

Wellcome Trust  
**Climate  
X Health**

Fellowship 2023–2024

# Table of Contents

<b>HJN Introduction &amp; Climate X Health .....</b>	<b>3</b>
<b>Storytelling at the Nexus of Climate &amp; Health.....</b>	<b>6</b>
<b>Climate X Health Reporting Fellows .....</b>	<b>11</b>
<b>Opportunities, Networking &amp; Journalism Panel at COP28 in Dubai .....</b>	<b>14</b>
<b>Leveraging Resources &amp; Producing Additional Output.....</b>	<b>18</b>
<b>Mentoring.....</b>	<b>20</b>
<b>Fellowship Stories .....</b>	<b>22</b>
<b>Fellowship Impact .....</b>	<b>28</b>
<b>Appendix.....</b>	<b>32</b>



To navigate back to the ToC at any point, click the icon

# HJN Introduction & Climate X Health

## Media Fellowship Snapshot

Internews is a media support nonprofit working in 100+ countries. We train journalists, tackle disinformation, and help media outlets become financially sustainable — so that everyone has trustworthy information to make informed decisions and hold power to account.

The Internews Health Journalism Network (HJN) is a **global community** of journalists, communicators, digital health innovators, civil-society organisations and technical experts all who share a passion for accurate health information.

*"By covering specific topics such as the intersection between climate change and health, journalists help educate the public about the importance of taking action to reduce greenhouse gas emissions and promote sustainable practices that benefit both the environment and human health.*

*It also allows decisionmakers to be kept under scrutiny, track progress, and assess whether promises are being fulfilled, and how they affect vulnerable communities."*

*– Alberto Ñiquen, Freelancer, Peru*

Internews addresses a wide range of issues, including: confronting propaganda and corruption, protecting a free and open internet, educating citizens on media and data literacy, and strengthening health and environmental systems. It is our mission to foster information integrity and this is done by strengthening journalism expertise and specialization in areas such as health, the environment, democracy and governance, gender issues, and more. Two expert-led Journalism Networks – the Internews Health Journalism Network (HJN) and Earth Journalism Network (EJN) – have brought specific support to the Climate X Health fellowship.

**Currently, the HJN has 1,700 members from close to 90 countries.**

HJN members represent a diversity of communities, including traditionally marginalised communities such as LGBTQIA+, refugee and internally displaced persons (IDPs), women, indigenous communities, as well as a wide range of media and communication formats.

We offer members the opportunity to access, contribute and share resources that can add value to their work, enable them to collaborate with and benefit from the experience of peers, and access opportunities for career development and growth.

The Wellcome Trust grant totalling USD **126,320.00** funded Internews for 6 months spanning the period of



the Conference of the Parties (COP)28 convening in Dubai, November 2023 to April 2024 for a media fellowship supporting a select group of journalists' attendance of COP28 and post-event story production.

Internews Health Department staff and the journalism fellows attended COP28, and the fellows received mentoring support to continue developing Climate X Health as a story beat by following up with local climate impact stories in their respective countries. For the longer term, the aim was also to introduce the health impacts of climate as a more regular feature into to the news agenda at the respective news outlets for which the fellows report. We are deeply thankful to the Wellcome Trust for investing in the mission of the HJN to make an impact by raising awareness of this relatively new story area and to strengthen global reporting on the Climate-Health nexus. We look forward to future opportunities to collaborate with Wellcome Trust.

## Developing the Fellowship

In order to craft an impactful fellowship, the Internews Health team made an in-depth study of the various direct and indirect ways in which a changing climate impacts human health — globally and in the country contexts represented by the selected fellows: Bangladesh, Kenya, Peru, and Brazil. A One Health lens was applied to identify transdisciplinary impacts across planetary, human, and animal health in the respective countries.

We also consulted with the selected fellows to identify the most prevalent and acutely felt health impacts caused or exacerbated by climate change in their contexts and supported them to produce impact stories on these. These issues included:

- The impact of extreme heat and violent cyclones in Bangladesh, as well as the health impacts of resultant food insecurity in the Ganges delta.
- The increase in incidence of vector-borne diseases in various parts of Kenya, as well as the people displacement caused by drought and flooding and the impacts on access to health care.
- The impacts on human health of severe drought in the Amazon and attempts at policy reform in Brazil to address oil industry impacts on environmental health, and subsequently human health.
- The dengue fever crisis in Peru, as well as efforts by indigenous women's groups to mitigate the health impacts of drought in the Amazon.



# Storytelling at the Nexus of Climate & Health

---

Climate change alters the frequency and/or intensity of extreme weather events and allows the spread of certain pests and diseases.

Extreme weather events continue to displace increasing numbers of people. Far from their usual health care provider, they become more vulnerable as it becomes difficult to manage chronic disease. Mental health problems become apparent.

*"As an Internews fellow journalist, being involved in COP28 taught me more about the effects of climate change on human health, and I made a commitment to produce more about it in the future.*

*This is the most significant lesson I've learned in my journalism career, and I believe the information I've gained from this fellowship will help me to produce content on the impacts of climate change on human health in broader contexts."*

*– Sushanta Sinha, Ekattor TV, Bangladesh*

## Climate's impact on Health: A global crisis and a story that must urgently be told

COP28 in Dubai saw the first ever Health Day at COP.

The Health Day focused on topics such as:

1. Showcasing the evidence base for the impact of climate change on human health.
2. Promoting the argument for climate action from a health perspective.
3. Highlighting best practices for health-related climate resilience action.
4. Taking political, policy and individual-level action to mitigate the above impacts.

The Wellcome Trust Climate X Health Media fellowship was a timely opportunity for select journalists to become equipped to play a role of engaging their audiences about these impacts, providing the rationale for policy action and individual behaviour adaptation

Climate change is connected to health in a number of ways. Rising temperature has become life threatening. Air pollution stemming from climate change – via the increased risk of wild-fires and highly damaging smoke and ash – can damage the heart and lungs. Due to climate change, certain disease vectors like mosquitoes and ticks thrive and may have longer life cycles, increasing their ability to transmit infectious disease.

Crop growth may be impacted, leading to food insecurity and a higher potential for malnutrition and thus disease susceptibility. As a result of all the above, health systems are placed under increased pressure.

Much of this is complex science and new information for communities and policy makers to absorb and respond to. Media stories which explain the science and highlight mitigation strategies are urgently needed.

Following COP28, 135 countries endorsed the COP28 UAE Declaration on Climate & Health.

It is a commitment to a number of objectives, including:

1. Strengthening the development and implementation of policies that maximise the health gains from mitigation and adaptation actions including through close partnerships with Indigenous Peoples, local communities, women, and girls.
2. Facilitating collaboration on human, animal, environment, and climate health challenges, e.g. by implementing a One Health approach.
3. Recognizing that healthy populations contribute to, and are an effect of, climate resilience and an outcome of successful adaptation.
4. Improving the ability of health systems to anticipate and implement adaptation interventions against climate-sensitive disease and health risks.
5. Promoting a comprehensive response to address the impacts of climate change on health, including mental health loss of traditional medicinal knowledge and climate-induced displacement.
6. Combating inequalities within and among countries' work to achieve universal health coverage.
7. Promoting steps to curb emissions and reduce waste in the health sector.
8. Strengthening trans- and interdisciplinary research and monitoring progress at the Climate-Health nexus.

The Wellcome Trust fellowship came to life in the thoughtfulness of the journalists' story pursuits and their enthusiasm about the Climate-Health nexus story, which was trending at the COP for the first time, and in significant ways. Apart from dozens of presentations and panels on this subject, the following data spoke to the visibility of Climate X Health at COP28:



- COP28 featured the [first Health Day](#) at a COP.
- In its second year of existence, the WHO Health Pavilion was a hub of activity and an important networking zone.
- A record number of Health Ministers – 65 – attended COP28, who, together with academia and climate activists, [called for urgent action](#) on climate and health at the COP.
- The Internews Health/EJN panel, [When Climate is a Health Story](#) was hosted at the WHO Pavilion and had excellent in-person and online attendance.
- Representing a range of media formats (hard news, feature stories, TV clips, a special Climate X Health print media edition, podcasts, social media and Twitter Spaces events), the journalists' outputs can be categorized as during-COP Climate X Health nexus stories and long-haul nexus stories, being produced post-COP.
- At the COP, the fellows were able to network with and interview important voices in this field including: the WHO Director Dr. Tedros Ghebreyesus, Global Fund Executive Director Peter Sands, London School of Hygiene & Tropical Medicine (LSHTM) and WHO scientists, country-focused scientists and activists and from the Wellcome Trust, [Dr. Alice Bell](#) and [Dr. Modi Mwatsama](#).
- With Wellcome Trust support, and in partnership with AVAC, Internews created an online course, *Heartbeat of the Planet: Reporting on How Climate Change Affects Our Health* to guide journalists through this new technical area.
- Internews also hosted a [webinar for journalists](#) through the East and Southern Africa Risk Communication and Community Engagement (ESAR RCCE) media dialogues platform titled *El Niño Explained: Why the Climate Crisis is a Health Crisis*.
- An internal Internews briefing session was held for staff in 100+ countries in January 2024 about the Wellcome Trust fellowship, featuring the fellows talking about their experiences, their stories filed from the COP, and the in-depth country-based stories they are pursuing now. This was an opportunity to highlight an important new editorial area for journalists around the globe to pursue.

The topics the journalists pursued and will continue to follow include: the gender health dimensions of climate change (including sexual and reproductive health impacts, e.g. high water salinity causing high blood pressure); pre-eclampsia problems, affecting mother and child health; examining disasters/death data related to climate change vs. vulnerability data — the former gets more media coverage due to news focus on deaths during climate calamities, whereas climate vulnerability affects millions more and shortens life expectancy significantly; climate migration and limited access to essential medicines; Climate X Health innovation; adaptation lessons from indigenous health; deforestation and food security and food quality health impacts, and many more.

Note that over the past year the Internews Health team, Health Journalism, and Earth Journalism Networks have produced 15+ One Health and Climate X Health nexus events and resources for journalists, continuing to highlight this as a critical area for media intervention.



Meet the Wellcome Trust

# Climate X Health Reporting Fellows

**We selected 5 fellows from around the world, each representing different communities and cultures.** These fellows share a keen interest in the Climate X Health story. Their media stories collected at COP28 and beyond connect the dots between climate and health, raising the profile of One Health and its impact on their communities.



## HELLEN SHIKANDA, KENYA

Hellen Shikanda specializes in producing multimedia content on health and science for the Nation Media Group. She is an alumna of the Bettina Fund Mentorship Program, the Oxford Climate Journalism Network, the Africa Resilience Network, and the Africa Academy of Open-Source Investigation. She has received multiple international fellowships and media awards. She is a finalist for the Covering Climate Now Awards and an IGAD Media Awards winner.



## SUSHANTA KUMAR SINHA, BANGLADESH

Sushanta is a special correspondent with Ekattor Television in Bangladesh. He is an investigative reporter who has produced multiple award-winning stories on financial misconduct and stories about tax fraud by tobacco corporations in his country. He has received prestigious grants and fellowships for his work on tobacco control and climate impact on human health. Sushanta is the author of a textbook on broadcast journalism that is being used in Bangladeshi universities.



## CHEMTAI KIRUI, KENYA

Chemtai reports on the intersection of health and climate. As a multi-skilled TV, radio, and digital journalist at Kass Media Group, Chemtai produces and hosts a weekly health programme on television and contributes bi-weekly articles to Kass Digital. With a passion for grassroots reporting, she adeptly leverages the power of filming, photography, and video to turn complex reports into accessible narratives. Chemtai brings attention to critical health and climate issues, while fostering understanding and actionable solutions.



## ALBERTO ÑIQUEN GUERRA, PERU

Alberto is a freelance citizen journalist specialized in environment, climate change, and indigenous people. He was awarded the National Environmental Journalism Award in Peru. Alberto writes for *Periodistas por el Planeta*, *Diálogo Chino*, *Colmena LAB*, *LatinClima*, *Info región*, and *La Mula*. He has covered COPs on climate change and biodiversity, and is a member of *The Climate Reality Leadership*, *Parents for Future Latam*, and *Global*. He has been a journalism fellow with the Earth Journalism Network, Internews and LatinClima.



## ANA CAROLINA AMARAL, BRAZIL

Specialist writer for *Folha de S. Paulo*, executive member of the Brazilian Environmental Journalism Network, and journalism fellow at Internews and Wellcome Trust. She received an MSc in Holistic Science from Schumacher College in Devon, England.



# **Opportunities, Networking & Journalism Panel at COP28 in Dubai**

**A crucial part of the fellowship programme was the opportunity for fellows to attend COP28 and particular, to follow the Health-themed events of the first-ever Health Day at COP on 3rd December 2023.**

COP28 provided numerous networking opportunities with high-level stakeholders in the Climate-Health nexus as well as civil society roleplayers critical for the telling of this story.

Internews hosted a Climate X Health journalism panel at the WHO Pavilion in which the fellowship theme was explored in depth. A journalism fellow and a Wellcome Trust scientist were two of the speakers.

**Health Day & Networking:** The first ever Health Day at COP, as well as ongoing Climate-Health themed activities hosted at the convening, provided ample opportunity for the journalists to deepen their knowledge on this subject area.

*"While I had read some stories and scientific reports on how climate change directly affects people's health through extreme events, infectious diseases, mental health issues, and others, being at COP28 and side events was like attending master classes in which data and concrete examples of health impacts in different regions of the world were provided. Although I followed Latin America, I was impressed to learn about examples from different countries."*

*— Alberto Ñiquen, Journalism Fellow, Peru*

Special interviews the fellows conducted and notable events attended while at COP28 in Dubai include interviews with Andrea Hurtado-Epstein (from the Ministry of Foreign Affairs, Mexico), Mirna Cunningham (FILA, an indigenous woman from Nicaragua), Francisco Vera (a young Colombian activist), Dr. Mary Rice (Pulmonary Critical Care Physician and Associate Professor of Medicine at Harvard Medical School), Professor Awa Marie Coll-Seck (Minister of State to the President of Senegal, Specialist in Infectious Diseases), Martin Edlund (CEO of Malaria No More), Alice Bell (Head of Policy, Climate and Health at Wellcome Trust), Dr. Githinji Gitahi (AMREF Health CEO), as well as Dr. Jeni Miller (Global Climate and Health Alliance ED).

Fellows also had exclusive access to influential Climate-Health champions:

An interview was arranged especially for fellows with **Peter Sands**, the Executive Director of the Global Fund to Fight AIDS, Tuberculosis, and Malaria. He spoke to the journalists about how extreme weather events are placing a strain on health systems. In Kenya, some people who have had to evacuate their homes are now in unfamiliar environments and not able to conveniently access chronic medication as before. Already reports are coming in of people having to default on anti-retroviral therapy for HIV treatment, which would have serious consequences for their health management. Also interviewed were **Aloyce Urassa**, Chairperson of the ALMA Youth Advisory Council and a global Climate X Health advocate based Tanzania, and **Khumbize Chiponda**, the health minister of Malawi, who is leading transformative policy change in her country in response to climate's impact on health. All fellows also interviewed relevant experts and civil society representatives active in their respective countries.

All fellows compiled reports on the exclusive interview with Peter Sands.



The COP28 side events were a crucial space for the discussion of specific topics and the presentation of innovative initiatives related to climate change and health. Among the events fellows attended were the high-level Opening of the Health Day, convenings examining climate resilient health systems, the climate crisis and its health consequences, low carbon sustainable health systems, WHO Pavilion events – Air Pollution and Health Impacts; Building Climate Resilient Health; Systems in Latin America: Evidence of Climate Impacts, Best Practices, and Financial Considerations; Inclusive, Healthy and Sustainable Food Systems: Are we ready for this transition?; Planetary Health in Action: The Role and Impact of Indigenous Peoples and Local Community Solutions for Climate and Biodiversity; Health-Climate Interaction: Strengthening Alliances Through the Practice Community; Panel Discussion on Climate-Induced Migration – a variety of sessions at the WHO Health Pavilion, including Integrating Health into Climate Change Responses — The Role of Health Professionals, and Driving the End of the Fossil Fuel Era: How Cities Are Leading a Just Transition to Build a Healthier World; Side Events and Exhibitions with the following highlights:

- Exploration of innovative solutions and technologies for climate adaptation and mitigation.
- Networking opportunities with other journalists, activists, and policymakers.



## Journalism Event:

Internews Health Journalism Network and Earth Journalism Network jointly hosted a panel discussion – an in-person and livestreamed side event at the Health Pavilion at COP28 in Dubai – between experienced journalists and a One Health expert to learn how to best communicate the Climate Health story and amplify the inextricable linkages between the health of people, animals, and ecosystems.

**WHEN CLIMATE IS A HEALTH STORY**

**FROM LOCAL TO GLOBAL:  
How Climate Journalism Can Elevate the Health Story at the Heart of the Climate Crisis**

**1 DECEMBER 2023**  
**13:30-14:45 (DUBAI)**  
**HEALTH PAVILION**

**Live stream available**

**Ana Carolina Amaral**  
Brazilian Environmental Journalism Network

**Joydeep Gupta**  
Earth Journalism Network

**Chiamaka Okafor**  
Premium Times, Nigeria

**Alice Bell**  
Wellcome Trust

**Ida Jooste**  
Internews MODERATOR

**Internews**  
Local voices. Global change.

**Internews Health Journalism Network**

**EARTH JOURNALISM NETWORK**

**Stanley Center**  
FOR PEACE AND SECURITY

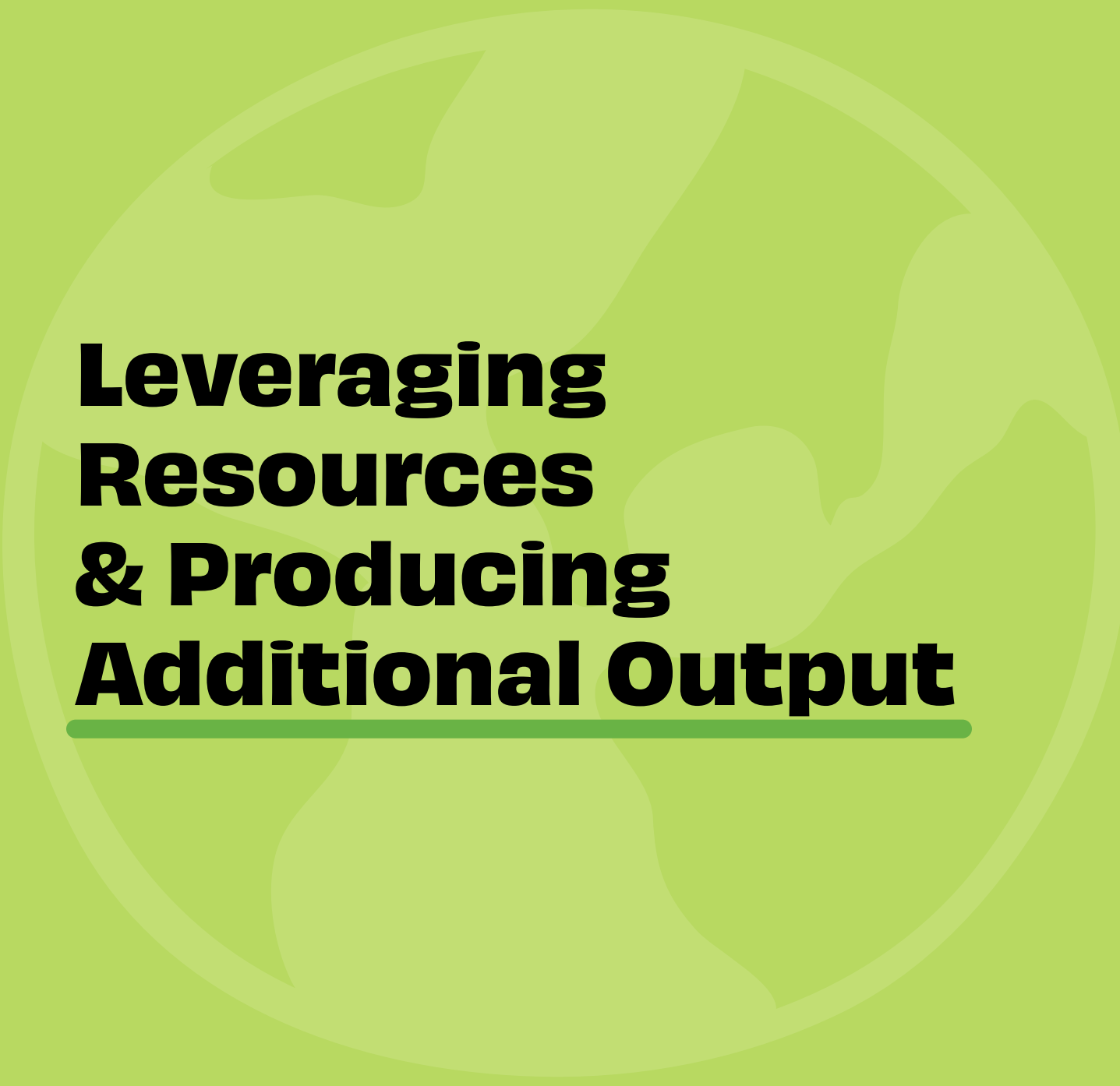
### Speakers:

- **Ana Carolina Amaral:** Specialist writer for Folha de S. Paulo, executive member of the Brazilian Environmental Journalism Network, and journalism fellow of Internews and The Wellcome Trust.
- **Chiamaka Okafor:** Senior journalist for Premium Times, Nigeria who recently completed a six-month fellowship with the Oxford Climate Journalism Network and currently a Climate Change Media Partnership (CCMP) and Earth Journalism Network fellow.
- **Joydeep Gupta:** Media trainer for EJN, editor-at-large for The Third Pole, Manager of EJN India
- **Alice Bell:** Head of Policy, Climate, and Health at Wellcome Trust, PhD in Science Communication

The discussion was moderated by Ida Jooste, Internews' Senior Health Media Adviser and award-winning journalist based in South Africa. The event was well-attended and reported on in the media.

Watch the discussion [here](#).





**Leveraging  
Resources  
& Producing  
Additional Output**

---

To facilitate the storytelling of the Wellcome Trust Climate X Health fellows and other journalists around the globe, Internews leveraged a range of in-house resources, including an online journalism course, *Heartbeat of the Planet: Reporting on How Climate Change Affects Our Health*. This is a self-paced self-study course covering all essential elements of the climate-health nexus, made accessible for journalists and their audience with guidance on credible data, resources, and tips on impactful storytelling. Anyone may enrol into the course [here](#).

Other resources the journalist fellows consulted included Internews One Health and Planetary Health reporting guidance, produced jointly by the Health Journalism Network and Earth Journalism Network. These resources equipped them with the technical knowledge to frame stories about the Climate-Health nexus.

See the following resources:

- [Journalism for One Health: the Internews Approach](#)
- [HJN Resources](#)
- [A Journalist's Guide to Covering and Implementing the One Health Approach in Reporting](#)
- [Reporter Resources](#)

Given the newsworthiness and lived health impacts of climate impacts in East Africa, Internews organized and hosted a media dialogue in January 2024 via the ESAR RCCE (East and Southern Africa Risk Communication and Community Engagement) platform on the El Niño phenomenon in the region. One of the speakers was Climate X Health scientist and activist Aloyce Urassa (Tanzania), whom we met at COP28. Watch the media dialogue [here](#).



# Mentoring

The HJN has extensive experience in mentoring journalists around the world, and a commitment to meet journalists where they are. This means understanding the media contexts they work in and the educational system they have trained in. Media mentors must have journalism experience as well as cultural sensitivity. Their role is to empower the mentees to find their voice, while encouraging them to go deep into a story, find credible sources, back up information with data, and look at new trends or innovative approaches.

A mentor understands the media contexts of the mentee and the journalism education they may have received. Media mentors have journalism experience as well as cultural sensitivity.

For the Wellcome Trust fellowship, journalists received support in the following ways: Internews Health Director Megan Miller and Senior Health Media Adviser Ida Jooste accompanied the journalists to COP28 in Dubai. The in-person support included an orientation workshop and practical instructions such as how to navigate the conference and side events, familiarising the journalists with the media facilities and included a welcome networking dinner. Editorial support and daily briefings throughout the conference ensured journalists were able to maximise on the experience and coordinate their interviews and networking activities.

## What Mentors Say

*"It was very rewarding to walk this path with the Climate X Health fellows while preparing for, then experiencing the deep networking opportunities at COP28.*

*The fact that this COP had the first Health Day ever drove home the significance of this topic and I watched as they – with their editors – set a new news agenda, ensuring their audiences appreciate the nature of the crisis and how to mitigate it."*

— Ida Jooste, mentor and senior health media adviser

*"It was clear that the journalists went to Dubai with enthusiasm for the topic, and came back enriched and equipped to tell this important story."*

— Jaya Shreedhar, mentor and senior health media adviser

*"Internews resources gave journalists what was needed to tell the most challenging story of our time in a compelling way. Our Heartbeat of the Planet course provides a solid grounding on climate and health science and connects the dots between climate change and how it affects human health directly and indirectly.*

*The essence of the course is to encourage journalists to move beyond merely reporting on the crisis but to also communicate solutions to their audiences, while remaining factual, accurate, and ethical. Ultimately, journalists are shown that they can influence public policy for the better."*

— Adele Baleta, mentor and author of *Heartbeat of the Planet: Reporting on How Climate Change Affects Our Health*

# Fellowship Stories

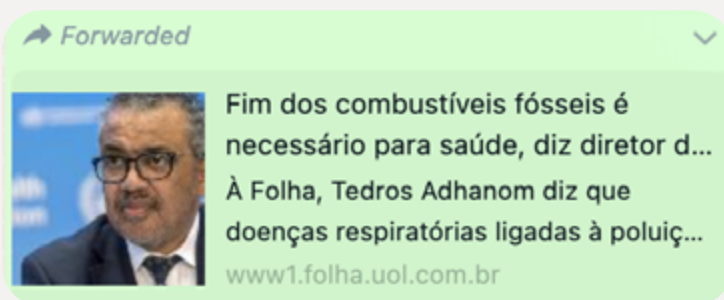
---

Travel to COP28 in Dubai (November 30 to December 12) facilitated access to scientists and experts working at the intersection of climate and health and provided opportunities to explore and research stories to be produced post-COP28. The fellows are media professionals from Latin America, Africa and Asia, whose media stories collected at COP28 connected the dots between climate and health, raising the profile of One Health and its impact on their communities. Internews has been thrilled to be collaborating with the Wellcome Trust on this initiative.

*"Even way after the fellowship, I keep thinking of health angles to a climate story. For instance, during the recent floods, I wrote a story which highlighted different health aspects like trauma after losing a loved one swept away by floods, physical injuries ... you name it."*

— Hellen Shikanda, *The Nation*, Kenya

**Ana Amaral**, reporting for Folha de S. Paulo in Brazil clinched an exclusive interview with the WHO Director Dr. Tedros Ghebreyesus to highlight that the end of fossil fuels – usually framed as a climate intervention – is a necessary health intervention.



[End of fossil fuels is necessary for health, says WHO director at COP28.](#) Tedros Adhanom tells Folha that respiratory diseases linked to air pollution need to be combated.

As she is a hard news reporter, her publication required round-the-clock COP28 coverage. The fellowship provided the opportunity to weave the Climate-Health nexus theme into newsy reports:

- [COP28 ends with approval of transition away from fossil fuels.](#) Final text avoided request for 'elimination' of oil, due to pressure from OPEC, but achieved unprecedented content, experts say.
- [Under Lula, Brazil changes its position at COP28 and asks for commitment to the forest.](#) Itamaraty defends that the final text of the summit must include a commitment to eliminate illegal deforestation in the world by 2030.
- [Drought and disaster victims corner energy transition secretary at COP28.](#) Activists also cited damage caused by mining. Government says it will have a forum for dialogue with civil society.

**Alberto Niquen**, reporting as a freelancer for *Salud con Lupa* – an online platform covering science, health, environmental, and gender issues – wrote extensively about how health-related declarations at COP28 did not go far enough in mentioning the harmful effects of fossil fuels.

- “[COP28](#): La declaración por la salud no menciona la eliminación de combustibles fósiles”

The knowledge he gained through the fellowship on the intersection between climate and health led to a 30-minute [television interview](#) with La Mula, in which he outlined the reasons why climate change causes vector-borne diseases to be more readily spread.

He actively filed stories and posted on social media on a number of Climate X Health issues Alberto is currently pursuing the following stories, delayed due to a health-related sabbatical:



- **The impact of an oil spill on health and the ecosystem in a native community of the Peruvian Amazon: Cuninico.** At the request of the community, it will be published in the second week of August, as a court finding is expected on August 15.
- **Call to Action:** Based on the principles of the [Lancet Countdown: Tracking Progress on Health and Climate Change](#) this story will feature an interview with Dr. Marina Romanello, the Executive Director of the Lancet Countdown, and climate change and health researcher at UCL. The story will feature the elements of a Call to Action for Peru and for the LAC region on the devastating impacts of climate change on health (to be published in September).
- **Intercultural health:** A variety of indigenous groups in the region, particularly women, have experience with indigenous and earth-friendly knowledge systems. Given that humans have caused profound damage to these ecosystems, the hope is that indigenous earth knowledge can play a role in awareness and healing (to be published in September).

[Sushanta Sinha](#), Bangladesh, Ekattor TV, compiled the following reports post-COP28:

- [Climate X Health Impacts and Global Fund Interventions](#) (broadcast in Bangla language, broadcast on Ekattor TV in Bangladesh).

**Summary:** Climate change is not only causing an increase in natural disasters but also in the prevalence of diseases carried by mosquitoes. An increase in infections, including dengue, chikungunya, and malaria is strongly linked to climate change. As a result, it becomes essential that Bangladeshi lawmakers take more action in the area of human



health — as outlined by Peter Sands, the Executive Director of the Global Fund to Fight AIDS, Tuberculosis, and Malaria.

**Body of story:** The Global Fund is working to reduce the harm that climate change causes for human health, including diseases like dengue, TB, and malaria, in addition to natural disasters. According to the organization, floods and extreme weather are not the only natural disasters. The Global Fund’s executive director urged immediate action to reduce the severe consequences of diseases. The Global Fund provides 76 percent of the financing required to eradicate tuberculosis, 65 percent to combat malaria, and 28 percent to combat AIDS globally. The organization’s executive director also suggested stepping up efforts to eradicate illnesses like dengue, tuberculosis, and chikungunya in Bangladesh, which is most vulnerable to climate change. In Bangladesh, 74% of medical costs are covered by the patient’s family. As a result, the head of the Global Fund emphasized concern that poverty could be brought on by climate change in addition to its adverse impact on the health sector. Solutions and mitigations must urgently be found.

- [Climate Change and Health Impacts in Ekattor](#)

**Summary:** Climate change is about shifts in temperatures and weather patterns. Human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil, and gas. This is now causing numerous health problems.

- [Livelihood and health impacts of climate change related sea level rise](#)

**Summary:** Sea level rise and river erosion are two effects of climate change that are seriously hampering the livelihoods, wellbeing, and health of those who live along the coast in the Ganges Delta. In search of better conditions, people have become nomads in their own country, losing aspects of their cultural identity as they move away from where their ancestors lived for centuries. People in the coastal areas of Bangladesh are becoming addressless due to climate change.



**Chemtai Kirui**, Kenya, Kass FM and Kass TV, published the following articles during COP28:

- [COP28 Health Day Addresses Global Health Risks Amid Climate Migration Ramifications in Kenya](#): The story focuses on the health risks exacerbated by climate change and migration in Kenya, emphasizing the importance of integrating climate impacts into health system resilience.
- [Voices from the Frontline: COP28 Puts Health at the Core of Climate Action](#): This story highlights insights from frontline healthcare professionals on the direct impacts of climate change on human health.

Post-COP28, she pursued and published the following stories:

- **TV Interview on Health Program**: Explained the concept of integrating health into climate policies and discussed lessons learned from COP28 that could inform future conferences.
- **Interview with Dr. David Tchouassi**: Discussed the impact of Parthenium hysterophorus (famine weed) on rural communities reliant on irrigation amidst changing weather patterns.
- **County News Reports on Climate-Health Nexus Experiences**: Covered various county-level experiences showing the intersection of climate change and public health.

Here are links to some of Chemtai's stories:

- [Global Fund Director on Climate Change's Impact on TB, Malaria, HIV](#)
- [Climate Trends Founder Unveils Impact of Climate on Health | COP28 Insights](#)
- [Understanding Cyclone Devastation: Insights from Malawi's Health Minister on Climate-Health Nexus](#)

Recognising the significance of a first-ever dedicated [Health Day](#) at a COP, **Hellen Shikanda** at Nation Media set out to reflect the extensive space and time dedicated to the Climate-Health nexus in her news outlet and managed to persuade Nation Media to create a special Climate-Health pull-out edition with dozens of stories, feature articles, and opinion pieces on the topic.

*"How Climate impacts our Health was trending during the COP, and because of what I learnt there, the story will be kept alive."*

— Hellen Shikanda, *The Nation*, Kenya

Hellen's stories included reportage on numerous newsy events from the WHO Health Pavilion. Her reports also reflected the fact that a record number of Health Ministers attended COP28, and together with climate activists, [called for urgent action on climate and health at the COP](#). Nation Media has wide reach throughout East Africa and sets the news agenda for the region, meaning the Climate X Health issue has leapt into editorial prominence through her coverage.



- See also Hellen's in-depth story: [A grandma's night of horror after losing daughter, 3 grandchildren to floods](#).
- Read [When Climate is a Health Story – Improving Reporting of Climate & Health at COP28](#) for more detail on the journalists' story approaches.

## Reinforcing Powerful Health Journalism Globally

Health news rarely makes the headlines unless there is a disease outbreak or humanitarian crisis. Climate news has in the past been notoriously complex to cover and seemed removed from lived reality for some. Stories that explore the Climate X Health nexus are – sadly – relatable to news audiences around the world as these impacts are being felt through heatwaves, and extreme weather events and resulting health consequences. This fellowship has deepened the fellows' knowledge and sharpened their skills in this technical area and has given crucial insight to the Internews team leading a range of media initiatives exploring this nexus.

A large, light blue, stylized globe is centered in the background of the page. The globe shows continents in a darker shade of blue. The overall background is a solid, vibrant blue. A thin, light green vertical bar is visible on the far left edge of the page.

# Fellowship Impact

---

This fellowship has had significant impact both on the fellows themselves, their editorial leadership, as well as their work. This opportunity allowed a select group of journalists from different parts of the world to connect, learn, and engage with one another in a way that would not ordinarily be possible without the external facilitation and collaboration with Internews through the generous support of The Wellcome Trust.

The fellows learned new information about Climate X Health impacts and research. The power of new information helped to inspire the fellows' journalism, create space for new conversations in their communities, as well as catalyse timely follow-up stories and ongoing reporting on the subject.

Fellows gained new insights into Climate X Health topics globally, regionally and in their own contexts by regularly engaging with their peers through an established WhatsApp group, as well as during the in-person meetings in Dubai and specially arranged group check-in calls. Fellows bonded over the similarities in their reporting topics, the issues they face in their respective countries, as well as the respect and support for one another's final published stories.

It is Internews' hope that the professional relationships built throughout this fellowship will be long-lasting and fruitful for the fellows' careers.

The COP28 fellows WhatsApp group created for coordination and sharing was a convenient and organic way of fostering engagement amongst the cohort of fellows. The HJN team used the group as a way of communicating updates, responding to questions, addressing concerns as well as sharing resources.



## Storytelling that makes a difference

*"After COP28, I became convinced that health must continue to be a protagonist in future COPs. As a journalist I had the opportunity to learn about this intersection and now I can dialogue and report on how the policies discussed at the conference can mitigate these effects. My dream and goal is to continue attending not only the COPs on climate change and biodiversity but also various global and regional events where the issue of health and climate change and biodiversity are central!"*

— Alberto Ñiquen, Freelancer, Peru

## Editorial Insights and buy-in:

*"Our publication has responded by establishing a dedicated climate and health nexus desk, with myself appointed as its head. We've integrated climate considerations into our editorial strategy, prioritizing stories that show the health impacts of climate change."*

— Chemtai Kirui, Kass FM, Kenya

Nation Media in Kenya produced a special feature Climate X Health pull-out edition commemorating the COP28 Health Day and associated Climate X Health stories (See [Appendix](#)) filed by fellow Hellen Shikanda while she was reporting from Dubai.

## What the fellows are saying...

*"After COP28, I became convinced that health must continue to be a protagonist in future COPs. As a journalist I had the opportunity to learn about this intersection and now I can dialogue and report on how the policies discussed at the conference can mitigate these effects. My dream and goal is to continue attending not only the COPs on climate change and biodiversity but also various global and regional events where the issue of health and climate change and biodiversity are central!"*

— Alberto Ñiquen, Freelancer, Peru



*As a journalist reporting agriculture, pollution, disasters, and climate change for fifteen years, I was unaware of the profound effects that climate change was having on human health. Even in the reporting of other journalists about events in Bangladesh, the question of how climate change is harming health is often neglected. Floods and cyclones are each of these natural disasters that Bangladeshi policymakers acknowledge are adversely affected by climate change. A huge portion of our policies ignore the harmful effects of climate change on human health. As an Internews fellow journalist, being involved in COP28 taught me more about the effects of climate change on human health, and I made a commitment to produce more about it in the future.*



— Sushanta Sinha, Ekattor TV, Bangladesh

*Attending COP28 shaped my perspective on the intersection of climate change and health. The conference provided a unique platform to engage with global experts and activists, enriching my understanding and the depth of my reporting.*

*I now report on the repercussion of extreme weather events not merely as isolated incidents but as integral parts of a broader climate crisis that significantly impacts public health. This shift is evident in our reporting, which has sparked increased audience interest and engagement with climate and health stories, reflected in the feedback and questions we receive.*

— Chemtai Kirui, Kass FM, Kenya

*The most notable event I attended was the opening ceremony of the health day; it was momentous, historic, if I must say, because it was the first ever and highlighted the nexus between climate and health by bringing all the big shots on board to discuss that crucial need. I remember each speaker kept saying Health is the human face of climate change.*

— Hellen Shikanda, The Nation, Kenya



# **Appendix**



# 2 Healthy Nation



## Death by climate change

COP28 SPECIAL EDITION

The 2023 UN Climate Change Conference ends today in Dubai, with health experts pleased that the topic of health and climate change was given a proper slot this year. Regardless, how will the world stop an additional 250,000 climate change-linked deaths per year by the 2030s as per WHO projections?





“Health stands as the most compelling reason for taking climate action...The threats to health resulting from climate change are immediate and present. However, for too long, health has been a footnote to climate discussions.”

**Tedros Adhanom Ghebreyesus,**

WHO Director-General



“It’s thrilling to have a health-focused event at the COP. It makes a lot of sense because, after all, our work on climate is to improve the human condition.”

**Bill Gates,**

Co-chair, Bill and Melinda

Gates Foundation



“The route of carbon credit should never be the avenue to climate change mitigation. The developed world will continue to pollute the earth. Taking huge delegations from one COP to another is not the solution for Africa. Delegates will talk, and in a very flowery language. That will, however, not end global warming.”

**David Kigo,**

Environmentalist

Unforgiving

# How newborns suffer due to effects of climate change

BY MERCY CHELANGAT

The far-reaching consequences of climate change are now extending their grip onto the most vulnerable members of our society: newborns and infants. A recent study suggests that rising temperatures associated with climate change may negatively impact breastfeeding, with potential repercussions for infant nutrition and health.

Early initiation of breastfeeding and exclusive breastfeeding have long been recognised as crucial for child health. Establishing lactation demands regular breast stimulation and emptying to ensure an adequate milk supply for nutrition and hydration. This mechanism prevents infant dehydration and guarantees optimal nutrition for the growing child.

However, studies suggest that prolonged exposure to high temperatures can adversely affect lactation capacity, potentially leading to a decline in milk production. The balance is disrupted under long exposure to extreme heat, impacting the signalling pathway crucial for milk production.

The challenge intensifies during heatwaves as babies may show signs of dehydration, including restlessness, refusal to breastfeed, and reduced wet nappies. In periods of excessive heat, infants may exhibit a decreased appetite for breastfeeding, causing concern for mothers already grappling with heat stress.

Malnutrition, resulting from inadequate breastfeeding and nutrition has also been identified as a risk factor for other diseases, with infants born prematurely or with low birth weight being particularly vulnerable. Diminished water quality and quantity due to droughts further heighten the risk of maternal and neonatal health issues, including diarrhoeal diseases and infections.

Another study, conducted by The Climate, Heat and Maternal and Neonatal Health in Africa

(Chamnha) consortium, including the London School of Hygiene and Tropical Medicine and Aga Khan University in Kenya, investigated the impacts of heat on mothers’ breastfeeding behaviours in Burkina Faso and Kenya.

Chamnha interviewed post-partum women three times over 12 months. They found out that “women spent less time breastfeeding when it was hot, equating to 25-minutes less on the warmest compared to the coolest days of the year”.

“For infants over four months old, hot weather had an even greater impact on the time spent breastfeeding. Women were less likely to exclusively breastfeed their very young infants in extreme hot weather. As temperatures increased, women provided supplementary fluids, mainly water, to their very young children,” says the study.

Mothers noted that elevated temperatures led to discomfort, heightened irritability, and increased exhaustion for both them and their infants. The babies were described as too uncomfortable to either sleep or breastfeed.

In Kilifi, Kenya, mothers shared that breastfeeding in the heat required them to remove their clothes, inadvertently causing their babies to unlatch from the breast. This effect on infants was believed to be exacerbated by the indoor heat and household air pollution generated during cooking.

The study recommends that cooling and shading should be prioritised in hot low-resourced settings, with understanding of how housing quality influences neonatal health. They also suggest that building materials are adapted to counteract rising ambient temperatures.

The study also recommends that mothers obtain adequate nutrition and hydration and be educated by healthcare providers on how to prevent dehydration and heat illness among babies.

mchelangat@ke.nationmedia.



# CLIMATE AND HEALTH



**1 million** number of deaths from climate disasters, highest in the last 50 years



**12,000** disasters between 1970 and 2021



**21 million** projected additional deaths from climate shocks by 2050

**5** Health risks caused by climate that contribute to the additional deaths  
**The health risks are:**  
 ■ Extreme heat  
 ■ Stunting  
 ■ Diarrhoea  
 ■ Malaria  
 ■ Dengue



**9 in 10** deaths from climate-related shocks in developing countries

**60 %** economic losses from climate change in developing countries



**95%** climate deaths from droughts alone

**733, 585** deaths from climate-related drought

**132 million** people who will be impoverished by climate change by 2030



**44 million** poverty numbers driven by health impacts of climate change

**4.3 trillion** economic losses from climate change globally

**USD1 billion** new investments in climate and health from COP28

**777 Million USD**

money that will be used to fight neglected tropical diseases caused by climate change



**EDITOR-IN-CHIEF:** Joe Ageyo **GROUP MANAGING EDITOR:** Pamela Sittoni **MANAGING EDITOR, CONTENT HUBS:** Bernard Mwinzi **CHIEF PRODUCTION EDITOR:** Caroline Njung’e **ACTING SUB-EDITOR:** Elvis Ondieki **PHOTOGRAPHY EDITOR:** Joan Pereruan **CHIEF GRAPHIC**

**DESIGNER:** Andrew Anini **GRAPHIC DESIGNER:** Benjamin Situma **CONTENT LEAD:** Angela Oketch **REPORTERS:** Leon Lidigu, Hellen Shikanda, Pauline Ongaji, Lily Njeru, Mercy Chelangat, Mary Wangari and Angeline Ochieng **COVER ILLUSTRATION:** John Nyagah

In partnership with the **Bill & Melinda Gates Foundation**

**HealthyNation** magazine is published weekly by Nation Media Group Limited and distributed free with the *Daily Nation*. Unsolicited manuscripts, artwork, transparencies are submitted at sender’s risk. While every care is taken on receipt of such material, NMG Ltd cannot accept responsibility for accidental loss or damage. © Nation Media Group Limited, 2023. All rights reserved.

## Facility launch

## Relief as cancer care starts at Kitui Referral Hospital

BY PIUS MAUNDU

Tens of cancer patients in Kitui County accessed assorted cancer care services at the Kitui County Referral Hospital for the first time last week after the county government opened a Sh22 million cancer unit as it intensified efforts to combat the menace.

It was an emotional moment for the cancer patients and survivors who saw an end to a raft of challenges which they endured in accessing cancer care services in other counties.

"The cancer unit is a welcome relief," said Christine Malu Maluki, a 77-year-old widow who was diagnosed with breast cancer last year.

The peasant farmer has since sold a parcel of land, two bulls and goats in pursuit of treatment in Nairobi and Machakos counties.

"It costs me at least Sh10,000 every three weeks to seek chemotherapy services in Machakos County. This means selling at least two goats monthly. To get to the hospital on time, it means starting my journey at 2 am. Kitui cancer unit marks an end to the inconvenience and a reduction in the cost of seeking cancer care services," she told *Healthy Nation* at Kitui Village.

"The chemotherapy which took cancer patients all the way to Nairobi is now offered in Kitui County Referral Hospital. We have qualified oncologists who are ready to handle even advanced cancer cases," Kitui Health Executive Ruth Koki said during a ceremony to open the facility to patients last week.

However, cancer survivors who spoke at the ceremony called for more efforts to address the stigma associated with the disease which had held cancer patients back from accessing treatment.

Kitui Governor Julius Malombe said the cancer centre is part of a raft of measures his administration had put in place to stem the cancer menace which he revealed had been on the rise.

"In Kitui, there has been an upward trend of new cancer cases from 2018 up to date with a total of 958 cases reported. Of these cases, cervix, breast and prostate cancers are the most prevalent," he said in a speech delivered on his behalf by his deputy Augustine Wambua.

The National Cancer Institute gave the Kitui cancer unit a thumbs-up two weeks ago. The governor said the cancer unit comes with eight specialised healthcare workers tasked with screening, diagnosing and managing cancer adequately.

pmaundu@ke.nationmedia.com

## Commentary



A dry natural spring at Njiku village in Murang'a County on February 2, 2023. Springs that used to abound in years gone by are now drying up. JOSEPH KANYII/NATION

## Life in the 80s versus now: A doctor's sad climate change experiences over the years

## It is worrying how many children have allergic childhood asthma in urban areas today

BY DR NELLY BOSIRE

In Kenya, and likely in most of Africa, the millennial generation is probably the one that has witnessed the most remarkable transformation all around, in the shortest duration this far.

In the last four decades, this generation has lived through massive strides in political transformation, advances in African industrialisation, the astronomical rise in technology, the economic catalyst, the phenomenal growth in human rights and in the same breath, the undeniable change in climate and its impact.

Growing up in the 80s, we were the children of adults coming to terms with the whirlwind of independence from the British and the sudden loss of the expected freedoms to a tyrannical one-party state that was turning out to be just as oppressive. They were the golden children, sent to school to acquire the necessary skills to grow this newly birthed state. They worked in government, mostly in technical positions, fully dedicated to service.

They may have been uncomfortable in the oppressive political space, but they raised us differently. We grew up starry-eyed, drinking Nyayo milk and singing cheesy patriotic songs that made our political leaders look like deities, largely untouched by the real political scenario playing out after the 1982 coup attempt. Though we grew up in small towns

across the country because our parents worked as civil servants, posted everywhere, we were privileged to experience a one-of-a-kind lifestyle. The towns had distinctive character, blending in with the local culture, but were also strongly cosmopolitan, mostly driven by the Indian traders. They were modern but laid back and easy-going. This was interspersed with the popular Kenyan culture of spending the holiday season back in our village homes.

April holidays were my favourite. This is because of the long rains and the most amazing green that covered the rolling hills of my village. I loved the heavy steady pounding on the *mabati* roofs while we snuggled in our Raymond blankets and told stories at night. The mornings were dark and misty but it did not stop the villagers from getting up and heading to their farms to tend to their crop.

It was the weeding season for the maize crop and the time when wild mushrooms sprouted freely, turning patches of the meadows white like a sprinkle of snow. The crop thrived and assured families of full granaries to feed them for the year. Despite the main cash crop, tea, blooming, the roads were impassable due to the mud, making it almost impossible to get the tea to the factories, causing the farmers heavy losses.

The best part was the afternoons when we snuck off to play. With the topography of the land in the larger Kisii, almost all farms ended in a stream downhill, and the area was reserved for grazing and watering of the animals. It also made for great playing fields! In this season, the streams would break their banks, seasonal springs would burst through the tea plantations, and these fields would be submerged in water in the afternoons

as the rains poured. We played in the rain, splashing the puddles, soaked to the skin, living in the moment.

The August holidays held their own charm, with the harvest all around. Fresh grain was threshed and stored for the next year and farms were allowed to lie fallow to regenerate, and animals were allowed to roam there freely, feeding on the stalks and leaving manure behind. Modern fertilisers were a foreign concept. We sought for fresh berries and fruit flourishing freely in the wild, not realising the nourishing goodness that we had access to.

The rains washed away the dirt, dust and smog. The air was clean and crisp. We ate fresh vegetables picked from the garden, milk fresh from the cow, eggs collected warm from the chicken coop and if you wanted meat, you would have to slaughter your own animal. Children played outdoors, healthy, well-nourished and active. Our Maendeleo ya Wanawake mothers, who had been educated on nutrition and sanitation nurtured us by the script they were taught, saving us a lot of grief.

With development, urbanisation, population explosion, encroachment on forests and loss of green spaces, we have lost this natural protection from disease, hunger and malnutrition. Climate change has resulted in diminished rain, reduced food crops, overreliance on fertiliser and overuse of the land. The streams are fading off and the seasonal springs haven't visited for a while.

Despite making so many steps forward, we are still sliding back because of climate change. Global warming has altered the quality of air we breathe because of the perpetual smog. The rate of allergic childhood asthma in urban-dwelling children is astronomical compared to those still spared the effects

in the villages. Even the village child is not spared.

I haven't seen a wild blackberry bush in over a decade. The wild guava bushes that were synonymous with the Koru area are gone, and mushrooms now only thrive in greenhouses.

The fight for food security is one we have to contend with. Globalisation has allowed access to food imports to ensure we can feed the nation, but this should not be at the detriment of local production. It is extremely sad when a tomato farmer in Nyeri says he cannot eat what he grows for sale because of the chemicals he uses, yet this is what is fed to the public. The deterioration of the environment has made it harder for organic food to thrive. Yet all these chemicals are contaminating our drinking water sources and contributing to development of cancers and damage to the immune system.

Climate change should not be politicised. It affects all of us and makes each of us pay the price individually through our health. We just survived a harsh drought in 2022, taking our child nutrition indices back by a decade. We have seen great losses occasioned by floods in North Eastern Kenya this past month, a ticking time bomb for waterborne diseases like cholera. As the floods sweep by, they destroy our infrastructure, including health facilities that are supposed to respond to the medical emergencies, even when we are not at war like in Palestine.

Our climate is our health. Let us collectively slow down the changes that are hurting us!

The writer is an obstetrician/ gynaecologist

# How climate change sends more people

**A warming planet portends lots of problems on the wellbeing of humans. One of the key risks, experts say, is the redistribution and reinvigoration of disease causers and spreaders**

BY LILYS NJERU AND HELLEN SHIKANDA

The gods of the rain have visited Kenya. Before then, scientists had sounded a warning, saying that an El Nino phenomenon would make its presence felt this year in the region during the short rains season from October to December.

The season started with less vigour. Many, including President William Ruto, played down the predictions from three different scientific organisations — the World Meteorological Organisation (WMO), the Intergovernmental Authority on Development (Igad) and our own Meteorological department.

When we got to the peak of the season in November, it became business unusual.

Homes were submerged, animals displaced, health systems shut down, roads cut off, cholera in coastal counties like Lamu came up, and by the time this article went to press, more than 160 people had died from the El Nino floods.

While releasing the State of Climate Report 2023, WMO Secretary-General Petteri Taalas twice mentioned Kenya's flooding during the ongoing El Nino as an example of how climate change aggravates natural disasters resulting in unprecedented impacts on people's health.

Such effects go beyond the disasters witnessed to include the disruption of human and animal lives. According to COP28 Climate and Health envoy from the UAE, Dr Maha Barakat, health is the human face of climate change.

The ongoing El Nino events make a perfect embodiment of health crises caused by the impacts of climate change.

Simply put, our health needs will be overstretched in the wake of the climate crisis.

This was the resounding message from delegates who represented the health caucus at the Conference of Parties (COP) climate gathering in the United Arab Emirates city of Dubai.

Unlike previous years where health concerns took a back seat, this year's deliberations thrust them into the spotlight. The discussions, once sporadic, now painted a vivid picture of the profound impact of climate change on our wellbeing.

A day dubbed "Health Day" was set

aside to provide solutions to reduce carbon emissions, limit air pollution, and prevent premature deaths around the world.

Kenya was among the critical champions of the day and early adopters of a new health declaration. Amref Health Africa CEO Gitahi Githinji, one of the climate and health envoys for COP28, was present.

"We already have a fragile health system. We are trying to build it and protect it. A climate crisis will dismantle it and make our work even more difficult. It's a frontline human crisis," he said.

The catalyst for this lies in the myriad climate-related devastations that have happened just this year alone.

The Intergovernmental Panel on Climate Change (IPCC) estimates that 3.3 billion people worldwide are highly vulnerable to climate change and face greater health risks.

## Catastrophic

A new report published by Global Tipping Point shows that this number could increase as the earth is on the verge of other catastrophic climate change tipping points.

When he stood to speak up during the opening plenary of the "Health Day" on December 3, World Health Organisation (WHO) Director-General Tedros Adhanom said the discussions on climate and health are long overdue.

"Health stands as the most compelling reason for taking climate action. The threats to health resulting from climate change are immediate and present. However, for too long, health has been a footnote to climate discussion," he said.

Messages about the dire times we live in were not confined to the podium. A diverse cadre of healthcare professionals conveyed the urgency of the climate crisis.

Drawn from different corners of the globe, they formed the largest delegation of medics assembled at a COP meet, collectively weaving the narrative of a year when global temperatures and greenhouse gas emissions have shattered records.

Health ministers have rarely participated in climate discussions in the last 27 years. Only this year, about 50

**Habitat disruptions caused by warming, drought, heatwaves, wildfires, storms, floods and land cover change were also associated with bringing pathogens closer to people**

2022 study



## MONEY SET ASIDE FOR HEALTH AT THE COP

### \$7 million

The Asian Development Bank towards knowledge generation, innovative financing, country capacity building, strategic partnerships, incubating innovations, and high-level advocacy on climate change and health



### \$57.95 million

The Bill & Melinda Gates Foundation towards supporting efforts to solve the malaria crisis and to develop new tools and strategies to respond to climate-related changes and disruptions in the malaria response

### \$7.95 million

Transdisciplinary approaches to better adapt to, mitigate, or reverse the combined deleterious effects of climate change on health and agriculture

### £100 million

Wellcome Trust to understand and address the climate change health crisis

### \$30 million

Bloomberg Philanthropies, Clean Air Fund, and C40 Cities, for new clean air initiative to advance progress to access clean air. Nairobi is among the selected cities



### \$500 million

The Global Fund to fight Aids, tuberculosis and malaria to support low- and middle-income countries in addressing health impacts of climate change, child mortality from malaria, climate-sensitive disease outbreaks and health emergencies triggered by climate hazards over 2024-2026

### \$100 million

The Rockefeller Foundation towards community-driven innovations in low- and middle-income countries.



ministers joined the climate bandwagon by physically attending the COP to present pressing health issues in their countries.

The December 3 health ministerial convening brought together about 70 health ministers.

Ms Khumbize Chiponda, who is Malawi's Health minister and one of the frontline climate and health envoys at COP28, told *Healthy Nation* that experiences in her country propelled her to actively take part in conversations on how climate exacerbates health risks.

"There are many impacts of climate change and health, but now we are on the receiving end. We have to do something about the people who are sick. We have to offer extra services to them. That is why we need to be part of this conversation," she said.

In August, Malawi hosted the first-ever meeting to identify Africa's common position on the nexus between climate and health ahead of

the Africa Climate Summit.

The deliberations reached during that conference were brought to the summit and later at COP28. They were shared during the climate-health ministerial.

"We cannot afford at this point to operate in isolation. It will not work. We all need to have the same objective," said Ms Chiponda.

Even as the drumbeats for the Health and Climate nexus now sound louder, there exists a gap in funding for research inclined to health, especially in countries located in the global south like Kenya.

Mr Aloyce Urassa, the chairperson of the youth advisory council of the African Leaders Malaria Alliance and a climate and health researcher, told *Healthy Nation* that funding remains a big challenge in addressing the impacts on the ground.

"Clear evidence on the baseline of my research shows that many countries have Health National Adapta-

tion Plans as well as other policies that have been put up to respond to climate change and health. But there is near zero action that is taken," he said.

"Perception is also a challenge. Some people don't really see if there is a direct connection between climate change and health. That could be one of the things that hinder the implementation of policies," he added.

Mr Diarmid Campbell-Lendrum, who was a coordinator of the climate and health crisis at a side event during the "Health Day" said that even when we don't have complete evidence on the link between climate and health, that does not mean that we should not act.

Ms Jess Beagley, the policy lead for the Global Climate and Health Alliance, explained in the sidelines of COP28 that since health systems are often the first to bear the brunt of climate change, linking health-focused



# ... and even to graves

**£18 million**

The UK to assess vulnerability, identify priority actions and support planning, to mobilise the necessary financial and expert resources to increase investments to adapt and strengthen health systems to better cope with the impacts of climate change

**\$42 million**

Foundation S to raise awareness of the impact of climate change on health

**\$12 million**

AVPN and Bayer Foundation with partners to tackle the intersectionality of climate and health

**\$1.5 million**

The Green Climate Fund with matching funding of \$1.5 million from the United Nations Development Programme and the World Health Organisation



**\$17.85 million**

The Global Environment Facility in partnership with the United Nations Development Programme and the World Health Organisation to increase health system resilience in Kiribati, Solomon Islands, Tuvalu, and Vanuatu

**\$55 million**

Evidence Action, to bring safe drinking water to tens of millions, build climate resilience, and improve child health



Furthermore, **20 per cent** of the £80 million the UK pledged to the global financing facility in October, that operates in about 40 countries, will be spent on climate and health



outcomes in national climate plans will ensure that we are prioritising a safe, healthy and an equitable future.

So, how exactly does climate change cause health risks?

A study published last year in the scientific journal *Nature Communications* highlighted this linkage by showing that more than half of human pathogenic diseases were made worse by climate change.

The study showed that when species move from their usual geographical areas because of our warming planet as well as changes in precipitation, there is a likelihood of expansion of vector-borne disease like malaria.

"Warming at higher latitudes allowed vectors and pathogens to survive winter, aggravating outbreaks by several viruses (for example Zika and dengue)," said

the study.

"Habitat disruptions caused by warming, drought, heatwaves, wildfires, storms, floods and land cover change were also associated with bringing pathogens closer to people," the study said.

In some instances, viruses jump from animals to people in what scientists call spillovers.

**Ancient strain**

When Ebola or Nipah virus came about, the study shows that they were linked to either bats, rodents or primates hovering around to get safe spaces where there is food and minimal wildfires.

"Likewise, reductions in snow cover caused by warming forced voles to find shelter in human habitats, triggering hantavirus outbreaks," explained the study.

"Warning was also related to

melting ice and thawing permafrost, exposing once-frozen pathogens. Genetic analyses of an anthrax outbreak in the Arctic circle suggest that the bacterial strain may have been ancient and emerged from an unearched animal corpse as the frozen ground thawed," said the study.

The study showed that climate change can also make diseases become more hostile to the human body.

"Heat waves were also suggested as a natural selective pressure towards 'heat-resistant' viruses, whose spillover into human populations results in increased virulence as viruses can better cope with the human body's main defence (that is, fever)," the study indicated.

Another study published in the journal *Eco-Environment and Health* shows that the Afri-

can population is more likely to experience more mental health disorders than before because of experiencing natural disasters that lead to loss of property and sometimes, lives.

The study explains that to lessen the burden on health from climate change, there should be improved surveillance, information dissemination, as well as having more health research.

On the sidelines of COP28, the Wellcome Trust Foundation, which supports scientific research around the world, announced that they had set aside about 100 million Euros to support scientists from the University of Oslo to enable them to delve into research topics on climate and health.

[Lnjeru@ke.nationmedia.com](mailto:Lnjeru@ke.nationmedia.com); [hshikanda@ke.nationmedia.com](mailto:hshikanda@ke.nationmedia.com)

## How climate change is affecting your health

**Air pollution**

The Global Climate and Health Alliance has revealed a scorecard of the analysis of the inclusion of clean air in climate plans by countries in low-income countries. The scorecard shows that developing countries are falling behind.

The World Health Organisation (WHO) indicates that annual deaths from polluted air hit seven million every year.

**Infectious diseases**

Earlier this year, WHO warned that some diseases such as dengue and chikungunya were moving from their typical geographical areas and putting half of the world's population at risk of the disease. One in two people is at risk of dengue.

A study published by *Biology Letters* shows that the malaria-causing anopheles mosquitoes have elevated their range by about 6.5m per year and away from the Equator by 4.7 kilometres every year for the past century.

**Public systems**

A new report published last week shows that one in 12 hospitals face the partial or total shutdown from extreme weather events. Of the 16,245 hospitals named,

71 per cent will be from low-middle income countries. Some hospitals in Kenya are among those identified to be at risk of extreme weather events. Due to the ongoing El Nino rains, some hospitals in different parts of the country have been cut off.

**Mental health**

The physical links to climate change are everywhere, but where's the link to mental health? As people across the world face the realities of floods, infectious diseases and displacements, it can affect their psychological well-being. 2023 has been the hottest year on record, resulting in deaths in some parts of the world.

**Water scarcity**

WHO data indicates that two billion people lack safe drinking water and 600 million suffer from foodborne illnesses annually, with children under five bearing 30 per cent of foodborne fatalities. Climate stressors heighten waterborne and foodborne disease risks.

In 2020, 770 million faced hunger, predominantly in Africa and Asia. Climate change affects food availability, quality and diversity, exacerbating food and nutrition crises.



## Malaria threat

# Arrival of lethal mosquito puts Kenya under WHO spotlight

Highly infectious species new to the country was first detected in Marsabit and is now in Mandera

BY HELLEN SHIKANDA

Kenya is one of the 10 countries on the radar of the World Health Organisation (WHO) for having a new mosquito vector called *Anopheles stephensi* whose introduction to the country is linked to climate change.

This is cited in the 2023 *World Malaria Report* which, for the first time, had a clause on climate change in the context of malaria transmission.

The new data shows that malaria cases are on an upward trend compared to the previous years, with 16 million more people globally getting new malaria infections.

The report recorded an estimation of 249 million malaria cases in 2022 alone.

The report shows that the new mosquito vector, which Kenyan scientists reported earlier this year, had been detected in Marsabit County and is difficult to control compared to the existing ones.

The vector has now spread to neighbouring Mandera County.

"*Anopheles stephensi* quickly adapts to the local environment, surviving extremely high temperatures during the dry season when malaria transmission usually reaches a seasonal low," ex-

plained the report which was released during COP28.

The report warns that the new species will be a threat to malaria control and elimination in Africa, the Arabian Peninsula, and southern Asia.

"If uncontrolled, its spread across Africa, combined with rapid and poorly planned urbanisation, may increase the risk of malaria transmission in African cities," the report says.

WHO is asking countries to bolster their surveillance and demarcate the geographical spread of *Anopheles stephensi* using data to implement interventions.

"The potential direct effects of climate change on malaria could include expansion of its geographical limit, increases or reductions in transmission intensity within the current limits of transmission, reintroduction of malaria in areas where malaria was eliminated, or imperceptible changes in transmission," stated the report.

Dr Tedros Adhanom Ghebreyesus, the WHO director-general, said in a statement that sustainable and resilient malaria responses are needed now more than ever, urging countries to take urgent actions to slow the pace of global warming and reduce its effects.

Dr Matshidiso Moeti, the WHO

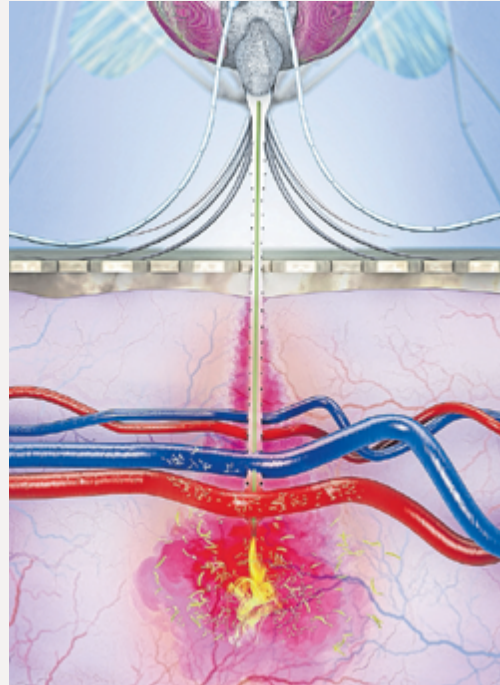
regional director for Africa, said that to forge ahead towards a malaria-free future, humans need efforts that foster innovation, resource mobilisation, and collaborative strategies.

"It is crucial to recognise the multitude of threats that impede our response efforts. Climate variability poses a substantial risk, but we must also contend with challenges such as limited healthcare access, ongoing conflicts and emergencies, the lingering effects of Covid-19 on service delivery, inadequate funding and uneven implementation of our core malaria interventions," she said.

Speaking to *Healthy Nation* on the sidelines of COP28, Mr Martin Edlund, the chief executive for Malaria No More, said that despite the gloom around the new mosquito vector, there are some solutions that scientists are already coming up with.

One of the innovations he cited is a seasonal malaria chemoprevention which costs about Sh250 and is given to children every month, especially during the rainy season, preventing them from getting infected.

"We have seen about a 75 per cent decline in malaria cases among kids who received this. About 49 million kids currently have access to this innovation,



An illustration of a malaria-infected mosquito piercing the skin and transmitting malaria parasites into the bloodstream. PHOTO | AFP

mostly in the Sahel region and in West Africa. We are looking at how this can be expanded to places in East Africa," he said Mr Edlund.

The new malaria report stresses the need for investment in malaria research in the wake of the climate crisis.

"We need research to show how climatic variations and climate change influence the malaria response across different timescales and effective ways to communicate these risks to policymakers, funders, and the public. Also needed is research into lowering the carbon footprint of the health sector, including the malaria response," it stated.

With the Green Climate Fund being the biggest financial muscle for the United Nations Framework Convention on Climate Change, the report recommends that developed countries that are party to the convention jointly mobilise and operationalise the fund to have a section on malaria as part of mitigation finance strategies.

The report also highlights the need for a redesign of future healthcare products to make them more sustainable.

"Future products and their delivery will need to suit an operating environment that has been redefined by climate change – for example, medicines and diagnostics that are heat-stable and prevention tools that are suited for displaced or migrant populations. Their design should also minimise their environmental impact by identifying future products that are biodegradable, or that can be easily manufactured locally," it states.

hshikanda@ke.nationmedia.com

## Multiple effects

# As 2023 shatters heat records, sicker people abound

BY HELLEN AURA

2023 has shattered the heat records, with ice caps melting at an unprecedented rate. Heat waves have experienced globally, leading to wildfires in some parts of the world.

Closer home, floods and drought have been as a result of the adverse effect of climate change greatly experienced in the horn of Africa, leading to increasing diseases and other health conditions.

According to a report by WHO, two billion people lack safe drinking water and 600 suffer from foodborne diseases annually, with children under the age of five accounting for 30 per cent of foodborne fatalities.

In 2020, 770 million faced hunger, predominantly in Africa and

Asia. The WHO conservatively projects 250,000 additional yearly deaths by the 2030s due to climate change impacts on diseases like malaria and coastal flooding.

Climate change can negatively impact mental health, as populations may be required to migrate to higher ground during floods or in search for food and water thus disrupting their social systems leading to anxiety, stress, grief and depression, more so when families lose their homes and loved ones. Individuals who have been exposed to such harsh conditions may also develop post-traumatic stress disorder.

Vectors, such as mosquitoes, which are responsible for the transmission of malaria, dengue fever as well as Rift Valley fever

are affected by changes in temperatures that are responsible for the transmission of diseases such as malaria, dengue and Rift Valley fever.

Stagnant water reservoirs can create new breeding sites for mosquitoes.

Air pollution is another impediment that results from the impacts of climate change, as the quality of air humans breathe is adversely affected.

Poor air quality can negatively affect human health as the exposure to air pollutants or airborne allergens can directly harm the human respiratory and cardiovascular systems.

Some of the respiratory diseases brought about by poor air quality are asthma, respiratory allergies diseases as well as heart diseases. Globally, millions

of premature deaths are caused by air pollution.

Exposure to and inhalation of ground-level ozone and particulate pollution account for tens of thousands of hospital visits each year symptoms of ozone and particulate pollution exposure can include chest pain, coughing, throat irritation, congestion, allergic reactions and reduced lung function.

While the impacts of climate change are adversely being affected in developing countries, according to the COP28 declaration on Climate and Health, countries agreed that a better health outcome will include transformation of health systems.

haura@ke.nationmedia.com





## Medication

## Study shows risks of using painkillers too early in life

BY LILYS NJERU

The prolonged use of painkillers in children and young individuals may be associated with later-life challenges in mental health and addiction, a new study shows.

Researchers said treating chronic pain in those under the age of 25 is essential, but warned the regular use of painkillers could lead to over-reliance.

The study by scientists at St George's, University of London alongside the University of Liverpool, looked at anonymous medical records of 853,625 people aged two to 24.

The analysis revealed that 115,101 patients were diagnosed with chronic pain lasting more than three months. Among this group, 20,298 received repeat prescriptions for painkillers without a specific diagnosis while 11,032 were both diagnosed and prescribed painkillers.

Subsequent follow-ups, spanning an average of five years after turning 25, revealed that the 11,644 individuals experienced a "substance misuse event", 143,838 reported poor mental health, and 77,337 received at least one opioid prescription.

"The findings are concerning as those under 25 are particularly vulnerable. This means regular use of painkillers to ease chronic pain may lead to unintentional over-reliance on pain medication in adult life. Exploring when the right time is to refer these young people to specialised pain services for more targeted support will also be a vital factor when revamping pain management practice," said Professor Reecha Sofat from the University of Liverpool, who was involved in the research.

Highlighted in the study was the over-representation of patients with learning disabilities and autism in the cohort receiving repeat prescriptions, signalling potential over-prescribing within this vulnerable group.

The team also suggested that the observed trends in their study might be attributed to various factors, one of which could be that individuals prescribed painkillers from a young age may have experienced more severe or frequent pain.

"It's clear that chronic pain management in young people needs to be optimised," Dr Andrew Lambarth, an academic clinical fellow in clinical pharmacology and therapeutics at St George's, University of London, said.

"We know under-treating pain can cause harm in both the short and long term, but it's also essential to avoid over-reliance on medicines that could lead to dependence on prescription or non-prescription drugs in later life," Lambarth said.

"We now need to work with all health-care providers to help them weigh up the risks and benefits of prescribing painkillers at a young age, and encourage the consideration of other recognised and effective non-drug management approaches."

The findings have been published in *The Lancet Regional Health – Europe*.

[Lnjeru@ke.nationmedia.com](mailto:Lnjeru@ke.nationmedia.com)

## Dr Flo



Bumps on a man's chest caused by mosquito bites. As the globe gets warmer, mosquitoes are venturing into areas they never reached before. PHOTO | FILE

## Dangers that a warmer planet poses when it makes animals move closer to human beings

**Dear doctor,**  
*There has been a lot of talk about global warming and climate change. Is it real? And does it have any impact on our health?*  
**Thanks, George**

**Dear George,**

Climate change is real and refers to long-term changes in temperatures (global warming) and weather patterns. Some of the weather changes have been evident in many parts of our country in recent years. The causes and effects of climate change and global warming are complex and have been going on for a long time. However, human activities have partially contributed to it, mainly through the use of fossil fuels e.g. oil, coal and natural gas, especially in industries. The gases produced from the combustion of these fuels "blankets" the atmosphere, so that when the sun's rays come into the earth's atmosphere, the heat that is reflected back from the surface is trapped within the atmosphere and cannot be released fully into space. This creates a "greenhouse" effect which leads to a rise in the temperature of the planet. This temperature change then leads to changes in weather patterns.

Medical experts agree that climate change affects health. However, it is challenging to measure which health risks are climate-sensitive, and to what extent.

Climate change increases the risk of extreme weather events, poor air quality, poor water quality, reduced availability of water, food insecurity,

and wildfires.

It may also lead to changes in disease patterns, like outbreaks of diarrhoeal diseases like cholera when there is flooding; or occurrences of diseases (and their vectors) in places that were previously too cold for them, for instance mosquito-borne illnesses like dengue fever, chikungunya, malaria, among others; or higher incidences of some diseases in the areas where they usually occur.

Poor air quality may also lead to an increase in respiratory illnesses and poor water quality may lead to diarrhoeal diseases.

Climate change may also affect the natural environment, leading to movement of wild animals to habitats where they have increased contact with humans, which can lead to new diseases being introduced to the human population.

All of these illnesses, in addition to the destruction caused by extreme weather events and fires, and food insecurity can have a negative impact on mental health and well-being.

While the issues around climate change are complex and most of the issues outside of our control, we can do our small bit by making environment-friendly choices.

**Hello,**  
*What is dengue fever?*

**Dear reader,**

Dengue fever is a disease caused by the dengue virus, and it is spread by mosquitoes. Most people (about 75 per cent) who get infected with the

dengue virus do not get any symptoms.

A few people may develop a mild flu-like disease about three to fourteen days after being bitten and usually the symptoms resolve after a week. The symptoms may include fever, pain in the muscles, joints and bones, eye pain, headache, nausea and vomiting, swollen lymph nodes and a rash.

Severe disease may develop on rare occasions. Its symptoms include difficulty in breathing, fast breathing, severe abdominal pain, persistent vomiting, and bleeding tendencies like bleeding under the skin, bleeding gums or blood in urine or vomit.

Severe disease may lead to dengue hemorrhagic fever where there is serious bleeding that can lead to shock (very low blood pressure) and death.

There is no cure for dengue fever. For those with symptoms, supportive treatment is provided like fluids and medication for pain and fever. Those with severe disease should be hospitalised for in-patient support. There is a dengue vaccine given to those who have previously been infected.

Prevention of the disease includes protection from mosquito bites through use of mosquito nets and screens, wearing protective clothing and utilising mosquito repellent. There are also environmental measures that can be taken to control the mosquito population, for instance clearing of stagnant water; indoor and outdoor spraying, clearing weeds and filling tree holes. Septic tanks can also become mosquito breeding areas,

which can be prevented by sealing the tank properly, repairing any cracks, and covering the ventilation pipe with screen mesh.

**Dear doctor,**  
*There have been cholera outbreaks on and off in the past few years. Is there a way to prevent it?*  
**Millicent**

**Dear Millicent,**

Cholera is a diarrhoeal disease caused by taking water or food that is infected by the bacteria *Vibrio cholera*. Most people who get infected with cholera have no symptoms or they develop mild disease.

Cholera symptoms can begin within a few hours or up to five days after infection. A few of those who get the infection develop severe watery diarrhoea and vomiting, which can very quickly lead to severe dehydration, which if untreated can cause kidney failure, shock (very low blood pressure and death).

When there is severe disease, urgent medical support is required to prevent and treat dehydration. There are also antibiotics that are given to kill the bacteria.

Cholera prevention includes maintaining good hygiene, hand washing, using clean water, proper cooking of meat and seafood; proper cleaning and preparation of fruits and vegetables; and avoiding unpasteurised milk. There is a cholera vaccine available.

Send your questions to [healthynation@ke.nationmedia.com](mailto:healthynation@ke.nationmedia.com)



## Widespread

## The climate crisis is also a health crisis

## BY UN NEWS

Our planet has logged higher mean temperatures each year, with 2023 set to be the hottest on record. Ice sheets are melting at an unprecedented rate. Wildfires have made the air hazardous in some regions, while in others, floods regularly threaten to contaminate drinking water.

Against this backdrop, more and more people are being affected by disasters, climate-sensitive diseases and other health conditions.

Climate change exacerbates some existing health threats and creates new public health challenges. Worldwide, only considering a few health indicators, an additional 250,000 deaths per year will occur in the next decades because of climate change, according to the World Health Organization

(WHO).

WHO Director-General Tedros Adhanom Ghebreyesus told delegates at COP28 that it was long overdue for talks around environmental health, rising sea levels, and melting glaciers to include the direct impacts of such climate shocks on human health.

This first-ever dedicated 'Health Day' at a COP is highlighting several key events, including on public-private partnerships for healthcare climate action and on unlocking relevant financial and political commitments.

Ministers of health, environment and finance made delivered addresses alongside notable figures like Bill Gates and US climate envoy John Kerry, all gathered at the Al Waha auditorium in Dubai's iconic Expo City to consider actions to address the impact of climate change on human health.

"Although the climate crisis is a health crisis, it's well overdue that 27 COPs have gone without a serious discussion of health. No more," Dr Tedros said.

He reiterated WHO's welcome of the new declaration on acceleration actions to protect people from growing climate impacts that was endorsed on Saturday during the World Climate Action Summit.

Climate change is directly contributing to humanitarian emergencies spared by heatwaves, wildfires, floods, tropical storms and hurricanes. Those and similar climate shocks are only increasing in scale, frequency and intensity.

More than three billion people already live in areas highly susceptible to climate change, according to the UN health agency.

Between 2030 and 2050, climate change is expected to cause tens of thousands of ad-



WHO Director-General Tedros Adhanom Ghebreyesus. PHOTO | FILE

ditional deaths per year – from undernutrition, malaria, diarrhoea and heat stress alone.

These impacts on health and daily lives are being felt across the world, and indigenous communities often bear the brunt.

At a ministerial-level meeting on December 2, Dr Tedros spotlighted several elements that are crucial to building effective

responses to tackling the health and climate challenge.

He pointed out that leaders must understand that it is critical to focus on the nexus of health and climate impacts, so that health can be mainstreamed into climate policies.

Engagement with communities is equally important, including with marginalised and vulnerable communities, who are often at the forefront of the climate challenge.

"Their perspectives in mitigation and adaptation efforts must be incorporated."

Massive investment in health services will be key to achieving these goals, he stressed.

Dr Tedros also underscored the vitality of cooperation among countries, learning from successful examples of other countries, and then implementing them in local contexts.

The way forward is clear: "We do not need to reinvent the wheel," he said.

news.un.org

## Alarm

## Kirinyaga battling invasive snail from South America brought by climate crisis: Waiguru

No one seems to understand how the species that feeds on rice seedlings got there

BY LEON LIDIGU  
in Dubai, UAE

Kirinyaga County is currently grappling with a new unwanted guest that has found its way into the country from South America due to climate change, Council of Governors (CoG) chair Anne Waiguru says.

Earlier this year, *Nation* had reported that scientists at the Kenya Medical Research Institute (Kemri) had found an invasive freshwater snail that originates from South America in the Mwea Irrigation Scheme.

Kemri said that the water snail, known scientifically as *Pomacea canaliculata* (*P. canaliculata*), is currently wreaking havoc in rice farms and is moving along the Nile.

It is known to cause human eosinophilic meningitis.

According to the *Nature* journal, the *Pomacea* species, commonly known as apple snails, are native to South America and have become widely distributed agricultural and environmental pests in southern China since their introduction in the 1980s.

"The climate crisis has fuelled the spread of waterborne diseases (like malaria and gastropod mollusks such as the new invasive water snail that has found a home in Kirinyaga County all the way from South America, thus causing major public health concerns," said Ms Waiguru.

According to America's Centers for Disease Control and Prevention (CDC), various parasites can cause meningitis

or can affect the brain or nervous system.

CDC also notes that parasitic meningitis is much less common than viral and bacterial meningitis.

"Some parasites can cause a rare form of meningitis called eosinophilic meningitis, eosinophilic meningoencephalitis, or EM. The three main parasites that cause EM in some infected people are *Angiostrongylus cantonensis* (neurologic angiostrongyliasis), *Baylisascaris procyonis* (baylisascariasis; neural larva migrans) and *Gnathostoma spinigerum* (neurognathostomiasis)."

In an interview with *Nation*, Dr Martin Mutuku, the principal investigator and a senior research scientist at the Centre for Biotechnology Research and Development at Kemri, explained that the snail is considered a devastating agricultural and ecological pest as well as a threat to rice farming in Mwea and wetlands biodiversity in the country apart from being a potential public health threat.

"The million-dollar question is: how did the snail exactly get here? Farmers told us that it feeds on young rice

**It causes meningitis in humans when it gets to the brain as the parasite gets lost in there**

Martin Mutuku



Margaret Wanjiru assess damages caused by apple snails at a farm in Mwea, Kirinyaga County, in 2020. The snails are native to South America. PHOTO | POOL

seedlings during the planting season. It causes meningitis in humans when it gets to the brain as the parasite gets lost in there," he explained. "We have to also strengthen collaboration among the sectors responsible in managing the ecosystems and those benefiting from ecosystem services to create holistic and effective resilient strategies."

While urging the East African Community (EAC) to prioritise active involvement of local and sub-national governments as primary actors in adaptation planning, Governor Waiguru said that her county has been working with the health ministry to tame the new unwanted guest.

"For us to be resilient, we must remember that nature does not respect man-made boundaries of nations and ensure that development of strategies and planning goes from the top all the way to subnational levels," she told delegates while noting that the EAC bloc is home to diverse and interconnected

ecosystems such as forests, mountains, wetlands, rivers and lakes.

"These ecosystems play a vital role in maintaining biodiversity, regulating climate patterns, supporting local communities' livelihoods, and providing essential services such as water supply, food security and carbon sequestration. However, these ecosystems face significant threats from climate change, affecting their resilience and functionality," said Governor Waiguru.

As researchers sought to unearth how the snail reached there, sampling was done using a standard snail scoop in 15 streams, four ponds and four canals within the Mwea Irrigation Scheme.

The snails and snail egg masses collected were transferred into plastic containers and identified using snail taxonomic keys based on morphological features with the aid of a dissecting microscope.

"The presence of a thriving population of *P. canaliculata* in the Mwea irri-

gation canals, ponds and rice paddies was confirmed, and numerous *Pomacea* egg masses also observed," findings from the Kemri study done in Kirinyaga show.

According to the findings, *P. canaliculata* serves as an intermediate host of the rat lungworm, *Angiostrongylus cantonensis*, which causes human eosinophilic meningitis, an emerging disease.

"The team of researchers also interestingly found that another snail that exists in the country which causes bilharzia has drastically reduced in number due to the arrival of the new snail.

"Only two canals located on the upper periphery side of the irrigation scheme were found to be having *Biomphalaria pfeifferi* snails. Most likely, they may be competing for resources. We are still investigating," Dr Mutuku told *Healthy Nation*.

lidigu@ke.nationmedia.com





## ABOUT INTERNEWS

Internews is a nonprofit that supports independent media in 100+ countries — from radio stations in refugee camps, to hyper-local news outlets, to filmmakers and technologists. Internews trains journalists and digital rights activists, tackles disinformation, and offers business expertise to help media outlets thrive financially. For over 40 years, it has helped partners reach millions of people with trustworthy information that saves lives, improves livelihoods, and holds institutions accountable.

**Editorial Credits:** Megan Miller & Ida Jooste

**Design:** Julia Huang

**Cover:** Trevor Messersmith for ArtistsForClimate.org

