural Conservation and Tourism
- Energy Commission
- National Authority for the Clean Development Mechanism
- Local government representatives from Bas Congo and Kasaï Oriental

Media

- Private newspaper
- National state radio and television network
- Regional private radio and television network

Private sector

- Palm oil company
- Mining company
- Forestry company

NGO, religious, associations

- A Protestant pastor
- A Catholic rector from Kinshasa
- Association of diamond miners
- Association of indigenous community organisations
- Two NGOs with a climate change focus

What do Congolese opinion leaders know and understand about climate change and what are their views on DR Congo's response to climate change?

Awareness of climate change

All opinion leaders recognise climate change terminology, although those not working on the problem have more limited knowledge, and are less confident about what they know.

Although this research relies on relatively few interviews with opinion leaders, all of them recognise the term "*climate change*". Indeed one private sector representative says that "*everybody is talking about it*", and another explains: "*They talk about climate change every day on television, and they're talking about it more and more.*" People relate the term to "global warming" and "greenhouse gases" and often use it interchangeably with the terms "*the changing climate*" and "*climatic disruption*" to describe changes in the seasons and weather both in DR Congo and elsewhere. Although opinion leaders frequently refer to "*global warming*" and "*greenhouse gases*", there is evidence to suggest that these terms are not always understood outside of government and NGO circles.

While most opinion leaders know that countries around the world are experiencing changes in climate and extreme weather events, not all of them know that these changes are linked to greenhouse gas emissions and the greenhouse effect. It is often difficult to ascertain how much opinion leaders know about global climate change. Some opinion leaders who do not seem to understand the science of global climate change are nonetheless aware that there is a political debate surrounding industrialised nations' responsibility

for pollution. Some of those with a more detailed understanding of global climate change understandably focus discussion on the climate change impacts that will have the greatest implications for their work, and are less likely to mention industrial emissions of greenhouse gases.

Some opinion leaders inaccurately link global warming to the "*destruction of the ozone layer*", rather than correctly connecting it to the greenhouse effect. One incorrectly links climate change to localised pollution from weapons: "*Chemical reactions from powder and weapons will have disturbed the atmosphere, so from that I would say that the east of the country is worst affected.*" The most unusual mistake comes from one opinion leader who suggests that climate change may affect "*the speed of the Earth's rotations*".

Opinion leaders who are not directly working on climate change programmes in national government or NGOs tend to know less about it, or are less confident about their knowledge, with some sayings that climate change is a specialist field. When asked what climate change means, one opinion leader replies: "*It's difficult, it is something that I don't understand, it is not from our domain,*" but says "*disruptions*" mean that "*the dry season starts earlier, the rainy season starts earlier*". When asked specific questions about climate change, a typical response from opinion leaders outside these sectors is: "*I am not a scientist, so I am not well placed to say*".

Understanding climate change

Opinion leaders describe seasonal and weather changes in relation to climate change. Outside government and NGOs most inaccurately describe the causes of climate change, however.

Unlike in other countries involved in Africa Talks Climate, there is a word for climate in DR Congo. This is significant because often opinion leaders give very detailed descriptions of shifts in the timing and duration of the dry and rainy seasons, and increases in temperature, and link this to climate-related terminology, which suggests an understanding of climate change.

A typical explanation of climate change comes from an opinion leader who describes the experiences of his parents:

> *"I will give a simple example. Our parents knew that at the end of May the rains would stop and that at the beginning of June we would start the dry season and it would be really cold in the month of July… and now we can tell that the date for the rain to stop or start is no longer respected… so we can say that there is a change in the climate, something has changed."*
>
> Mr Yves Koko, rector, Notre Dame cathedral, Kinshasa

Another gives an example from his own life:

> *"I live next to the river and we have seen how [the changing climate] has affected the fish. There are species that are disappearing… people used to use lines or spears but now they have to use spears with nets and they take tiny fish, even though really they should leave these fish to grow."*
>
> Mr Freddy Mansaya Tebuko, publication director, *Le Potentiel* newspaper

"When the villages are affected, the town suffers worse... in the villages even if you have nothing to sell, at least you can find something to eat"
MR JACQUES BAKULU, DIRECTOR, CDM AUTHORITY

However, not all opinion leaders have a clear understanding of the processes of global warming. Generally, these explanations tend to come from government and NGO representatives working on the issue, who are aware that humans are responsible for producing the greenhouse gases that trap heat in the atmosphere and cause global warming.

> *"Climate change is a dangerous concentration of greenhouse gases, that is to say a series of six gases, carbon dioxide, sulphur hexafluoride, methane, HFCs and CFCs. When they are concentrated in the atmosphere at a dangerous level they create global warming, and that is connected to effects such as the melting of glacial ice, sea level rise, droughts and flooding."*
>
> Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

Opinion leaders outside national government and NGOs tend to be less confident about their knowledge, whether or not they have an accurate understanding of climate change. Generally they make less detailed connections between pollution and climate change:

> *"After the reading I have done on the subject, I understand by [the term "climate change"] that greenhouse gases warm or disturb the climate…"*
>
> Mr Oscar Kabamba Kasongo, director, TV news, RTNC

Often these opinion leaders acknowledge that they are uncertain, and their explanations of climate change can include inaccurate descriptions of its causes, such as ascribing it to general pollution rather than atmospheric pollution from greenhouse gases, for example.

Another common misconception among some opinion leaders and many participants from the focus groups is that climate change is linked to damage to the ozone layer. One opinion leader is typical in saying that "*global warming has been affecting the ozone layer for a while*", and others make similarly inaccurate connections between climate change terminology and ozone depletion.

Perceived impacts of climate change

Opinion leaders are concerned that climate change will cause flooding and food and water insecurity in DR Congo. Some say that the impacts of climate change are already being felt elsewhere, and consider that DR Congo's relatively plentiful resources could become a source of conflict in the region.

Whatever their understanding of climate change, most opinion leaders know that the weather is changing around the world, and many associate such changes with deaths in France due to "*heat waves*", and extreme weather events such as cyclones and tsunamis in Asia. They also recognise that a changing climate is affecting DR Congo and its citizens.

Opinion leaders are concerned that increases in temperature, changes in rainfall, drought and flooding will affect DR Congo. In particular, they mention Bas Congo, Kasaï, North and South Kivu and Province Orientale as regions that they consider to be at particular risk. Some are especially concerned at the prospect of drought in the plateau in the south and west of the country. Urban centres are understood to already be affected by the physical impacts of a changing climate. Several opinion leaders echo the descriptions given by members of the public in their accounts of heavy rain causing flooding and erosion, ruining houses and destroying roads.

Concern is focused on the damage a changing climate could cause to rain-fed agriculture and water resources: the impact on supplies of drinking water is seen by many as an urgent concern:

> *"Just as we talk about oil shortages, we should pay attention to supplies of fresh water… I think we really need to be careful because it seems to me that in the near future water is a resource that we might be lacking everywhere on the planet."*
>
> Mr Alain Somja, managing director, Sicobois

One opinion leader is concerned about the secondary effects of a lack of clean water:

> *"If there is less rain than before then that will certainly affect [rural people] because they will have to go further to look for water, and they might venture into other local communities who are not going to welcome these people who have come a long way to take their water. So the problem is multidimensional. It could create problems of survival, problems of coexistence between populations."*
>
> Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

Most are worried about the impact that higher temperatures, food insecurity and a dwindling water supply could have on people's health. Many point out that a lack of safe drinking water will bring disease. The spread of malaria due to rising temperatures is frequently mentioned. One opinion leader emphasises that there is a greater stress on the rural community because "*they do not have adequate health structures to cope with the problems created by climatic disruption*".

Others perceive that a changing climate is already disturbing village economies:

> *"I was coming along the Ruzizi valley and I saw flooded fields. You realise then that an entire village's economy has disappeared, has fallen apart."*
>
> Mr Clément Kitambala, director, Action pour le développement de la communauté paysanne

Regardless of individual knowledge of global climate change, many opinion leaders are concerned about the effect of a changing climate on rural populations that rely on the land and the forests both to feed themselves, and to produce food for the urban areas. They say the changing climate has caused animals to move from their usual habitats, with consequences for hunters. One association representative is particularly concerned about the impacts of climate change on Pygmy communities who depend on hunting and gathering in the country's forests for their survival.

Despite considerable concern for rural populations, some opinion leaders believe that the urban areas will eventually suffer more heavily than the rural areas, in part because they are largely reliant on rural districts for their food production:

> *"Our towns are sites of consumption, not sites of production. But our villages are places of production first, and consumption [second]… palm oil, charcoal, manioc, chikwangue, fufu, bananas – all of these foodstuffs come from the villages. When the villages are affected, the town suffers worse, because villages that should sell half [of their produce] are now selling perhaps a quarter. This is because in the villages even if you have nothing to sell, at least you can find something to eat."*
>
> Mr Jacques Bakulu, pastor, CEPECO

Some think this will be compounded by the fact that rural–urban migration will increase as the impacts of climate change hit rural areas. Given that most of the population relies on subsistence farming or is employed in agriculture, the consequences for urban areas are considerable:

> *"The rural exodus is taking on proportions that are becoming worrying. You have a town like Kinshasa, built to house 500,000 or perhaps a million inhabitants, at most. Now, the statistics… are talking about eight million inhabitants in the town of Kinshasa, and it is the same for the other large urban centres, where there is the same kind of rural exodus. Obviously one cause is the insecurity in the interior of the country, but it is also because the only source of food is agriculture and the gathering of forest products. When these are no longer accessible, people tend to head towards the towns to find something to eat."*
>
> Mr René Ngongo, head of policy, Greenpeace DR Congo

Although many opinion leaders are deeply concerned about the ways in which climate change is already affecting DR Congo, some do not think the impacts the country has experienced are yet as serious as those in other countries:

> *"Personally I think that the average Congolese citizen is not directly affected by climate change, compared to other geographical areas – for example in southern or Sahelian Africa, where the effects of climate change are more palpable… there are no catastrophic aspects [in DR Congo] such as severe drought or flooding. In that sense I would say that climate change doesn't really affect the Congolese population for the moment".*
>
> Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

Those opinion leaders with at least some knowledge of global climate change connect climate change to the diminishing water levels of Lake Chad and receding snow cover on Mount Kilimanjaro. They are also worried that other countries such as Burundi, Rwanda and Sudan will face increasing food insecurity, if climate change causes drought there to worsen.

In light of people's concerns about climate change impacts across Africa, some are worried that DR Congo's relatively plentiful land and water resources could become a source of conflict in the region:

> *"If the Sahel keeps advancing… that could create a problem. We could be invaded if the bordering countries have nothing to eat as a result of these changes [in the weather]".*
>
> Ms Agnès Kasongo, manager, Plantations et Huileries du Congo

Where does responsibility lie?

Opinion leaders say that industrialised nations should be held to their responsibilities to compensate DR Congo for the impacts of their actions. Not all link the question of compensation to atmospheric pollution and the greenhouse effect, however. Many link changes in climate to deforestation, which they attribute to multinational logging companies, and to Congolese citizens.

Those who understand global climate change and link it to greenhouse gas emissions emphasise that responsibility for climate change does not lie with non-industrialised countries such as DR Congo:

> *"It is ironic and cruel that Africa is the continent that contributes the least to greenhouse gas emissions and yet Africa is the continent that is and will be the worst affected."*
>
> Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

They say that China and the USA hold the most responsibility for producing the pollution that causes climate change:

Many are aware that there is a political debate connected to climate change that relates to funding for developing countries. A few understand that the debate concerns the need for industrialised countries to compensate developing countries according to the principle of "common but differentiated responsibilities" for global greenhouse gas emissions. Not all opinion leaders explicitly connect the question of compensation to greenhouse gas emissions. All, however, insist that these countries must be held to their responsibility to pay:

> *"The most developed countries, such as the USA, Japan and France… that is to say, the countries that pollute the environment the most… are the countries that cause the impacts that we are suffering here. We have raised the*

"the developed countries handle things so that they can compensate all of us who are suffering the counter-effects of everything they produce over there, that make our lives here so difficult."
MR OSCAR KABAMBA KASONGO, RTNC

question of compensation, and I believe that we have to get to a point where the developed countries handle things so that they can compensate all of us who are suffering the counter-effects of everything they produce over there, that make our lives here so difficult."

Mr Oscar Kabamba Kasongo, director, TV News, RTNC

There is also a more general feeling that DR Congo's natural environment is at risk of exploitation from industrialised nations. Greenhouse gas emissions are sometimes alluded to through references to capitalism and its reliance on excessive material production. A few are concerned that DR Congo is a "*rubbish dump*" for old vehicles, and even planes, that no longer meet "*European emissions regulations*" and so are exported to DR Congo, where they continue to run.

Many leaders link changes in the climate to deforestation. For opinion leaders who are unfamiliar with global climate change, the loss of forest is understood to lead directly to a lack of rain, and to cause drought. Opinion leaders who know more about global climate change say emissions from deforestation are responsible for as much as 20% of global carbon emissions. The loss of forests is ascribed both to multinational logging companies (the activities of which are a contentious area of discussion) and to Congolese citizens:

"The multinationals have taken all this forest, all these people exploiting the forest and importing the wood illegally – they cut wood without any regard for the regulations in place… our wood also provides wood for cooking, because nowadays most people find coal very expensive, so they choose to fell the trees to get wood that they can use to prepare their food."

Mr Freddy Mansaya Tebuko, publication director, *Le Potentiel* newspaper

Do the worst affected understand climate change?

Opinion leaders think that people know the climate has changed, but that few understand "climate change" as a phenomenon. There is also concern that food and water security are seen as more urgent problems than climate change, when they are in fact connected.

Opinion leaders say that although those worst affected by climate change can give detailed descriptions of how crop yields and forests have been affected by the changing weather, they do not understand these changes in relation to global climate change. According to some, this is because "climate change" is a scientific term that is not understood by the general population, while others say that there is little knowledge of the term due to limited access to media among poorer communities. One opinion leader gives an example of the way in which people can understand a problem, without realising that they are experiencing the same problem in their daily lives:

"I think there is a possibility that people don't understand. Even the problem of food shortages – someone who is in a village living on subsistence farming does not see his own difficulties… I think you have to have a certain level [of information] to understand that you are experiencing that."

Mr Nzungu Luntadi, cabinet director, Bas Congo regional ministry for agriculture, fishing, livestock and rural development

> **"Ordinary citizens... have other immediate concerns... [such as] whether they are going to wake up tomorrow"**
>
> **MANAGER, PLANTATIONS ET HUILERIES DU CONGO**

Many opinion leaders say that for people to understand climate change, they "need education". The experiences of one opinion leader suggest that those with a higher level of education are already taking an interest in the area:

"I have been pleasantly surprised to realise that there is a growing awareness among students, MPs, university professors… NGOs and members of civil society who come to [the Ministry of Environment] because they are interested in these questions and they understand, to some extent, what this is about."

Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

Some opinion leaders suggest that many Congolese people have concerns that appear more urgent:

"Ordinary citizens in our country have other immediate problems… they are of course going to suffer climate change but for the moment… their concern is wondering whether they are going to wake up tomorrow, whether they are going to eat tomorrow, whether their children are going to go to school."

Ms Agnès Kasongo, manager, Plantations et Huileries du Congo

Opinion leaders working in the area of climate change recognise that this is in fact a paradox, when the urgent concerns of food and water security are so closely related to the impacts of climate change. For this reason, they emphasise that the challenges of addressing the population's basic needs and tackling climate change must be addressed together:

"When you speak to most people, they say, 'we do not have access to food, we have to worry about our survival first.' The best way to go about it is to achieve food security, because once you have tackled famine, then people will listen."

Mr René Ngongo, head of policy, Greenpeace DR Congo

Opinion leaders point out that people cannot respond effectively to climate change unless they receive information that emphasises the urgency of the problem. A few suggest that strategies to raise awareness of climate change could face the same challenges as Aids awareness campaigns:

"These are phenomena that take time, so you have to be informed about them. You saw how many problems we had to spread the message about Aids. It's the same thing – if Aids killed the same day, I think people would understand straight away… But when there is more time, I think people start to underestimate the problem…"

Mr Nzungu Luntadi, cabinet director, Bas Congo regional ministry for agriculture, fishing, livestock and rural development

Translation and terminology

Opinion leaders think that while many have heard climate change terminology, it is not currently connected to most citizens' understanding of their changing weather. They say that the terms need to be translated into local languages and local contexts.

Opinion leaders say that the general public needs more information on climate change.

Some report that the term "climate change" is used regularly in the media, and therefore that many people will recognise it, even if they do not know what it means. All agree that people would be more concerned about climate change if they understood that the term pertained to the changing weather as experienced in DR Congo:

"I prefer a term that… brings together the international term and the local term… because when we change it, we reduce its scope and disconnect ourselves from others. I would like us to use the same term 'climate change', but start with the consequences and negative aspects, so perhaps 'climate change and its consequences'."

Mr Jacques Bakulu, pastor, CEPECO

In general, opinion leaders are committed to retaining the term "climate change". A few emphasise that the term is central to the global debate, and that the public therefore need to understand and use it if they are to be included:

"Not a day passes when you don't hear them discussing the problem of climate change on the radio. It has become a global concern, so why create something new? I think we have to play the game and drum 'climate change' into people's heads…"

Mr José Endundo Bononge, minister for environment, natural conservation and tourism

Yet there are several barriers to people understanding the term, according to opinion leaders. Some say that translations need to be found in the four national languages of DR Congo and in local languages. Others say that the word "climate" is a scientific concept that is difficult to translate into local languages in which a comparable word does not exist. Our research finds, however, that people who speak French as well as local languages say that they recognise the French term. Some say creative solutions can be found in other languages:

"In Swahili there is an expression that seems to capture the meaning [of 'climate change']. The term is 'mabadiliko ya majira'*, because* 'majira'*… captures many of the elements that would normally be part of the meteorological system… It's a term we use a lot more now in awareness-raising, and people understand it. When we ask 'what do you understand by* 'majira'*?', people reply with meteorological aspects that explain climate change."*

Mr Clément Kitambala, director, Action pour le développement de la communauté paysanne

> **"The population is currently experiencing the impacts, and we should have prepared them so that they knew how to react... there is not enough information"**
>
> **MR FREDDY MANSAYA TEBUKO, LE POTENTIEL NEWSPAPER**

Others suggest that in order for people to engage with a discussion of climate change, the concept needs to be translated into their local context, rather than into another language:

"I would talk about desertification, about drought, about the agricultural calendar that has been turned upside-down, things the population will recognise. I would not talk about tsunamis, I wouldn't talk about what is happening in Asia – I want to talk about what is happening in Bas Congo."

Mr Jacques Bakulu, pastor, CEPECO

What response is required?

Opinion leaders suggest that a wide range of activities are required if DR Congo is to adapt the impacts of climate change. This includes acting to address food and water insecurity, to curb deforestation, and to improve provision of information to ordinary citizens.

Opinion leaders recognise that a changing climate could create problems in the future that need to be planned for now. For some, national security is:

"…an important question, because currently we have 60% of the continent's water resources, and when there is no water left elsewhere… that could create security problems and so these are things we need to be considering now."

Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

Opinion leaders agree that food security is an urgent question that could fast become even more important:

"We have a population of around 60 million inhabitants, which is quickly going to grow to 100 million. We are going to need to feed the population, and that is also a problem."

Mr José Endundo Bononge, minister for environment, natural conservation and tourism

Opinion leaders connect food security to the question of how water resources will be affected:

"In terms of water resources… if there are times when it doesn't rain… if there is not a retention system to allow us to conserve water… then certainly there are going to be problems – we already have problems with that… it could be that we will have to change the way we eat from the way we ate before – the food we once ate needs a lot of water, if we haven't a lot of water then we will have to change our eating habits."

Ms Agnès Kasongo, manager, Plantations et Huileries du Congo

Some stress that problems of development need to be addressed "in parallel" with the challenges posed by climate change:

"I think there are already problems in Africa concerning food supply… we should try to increase the agricultural capacity of the industrial countries, that's already quite a task, and then the second step could work in parallel, tackling the climate aspect, but the country has a lot of problems we need to resolve."

Mr Alain Somja, managing director, Sicobois

Some opinion leaders stress the need for information that will help Congolese citizens to adapt to the impacts of climate change:

"The population is currently experiencing the impacts, and we should have prepared them so that they knew how to react to this situation. In my country, there is not enough information; there are not enough awareness-raising campaigns."

Mr Freddy Mansaya Tebuko, publication director, *Le Potentiel* newspaper

Some feel that too few resources are devoted to the needs of the worst affected citizens:

> *"The population is left to its own fate. We, civil society, are shouting, at the national level, at the international level. We often work without any resources, unable to bring together a village, or organise conferences, or raise awareness among the population."*
>
> Mr Jacques Bakulu, pastor, CEPECO

Opinion leaders, largely from national government and NGOs, say that there is an urgent need for the international community to respond to the problem of climate change by curbing emissions of greenhouse gases:

> *"With thirteen million hectares of forest disappearing every year… what are we going to leave to future generations? It is important that emissions of greenhouse gases are capped soon. Otherwise, warming is going to increase, with real difficulties for our underdeveloped countries to adapt to climate change."*
>
> Mr René Ngongo, head of policy, Greenpeace DR Congo

Deforestation is also understood by most opinion leaders to be an urgent priority in the context of climate change. However, most comments concerning deforestation focus not on the need to reduce emissions, but on the principle that DR Congo should be compensated by industrialised countries. They feel that the international community should do all it can to protect the forest:

> *"I would like the international community to say, 'You have a treasure – guard it carefully, and we will give you the means to protect it.'"*
>
> Ms Agnès Kasongo, manager, Plantations et Huileries du Congo

All opinion leaders know that DR Congo's forest is an asset for the country. Many also know that it is also an asset to the global atmosphere, although only some explain this in relation to its ability to absorb carbon dioxide, and so mitigate the impact of carbon emissions. As such, some appear frustrated by apparent contradictions in the conduct of developed nations:

> *"We agreed that we have to protect the forests that are still remaining… and I think that we need these measures to be taken seriously, because it is companies from the North that continue to deforest the large forests of the South, whether here or in the Americas, so we need to know what they want. The States and industry are making decisions and continue to rule the world. I think that we have to take measures to make sure that the decisions that were taken [concerning the forest] are safeguarded. I can't see any sign of them, because when I am here in Matadi, all I see are great quantities of wood leaving every day with businesses from the North. So we need to know what they really want."*
>
> Mr Nzungu Luntadi, cabinet director, Bas Congo ministry for agriculture, fishing, livestock and rural development

Government response

At the time of the research, the government was working closely with groups at the national and international level in advance of the COP15 summit. As the national response develops it will be important for the government to continue to engage local and media organisations.

At the time of the research, the Copenhagen Conference of the Parties (COP15) was only several months away, and discussion of the government's response to the challenge of climate change was closely focused on hopes for the summit.

"You cannot open a newspaper in DRC nowadays without [seeing] a mention of climate change, which was not the case a few years ago"

HEAD OF POLICY, GREENPEACE

At the national level, the Ministry for Environment was dedicating "*half of its time*" to working on climate change, working on forest management, training negotiators for Copenhagen, and building capacity within the ministry. Civil society groups are said to have had a role in developing capacity before the Copenhagen talks:

> *"We have gone up to 8,000 employees, we have employed 500 academics… we have diplomatic contacts at every level… We have the commitment of around 30 countries who are closely linked to the ministry through their embassies and ministries, we have very close contacts that we hope will allow DR Congo to take possession of its natural riches, and manage them in the interests of the population both in Congo and the rest of the world."*
>
> Mr José Endundo Bononge, minister for environment, natural conservation and tourism

Although the ministry had not yet implemented any national programmes, it was felt that the appropriate structures were being put in place to design a policy. The work of the communications department in the Ministry of Environment was highlighted as being useful in informing people about environmental "challenges". Yet interestingly, comments from media representatives suggest that they are the group who know the least about the government's environmental policy and climate change response.

However, the focus of government policy seems to be to ensure international funding mechanisms are put in place for adaptation and mitigation:

> *"The [Copenhagen] agreement should prepare finance mechanisms adequate for adaptation, to see how to help countries adapt to climate change, how to construct sea walls to avoid flooding, how to create programmes so that we are able to channel water to places that are becoming increasingly arid… and for financing mitigation programmes such as the Clean Development Mechanism (CDM) and the Reduction of Emissions from Deforestation and Forest Degradation (REDD)."*
>
> Mr Tosi Mpanu Mpanu, director, National Authority for the Clean Development Mechanism

Yet at the level of national government, there is very little reference to forest management. Indeed, the few references to government-led forestry reforms begun in 2002 come from civil society representatives.

One government representative says that the Ministry of Environment supports local community initiatives "*insofar as it can*". There is some collaboration between civil society groups and the government, on programmes such as a national strategy aimed at supporting indigenous communities, which was being developed in partnership with Dignité Pygmée (an umbrella organisation working for the rights of indigenous communities), the World Bank and the Congolese government at the time the research was carried out.

The willingness of national government to support local initiatives, and the fact that it has worked with civil society to develop capacity and design strategies, suggests that there is a precedent of co-ordination that could be built upon, as the government continues to develop a national response to climate change.

NGO response

There is a large network of NGOs in DR Congo, with good connections to local communities, and opinion leaders from this sector say citizen adaptation to the effects of climate change is beginning. Their work on climate change will need to overcome several key challenges, however.

Opinion leaders from NGOs say that there are a number of challenges to be faced in their response to climate change.

Much of the climate change work of NGOs is centred on deforestation, which they address through awareness-raising campaigns, research and practical solutions. There is a large network of national NGOs working on the problems of climate change and forest management, and DR Congo is involved in at least one international climate change campaign in the form of the Greenpeace "Forest and Climate" programme. Greenpeace DR Congo is involved in the Reduction of Emissions from Deforestation and Forest Degradation (REDD) process, and all the NGO representatives are aware that forests in DR Congo have become a question of international concern. The presence of powerful multinational forestry companies in DR Congo, who one NGO representative says put in place "*disproportionate means*" to continue to cut down the forests, is a particular concern. Greenpeace hope to address this by continuing to work on raising awareness among international consumers, as they have done already through the Forest Stewardship Council.

The second challenge concerns people's perceptions of the causes of climate change, which opinion leaders from the NGO sector say take time to change. One NGO representative stresses that women with little education need to be a particular focus of awareness-raising work. He also illustrates the challenges faced in areas where the church has a lot of influence and people believe that changes in the weather herald the end of the world. His organisation has begun to work together with religious leaders who are offering an ecological interpretation of Biblical teachings, to challenge this belief and promote the idea of environmental stewardship.

The third challenge, according to NGO representatives, is the relationship between poverty and climate change. They explain that if the poorest people, whose livelihoods are often most at risk from climate change, do not understand the problem, then they cannot respond to it effectively. One NGO hopes to go some way to addressing this problem through a micro-insurance programme that will protect farmers against extreme weather events such as flooding and so "*raise themselves up from poverty*".

NGO representatives report that they have achieved some success in addressing these challenges. They say they have increased awareness of the dangers of climate change among rural people, students from primary school to university, government officers, and the media:

> *"You cannot open a newspaper in DRC nowadays without [seeing] a mention of the dangers of climate change, which was not the case a few years ago."*
>
> Mr René Ngongo, head of policy, Greenpeace DR Congo

Another NGO is using Congolese citizens' experiences to illustrate the future threats of climate change in the country:

> *"There is a programme that we call* sura ya mazingira *or 'images of the environment'. We ask farmers who are aged over 30 for their accounts of how the climate was 30 years ago when [they] were still young and farming. We use these accounts to make projections that we screen to convince people that we are really experiencing changes… and that humans are responsible."*
>
> Mr Clément Kitambala, director, Action pour le développement de la communauté paysanne

According to NGO representatives, some people in DR Congo have recognised the implications of a changing climate for their lives and have already begun to respond. It seems that this response is largely centred on the need to reduce tree-felling. Reforestation activities are mentioned. One religious leader refers to a programme led by his organisation, CEPECO, in which some villages have created laws to protect the forest in their region:

> *"When a business wants to enter their forest to cut down the trees, it has to sign a contract with the villagers to reforest; to plant double the number of trees they have felled. If they don't sign it, they don't enter the forest. It's the same for farmers making their fields – if they cut down a couple of trees, they have to plant one or two more."*
>
> Mr Jacques Bakulu, pastor, CEPECO

Programmes have taught people about the benefits of using fuel-efficient stoves and briquettes to reduce the amount of wood needed to heat them, and increasing numbers of people from DR Congo's poorest communities are said to be using them:

> *"Many people have understood the importance of using these stoves now, and they tell other people about it. Sometimes when we cannot produce enough ourselves, we have to go to Burundi to import them."*
>
> Mr Clément Kitambala, director, Action pour le développement de la communauté paysanne

NGO representatives are in agreement that there is work to be done, however. Greenpeace are working on a study to understand what drives deforestation and they anticipate changes to the law in respect of the sustainable forest management policy. They hope that in time, every investment or development will only be able to be implemented upon completion of an environmental impact study.

Despite the strong focus on forest preservation, at the time of the research there were also plans for programmes to help people adapt to the impacts of climate change. One NGO was seeking funding for a programme to teach people about adapting to the impacts of climate change and reducing greenhouse gas emissions from rice cultivation and livestock rearing.

There is a large network of NGOs working together with civil society groups and local and indigenous communities. Media and

local government representatives mention the work of environmental NGOs in the province in which they live, and some NGOs have played a role in the Copenhagen negotiations. Their varied connections to other sectors of Congolese society suggest that NGOs will continue to play an important role in the country's response to climate change

Private sector response

Private sector representatives are concerned about the effects of climate change on their industries, both directly and in relation to legislation. However, few are currently involved in shaping the response to climate change.

The private sector representatives for this research come from a palm oil company, the forestry sector, and the mining sector. Although one does not know how climate change could affect their business, the others are concerned about two ways in which they perceive climate change could affect them. The first is the direct physical impact of climate change:

> *"When we plant the trees, if it doesn't rain, or if there is a drought, then we will pay the price because if this happens, the trees will not produce as they should."*
>
> Ms Agnès Kasongo, manager, Plantations et Huileries du Congo

The second is indirect. Some associate new forestry legislation with the discussion of climate change and are concerned about the impact it could have on certain industries:

> *"The new regulations are going to have… important consequences, particularly in terms of the financial situation."*
>
> Mr Alain Somja, managing director, Sicobois

Despite this, the private sector representatives all say that they do not see how climate change could limit economic growth, and one says it is a question for governments to resolve. However, Plantations et Huileries au Congo recognise that over the next 10 years they might have to change their business practices. At the time of the research, the company was conducting research into the quality of palm seeds and the best times for them to be planted, and was considering whether new irrigation systems would have to be implemented.

All agree that the private sector should be involved in a response to climate change. However, at the time of the research, the only private sector involvement in the national response to climate change concerned the preparation for the Copenhagen summit, as described by one government minister. No other private-sector initiatives were mentioned.

Other responses

Despite the involvement of one organisation in developing a national emissions reduction strategy, few climate change programmes have been implemented at the local level. However, most local leaders - particularly religious representatives - see that they have a role to play in the response to climate change.

At the local level, there is little action on climate change, according to the comments of association representatives and religious leaders. One opinion leader explains that provincial governments have only been in place for two years, so few environmental programmes have been implemented. Nevertheless, the local association representative says that the provincial ministry is working to raise environmental awareness.

The exception is Dignité Pygmée, which at the time of the research was collaborating with government actors to develop a national emissions reduction strategy, as well as preparing to attend the Copenhagen summit. The organisation also worked to refute the claims of a paper on deforestation that suggested that destruction of the forest by local people was more harmful than larger-scale logging by forestry companies.

Both religious leaders are aware of the impacts of the changing climate on the country's population, and agree that religious texts can teach people the importance of caring for the earth and managing its resources. One says that humans must care for the earth in a "*sustainable*" way, because it is a gift from God.

Yet the reality of the extent to which the earth's resources are being protected is highlighted by the comments of one opinion leader, who initially explains that his department carries out campaigns to "*raise awareness among the population so that they do not destroy the forest, and they respect the protected reserves*". Yet when asked about the ministry's plans for future projects, the irony is apparent:

> *"Seeing as we have a lack of resources… We have a large area of tropical forest in our province, in the district of Sankuru, and the forest is intact. There are tree species that are highly sought after by international business that could bring us a lot of money. We have begun a project of interest, and the loggers are coming to our province and are beginning to exploit our wood, because some mines are drying up, others already have dried up… We are looking for people with chainsaws and logging tractors."*
>
> Mr Anaclet Mbuji Thselewa, regional minister for agriculture, rural development, environment, fishing, communication, livestock, water and forests, Kasaï Oriental

The focus of another local government minister is on agriculture and food supply and he emphasises that the role of the provincial ministries is to encourage farmers to become more "*professional*", so that agriculture respects the environment. The most urgent priority, he says, is developing self-sufficiency in food production, but not at the cost of the environment. He is particularly concerned to ensure that farming does not become a cause of desertification, which, he says, will cause climate change to become "*catastrophic*". He adds that bush fire prevention will help limit the impact of farming on climate change.

Media response

Opinion leaders recognise the importance of the media's role in the response to climate change, and media representatives express commitment to the problem. Yet they say that there is a need to develop climate change knowledge in the sector.

Many opinion leaders, from across different sectors, say that climate change is covered in the media. As is the case among the focus group participants, the media appears to be the key source of information about climate change for opinion leaders who do not work directly on the problem. Opinion leaders emphasise that the media could play an important role in developing people's understanding of climate change. Comments made by media representatives suggest that climate change, to the extent that it is understood by journalists, is perceived as an environmental subject by the Congolese media.

There is currently relatively little coverage of climate change in the organisations represented in the research. The media representatives interviewed agree that climate change coverage is "*insufficient*" and "*sporadic*", with the number of pieces ranging between a few per month to several in a year. Some coverage is based on "World Tree Day" and similar events, suggesting that climate change is bracketed with other environmental topics rather than being treated as a story in its own right. Other pieces were said to be focused on the Copenhagen and Kyoto summits.

Clearly media communication on climate change is in its early stages, and media representatives suggest that there are a number of obstacles to good climate change coverage. Climate change is considered a difficult topic that requires specialist knowledge to cover effectively. Some comments suggest that journalists' interest in climate change is limited, perhaps because climate change is largely understood by journalists as an environmental topic, rather than a multi-faceted problem. All agree, however, that if the media is to increase and improve its coverage of climate change, there is an urgent need for training on the subject.

Despite these limitations there is considerable commitment to the topic of climate change among media representatives. At an individual level, one has been reading about the topic online and listening to radio programmes, due to personal interest in the issue. At an organisational level, *Le Potentiel* newspaper has developed contacts with Greenpeace and a number of other NGOs to develop the way they communicate on climate change and the environment. One media representative thinks that once training in the sector has given journalists a sufficient grasp of the topic, the Congolese media should use television and radio programmes to inform people about climate change, and suggests that the media build links with schools to help spread the message.

One media representative emphasises that journalists need an understanding of climate change that allows them to produce content that everyone can understand:

> *"It is important that the media understand the subject, and use words that are simple enough for the message to get through."*
>
> Mr Freddy Mansaya Tebuko, publication director, *Le Potentiel* newspaper

He proposes that media organisations work with organisations with a climate change specialism to deepen media understanding of the topic. The comments of some opinion leaders who know less about climate change suggest that improving the media's capacity to dispel common misconceptions about climate change should be a priority. One private sector representative says:

> *"They talk about the ozone layer, about a whole range of things, but it would be interesting for somebody to carry out an analysis of the problem in an intellectual way so that we can understand exactly what the causes are."*
>
> Ms Agnès Kasongo, manager, Plantations et Huileries du Congo

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

5 Conclusion

This research has shown that although the majority of Congolese people recognise climate change terminology, it is poorly understood. Currently, many people draw on existing knowledge and beliefs, both to explain the changes they have witnessed and to process new information on climate change. Most Congolese people perceive a link between human activity and changes in climate, but this connection is either explained in relation to local activities such as deforestation or inaccurately linked to the depletion of the ozone layer. An understanding of the role of rising levels of greenhouse gases in the earth's atmosphere is only alluded to by a very few people from the capital.

Opinion leaders recognise that climate change presents urgent problems for the people of DR Congo. Some of them say that climate change needs to be "contextualised" so that people understand the term is relevant to them and describes the changes in the weather and seasons that they have experienced. However, at the time of the research, the national response to climate change was only in its early stages, and the efforts of national government and civil society were concentrated on the upcoming international COP15 negotiations. Much discussion among members of the public and with opinion leaders centres on the value of trees and the need to limit deforestation. Some opinion leaders recognise that DR Congo's forests possess a potential monetary value to the country in the context of the international climate debate, and national government and NGO representatives stress the importance of agreeing and implementing funding mechanisms for adaptation and mitigation programmes.

It is clear that communication and information provision is going to be central to DR Congo's response to climate change. Many opinion leaders spontaneously mention the need for better communication on climate change, and all agree that the general public needs more information in order to make informed decisions. Although the media and schools are the main source of information on climate change for the general public, there is evidence to suggest that journalists lack sufficient knowledge to effectively inform audiences about the subject and facilitate public discussion.

This research set out to present the perceptions of the Congolese public on climate change, rather than a detailed climate change communications strategy. However, 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. Congolese citizens have a fundamental right to access information on an issue that affects their lives. Increased awareness and understanding of global climate change will enable and equip citizens and communities to discuss the problem, adapt to the effects of climate change and make informed long-term choices about their future.

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

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

Facilitate policy and public debate

Secondly, the media needs to facilitate accessible public debate. DR Congo is being affected by climate change. Internally driven, relevant debate on the issue is essential. The news and non-news media will shape and mediate that debate to a very substantial extent. For that reason, building the capacity of the media and providing support for "public spaces" which enable discussion on climate change that draws upon Congolese 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 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, including adaptation funding, technology transfer, emissions reduction and other response strategies. Only when Congolese citizens are fully informed about and able to debate climate change will they begin to influence the national and international climate change policies and processes which affect their lives.

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Appendix 1 Opinion leaders interviewed

Name and title	**Organisation**	**Sector**
Mr Jean-Pierre Beyoko Loku *Permanent secretary*	Energy Commission	National government
Mr José Endundo Bononge *Minister*	Ministry for Environment, Natural Conservation and Tourism	National government
Mr Tosi Mpanu Mpanu *Director*	National Authority for the Clean Development Mechanism	National government
Mr Anaclet Mbuyi Thselewa *Regional minister*	Kasaï Oriental regional ministry for agriculture, rural development, environment, fishing, communication, livestock, water and forests	Local government
Mr Nzungu Luntadi *Cabinet director*	Bas Congo regional ministry for agriculture, fishing, livestock and rural development	Local government
Mr Freddy Mansaya Tebuko *Publication director*	*Le Potentiel* newspaper	Media
Mr Oscar Kabamba Kasongo *Director, TV news*	Radio Télévision National Congolaise (RTNC)	Media
Mr Raphael Kazadi Luba *Editor-in-chief*	Kasaï Horizon Radio Télévision (KHRT)	Media
Ms Agnès Kasongo *Manager*	Plantations et Huileries du Congo	Private sector
Mr Alain Somja *Managing director*	Sicobois	Private sector
Mr Mac Mboda Makpolo *Chief representative*	Anglo American	Private sector
Mr Jacques Bakulu *Pastor*	CEPECO, a local community education organisation	Religious institution
Mr Yves Koko *Rector*	Notre Dame Cathedral, Kinshasa	Religious institution
Mr Jean-Marie Kabuya Mulamba *Head*	Kasaï Diamond Mining Association	Association
Mr Adrien Sinafasi *Campaigner*	Dignité Pygmée, a Pygmy rights organisation	NGO
Mr Clément Kitambala *Director*	Action pour le développement de la communauté paysanne, a rural community development organisation	NGO
Mr René Ngongo *Head of policy*	Greenpeace DR Congo	NGO

Appendix 2 DR Congo advisory group

Name	**Organisation**
Mr Cyrille Adebu	OCEAN
Mr André Aquino	World Bank Carbon Finance Unit
Ms Susanne Breitkopf	Greenpeace International
Mr Simon Counsell	Rainforest Foundation UK
Ms Michelle Medeiros	Greenpeace International
Mr Roger Muchuba	RRN (Natural Resources Network)

Appendix 3 Methodology overview

Democratic Republic of Congo 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, *Democratic Republic of Congo Talks Climate* investigates the meaning that people attach to climate change, and explores how they experience climate-related issues and impacts.

A total of 12 focus groups with citizens and 17 in-depth interviews with opinion leaders were carried out across six locations[i] in DR Congo between September and November 2009.

The six fieldwork locations were selected on the basis of desk research and consultation calls with the DR Congo advisory group. The feasibility of conducting fieldwork was also a consideration in light of security concerns in some parts of the country. The environmental challenges represented in the areas selected have already been linked to climate change, to some extent, or could be further exacerbated by climate change in the future. Selection also sought to ensure suitable geographic, ethnic, linguistic and urban/rural diversity. The locations selected for research were as follows: Kinshasa and Kimbaseke; Matadi and Kinzavuete; and Mbuji Mayi and Bakwa Nsumpi.

Focus group discussions

Focus groups were held with farmers and miners, business people, women and men, rich and poor, rural and urban. Given the implications of climate change for certain livelihoods in DR Congo, individuals working in farming, mining and market trading were also purposefully targeted.

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

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

Moderators for each group were matched to participants in terms of gender and language. In Kimbaseke, Kinzavuete and one of the groups in Bakwa Nsumpi, focus groups were conducted in Lingala, with some respondents in these groups also providing some responses in French.

Structure of the discussions

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

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

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

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

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

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

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

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

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

In-depth interviews

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

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

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

In DR Congo, 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 DR Congo, representatives from the Energy Commission, the Ministry for Environment, Conservation and Tourism and the Kyoto Protocol Compliance Authority were consulted.

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 forestry company, a mining company and a palm oil company were represented.

At the local government level, representatives from Bas Congo and Kasaï Oriental were interviewed. The two religious leaders consulted were a rector from Kinshasa and a pastor from Bas Congo.

The local association represented was an association of diamond miners and the national association is an umbrella organisation that brings together associations working for the rights of Pygmy communities.

Finally, representatives from two NGOs with a climate change focus were interviewed.

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

Analysis and reporting

All focus group discussions and interviews were recorded and transcribed. Transcripts were produced in both the original language of discussion, and translated in French, if necessary, by the focus group moderators. For focus groups held in central Kinshasa this meant that French transcripts were produced, while for the other areas, Lingala and French transcripts were produced. The French transcripts were checked in London.

A similar process was used to produce transcripts for in-depth interviews.

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

Guiding principles

Africa Talks Climate endeavoured to adhere to the following guidelines:

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

i For security reasons it was not possible to conduct research in Eastern DR Congo at the time of fieldwork. It is acknowledged that perceptions from significant segments of the Congelese population are regrettably omitted from this study.

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