



Climate & Development
Knowledge Network



Communicating climate change: A practitioner's guide

Insights from Africa, Asia and Latin America

2019 edition



ABOUT THE CONTRIBUTORS

This guide was written by Mairi Dupar, CDKN Technical Advisor and Managing Editor. She coordinated, and then led, CDKN's Knowledge Management and Communications work stream from 2010 to 2017. Extensive review comments to this edition were provided by Lisa McNamara, who currently leads CDKN's Knowledge Management activities; Maria Jose Pacha, who has coordinated CDKN's Knowledge Management and Learning in Latin America and the Caribbean since 2015; and Charlotte Rye, previously Communications Officer for CDKN and for Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED).

The experiences summarised in this volume were the collective work of a much larger team, who worked creatively and energetically to communicate climate change across many countries and to document their lessons in project reports. We drew freely on their documents in the compilation of this guide. Thanks to the following colleagues for their insights: Jorge Villanueva and Mathieu Lacoste (Latin America); Claire Mathieson, Simbisai Zhanje and Jean-Pierre Roux (Africa); Elizabeth Gogoi, Aditi Paul and Mochamad Indrawan (Asia); Ari Huhtala and Geoff Barnard (Global). However, any errors contained herein are those of the authors alone. Thanks also to Emma Baker of CDKN for production assistance with this edition.

Correspondence about this guide: cdkn@southsouthnorth.org

This guide should be cited as:
Dupar, M., with McNamara, L. and Pacha, M. (2019). Communicating climate change: A practitioner's guide. Cape Town: Climate and Development Knowledge Network.

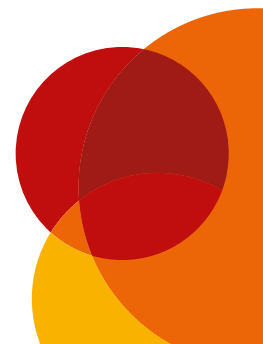
ISBN: 978-0-620-84052-1

Design and layout by Ink Design.

Cover image: Women on floor, mapping on flipchart
Photo credit: Red Cross Climate Centre and all creative commons use.

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Audiences in developing countries generally do not need to be convinced that climate change is happening. They see the evidence before their eyes: in searing heatwaves and increasing numbers of heat-related illnesses and deaths; in failing and flooded food crops, and inundated coastal zones.

What these audiences need is to ‘make sense’ of what they are seeing: to understand their lived experience in a scientific context, to know what the future climate might hold, and to decide what they should do about it. This guide, therefore, looks at opportunities to make connections between the big picture and people’s local experience; between scientific and local knowledge.

By the same token, there is an increasing appetite among communities and community-based organisations to strengthen their effectiveness in communicating their own experiences of climate change ‘upwards’ to policy-makers and ‘outwards’ to other communities and sectors of society, to generate support for more resilient and sustainable development. This guide contains many tips on how they can magnify their voices and so leverage positive change.

Our communications tips are sensitive to developing countries’ needs to tackle persistent poverty and basic development needs (such as the provision of drinking water, sanitation, education, healthcare, housing and energy), which are needed for a dignified life. For most people in developing countries, action on climate change looks different than it does in the industrialised world, where reducing over-consumption is a towering challenge.

And finally, this guide is geared toward convincing people to take climate action *now*, not tomorrow. The reality is that climate change jostles for people’s attention with many competing stories. It takes ingenuity to bump climate change to the top of the agenda and ultimately give it the political and public focus it deserves.



Two women playing a climate resilience game in Ethiopia as part of the Africa Climate Change Resilience Alliance project – *Thomas White*

Key to this guide



Top tips

Top tips for communicating climate change



Knowledge builder

Recommended resources to help you build your knowledge and skills



Story

Case studies of creative climate change communications and public engagements



Cautions

Pitfalls to avoid when communicating about climate change

Public awareness and the effective communication of climate change information are flagged as critical issues in the Paris Agreement on climate change.

This agreement was adopted by 195 nations in 2015. Its central goal is to keep global warming this century well below 2°C (compared to pre-industrial levels) and to pursue efforts to limit the temperature increase to 1.5°C. The agreement sets out the principles and work areas that signatory countries should follow to achieve this goal. At the time of writing, 185 countries have ratified the agreement. Article 11 of the Paris Agreement calls for investment in capacity building, where:

‘Capacity-building under this Agreement should enhance the capacity and ability of developing country Parties, in particular countries with the least capacity, such as the least developed countries, and those that are particularly vulnerable to the adverse effects of climate change, such as small island developing States, to take effective climate change action, including, inter alia, to implement adaptation and mitigation actions, and should facilitate technology development, dissemination and deployment, access to climate finance, relevant aspects of education, training and public awareness, and the transparent, timely and accurate communication of information.’¹

Communicating Climate Change is a contribution toward meeting this goal of the Paris Agreement.

We would be delighted to hear from you. Please send your feedback on the guide to the author team, including your examples of effective methods for communicating and engaging public and policy audiences on climate change. Please include ‘Communicating climate change guide’ in the subject line.

Email: cdkn@southsouthnorth.org



General principles for effective communication

Communicating about climate change has its own unique challenges, which we discuss in detail in this guide: from cutting through the scientific jargon in order to represent climate impacts simply and faithfully, to opening up conversations about climate solutions to be inclusive and accessible.

In spite of its unique challenges, the job of communicating climate change can also borrow much from other sectors.

Climate communicators can adopt campaigning and social marketing strategies used in other areas of science and the public interest – such as campaigns to eradicate deadly diseases, stop people smoking or taking harmful drugs, convince people to wear seat belts or get children into school.

What climate action has in common with these other social challenges is that it requires changes in public policy, corporate policy and citizen behaviour, and cooperation among science, policy and civil society.

Good practice strategies for campaigning and social marketing, which apply to climate action, are outlined here.

Learn how best practices in campaign and social marketing strategy can apply to climate change communications.



Anti-Smoking Poster: Chushan High School artists at Chushan Bamboo Museum – *David and Jessie Cowhig*

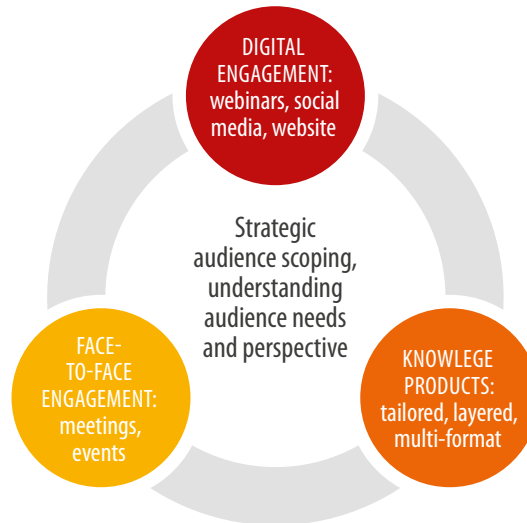
Developing a good communications campaign

This is a best practice framework which could be applied to any climate communications campaign.² An example of how CDKN brought these elements together is given in the case study on gender and climate change (page 44).

Identify and understand your audience

- ✔ Start by identifying the stakeholder group(s) who can affect positive change, what information and analysis they need and how you can help meet their knowledge needs.
- ✔ Segment the audience and tailor communications to the specific concerns and needs of different target groups, to make the content as useful and relevant as possible.
- ✔ Understand the intended audience's knowledge and values. Use framing and language that will resonate with target audiences and evolve their understanding of, and contribution to, an issue. If you are not sure which framings and messages will resonate best or how to make your communications most relevant, then consult well.
- ✔ Work to identify who the best 'messengers' are for your content: Who is most likely to capture the attention of your intended audience? (See box, page 11, 'Mind the messenger')
- ✔ Request audience feedback often, and revise and update messaging, content and engagement activities to improve when things aren't working well.

On the issue of consultation: Research projects may have the opportunity to involve the ultimate target audiences of the research from the beginning, in setting the research questions and framing how the findings will be presented and communicated at the end. This is an emerging 'gold standard', often called 'co-production' of knowledge. Most climate communications don't come with a research budget though, and it's up to the communicator to marshal their key messages and evidence on climate change from existing sources. If this is the case, a classic way to test communications messages and guide campaign thinking is to use focus groups representing the key target audiences.





Face-to-face policy debate and digital communications interact – *Global NDC Conference 2017*

Tailor knowledge products and use multiple formats

- ✔ Craft knowledge products and services that frame the information in ways that are tailored and relevant to the stakeholder group(s).
- ✔ Use appropriate language: Translate literally into different languages and/or use more or less technical language according to the target group's needs.
- ✔ 'Layer' the message: Start with simple, eye-catching headlines, and signpost to more complex levels of information and analysis: 5-second read, 60-second read, 10-minute read, 30–60-minute read.
- ✔ Produce diverse formats when the budget allows: Tell the same story, where possible, in multiple formats to cater to people's varying personal preferences. For example, use text, pictures (picture galleries, photo essays, etc.), slide packs, films and animations, as well as multimedia products that combine all of the above.
- ✔ Make content easy to access, easy to use, easy to share. Make sure content can be readily understood, applied and distributed by your intended audiences. Extensive review and consultation/co-authorship can ensure these tests are met, so supporting uptake and impact.

Recognise how digital and face-to-face communications can amplify each other

- ✔ Devise digital outreach campaigns that elevate serious climate change messages in the midst of huge online 'chatter' by using well-tested tactics – such as high-quality imagery, innovative infographics, clear copywriting and even memes – to make content compulsively shareable.
- ✔ You can give audiences at face-to-face events (meetings, conferences) the digital tools to spread content to their networks, for an 'amplifying' effect on your communications campaign. Digital tools could include well-crafted social media posts or slide packs, video or other digital formats (for instance, on shareable discs) that people can easily distribute in their workplace or networks. It is also a way to encourage innovation, nudging people to adapt your content to their circumstances and build on it.
- ✔ Combine face-to-face engagements in smaller groups with digital outreach via larger broadcast communications, as a way to achieve both depth and breadth.



Mind the messenger

Climate change as the subject of a public communications or policy advocacy campaign is like other campaigns; the messenger matters as much as the message. People listen to, and act on information from, people they can trust. Trust is important because acting on climate change implies difficult policy choices and personal behaviour changes.

In CDKN's focal countries, it's country engagement leaders have played important roles as messengers for climate action. Usually country nationals and senior and trusted policy advisors of government, these individuals have helped to build government interest in new evidence on climate change, as well as convening diverse groups of people from industry, academia and NGOs.

Recent events also show that in terms of public outreach and influencing, messengers who are 'not the usual suspects' can be some of the most powerful messengers of all. Although young people, for instance, previously raised their voices on climate change, they lacked serious influence in global policy circles until 2018.

Greta Thunberg, the Swedish high school student, changed all that with her weekly school strikes to protest inaction on climate change. She has started a global youth movement and shown what can be achieved by a voice that is fuelled by passion, conviction and climate science. These qualities and the novelty of being such a young climate leader (16 years old at the time) have brought her invitations to speak at United Nations conferences and the World Economic Forum in Davos, Switzerland, so far. The movement, and the media and popular attention it has garnered, are cutting across the global North and South. The latest, a coordinated 'student climate strike' in 2019, involved youth in 36 cities in India³, and many others across East, West and Southern Africa, Latin America and Southeast Asia⁴, North America and Australasia.



School strike for the climate (top, middle) – flickr ;
Greta Thunberg, climate strike leader (bottom) – AFP

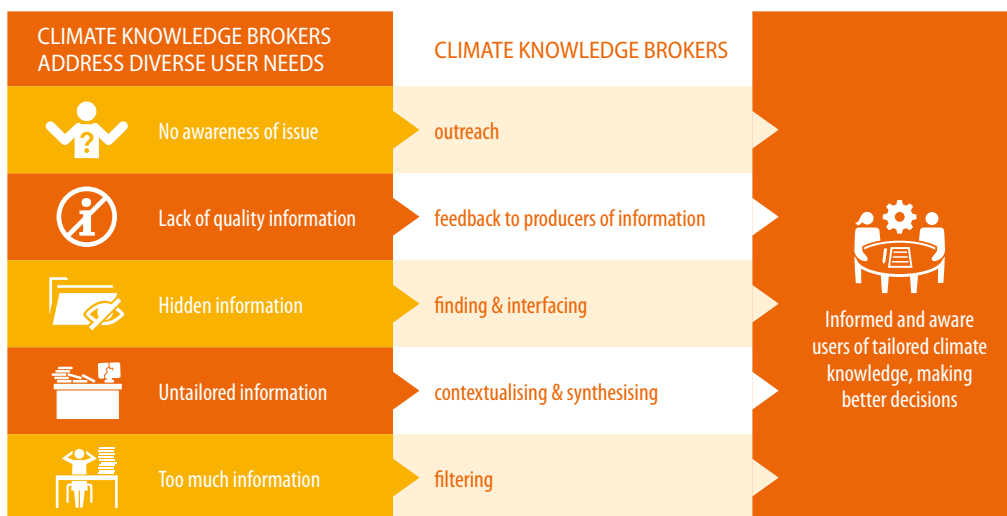


The Climate Knowledge Brokers' Manifesto

The Climate Knowledge Brokers Group is an informal network of climate change researchers and communications professionals who produced a universal set of broad guidelines to support better generation, access to and use of climate knowledge, following the Paris Agreement.

The Climate Knowledge Brokers' Manifesto was developed by this group 'with the vision of a world in which people make climate-sensitive decisions, fully informed by the best available climate knowledge.'⁵ It explains that users of climate-related knowledge require access to information that is tailored to their myriad specific circumstances. The manifesto says that climate knowledge brokers – intermediary individuals and organisations – play a key role in filtering, tailoring and crafting information so that it is relevant to the people who need to use it.

 <https://www.climateknowledgebrokers.net/manifesto>



Tailoring climate knowledge for diverse audiences: Knowledge brokers in action – *Mairi Dupar, CDKN*



Getting the climate change framing right

For climate communications – as with all effective communications – you need to ‘know the audience’. In developing countries, that typically means highlighting the development benefits in a climate change story and framing the messages accordingly. Specifically, tackling poverty is a pressing need and high on the public and political agenda. Thus the role of climate change in undermining development progress, and the potential for inclusive climate-compatible development to lift people permanently out of poverty is an important entry point.

Although climate change already affects everyone in some way, it affects the poorest people the most. These are the people who are homeless or living in sub-standard housing – often in areas that are highly exposed to climate change impacts such as floods or extreme heat – with the most marginal and insecure jobs and fewest assets. Research evidence from across the developing world shows that households which have risen out of extreme poverty can be knocked back into poverty by the effects of climate change today, particularly by the shocks of extreme weather events.⁶

Action on climate change has the potential to simultaneously:

- tackle the many dimensions of poverty;
- create resilience to climate shocks such as extreme weather events, as well as resilience to the insidious effects of slow-onset climate changes, like rising sea levels;
- contribute to sustainable economies, as global society will overstep ‘planetary boundaries’ if economic development is not environmentally sustainable;⁷
- provide an opportunity to shift away from reliance on fossil fuels that are concentrated in the hands of relatively few producer countries, to renewable energies, in great abundance and available to all;
- offer an opportunity to lay the pathway for future growth and development in climate-smart products and services; and
- present a chance for cities and countries to demonstrate national, regional or global climate leadership.

Learn how to develop one or several story angles that will resonate with your target audiences.



Graphic harvest of a discussion on climate and development challenges, Development & Climate Days 2015 – IIED/Flickr

Communicators have the chance to illustrate these opportunities and encourage climate action. Our top tips for climate communications focus on how to make these kinds of opportunities real and meaningful for diverse audiences. We suggest approaches for communicating with the general public, policy or business audiences – recognising that there will be different priorities for each.

For more ideas on making the case for climate-compatible development, visit the chapter of that title in CDKN's book, *Mainstreaming Climate Compatible Development*.⁸

 <https://www.cdkn.org/mainstreaming>

Framing the impacts of climate change and the benefits of adaptation action

People want to know how climate change is going to affect the places they know, value and depend upon – whether they depend on their environment for:



jobs and livelihoods,



food and energy security,



safe and tolerable living conditions,



or for recreation, culture, religion and spirituality.

When those places are under threat from climate change – such as:



heavy rainfall,



sea level rise,



drought and heat

– people want to know what measures they can take to adapt and cope with the impacts.



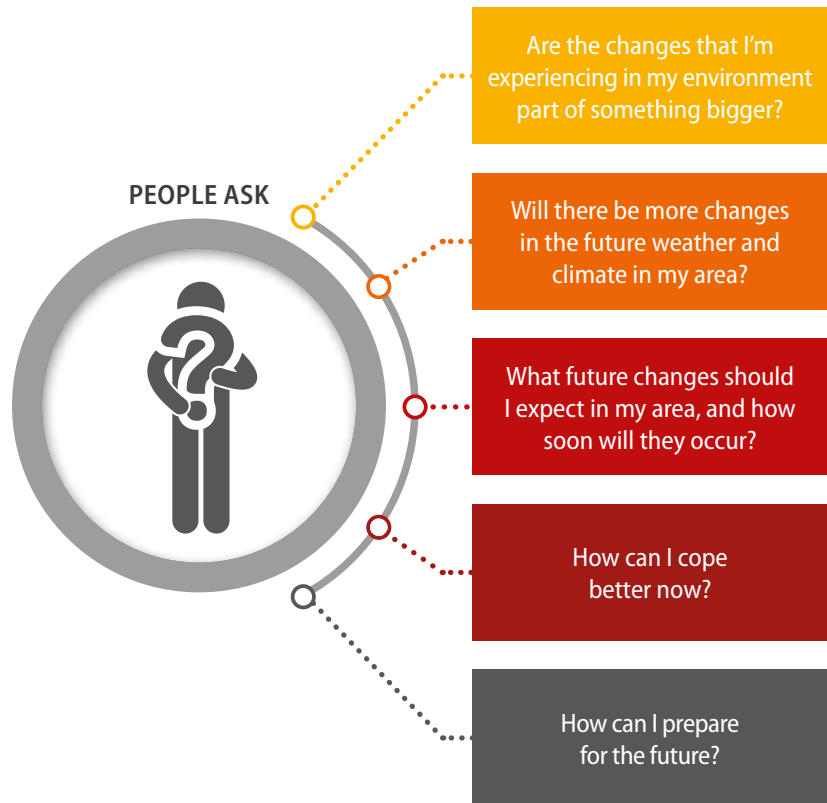
Government and public policy audiences

- ✓ Highlight the risk that climate change may undermine the achievement of major public policy goals, especially on eliminating poverty and reaching fiscal targets.
- ✓ Highlight obligations and opportunities for meeting international commitments to climate action, such as the Paris Agreement under the UNFCCC.
- ✓ Highlight obligations and opportunities for meeting national commitments to climate action, such as national climate change strategies, action plans, policies and laws.
- ✓ Show that prevention costs less than the cure. It is better to invest in adaptation to climate impacts now than to invest in relief and reconstruction afterwards (see case study: Comparing the costs and benefits of early climate action with inaction in Uganda, page 46).
- ✓ Or, if there has already been a climate- or weather-related disaster, make the case for 'building back better' – investing in rebuilding efforts to be more resilient to the next extreme event and to avoid disaster.



Business and economics-focused audiences

- ✓ Look for examples of risks to company profit – or to a company's entire business model – posed by climate change impacts on assets, work force, production systems and supply chains (see case study: Responding to climate change is not bad for business in Kenya, page 47).
- ✓ Find the stories of risk to competitiveness – of company, city, region, country – from inattention to climate change impacts.
- ✓ Highlight that action on adaptation can create a resilient firm with long-term prospects for business growth and stability.
- ✓ Demonstrate that assessing climate risks to the business demonstrates a robust vision and strategy to shareholders, aimed at ensuring the firm's long-term value. It is about being 'ahead of the curve' (see case study: Sea level maps convince businesses, page 66).



And for those in politics, public administration and business:



How will the weather and climate affect the company, jurisdiction or financial portfolio that I'm responsible for?



General audiences

- ✓ Find the ‘human interest’ stories – in other words, people’s own words about their own experiences – that tell how climate change has negative impacts and undermines development progress. By reporting the stories of affected people (or giving them the video camera directly, see case study pages 60-61), you give your audience something they can relate to.
- ✓ Use the most authoritative statistics and analysis you can find to back up your stories.
- ✓ Find the stories about iconic cultural and historical assets that could be negatively affected by climate change. While important to people’s identity and well-being, these assets are normally also linked to economic development (see case study on Sri Lanka’s coral reefs, page 46).
- ✓ Look out for the insidious, small-scale impacts of climate change that are weakening people’s resilience over time and affecting their ability to ‘bounce back’ and fulfil their human potential. It may take careful investigation by a research project or a determined reporter to work with communities to document these small-scale ‘invisible’ disasters and tell their stories (see case study: Making the ‘invisible’ visible by mapping climate risks in Lima, page 52).
- ✓ Highlight that action on adaptation can prevent the loss of livelihoods, assets, health and well-being – even loss of life – from climate change impacts.
- ✓ Show the power of positive solutions. People don’t want just bad news, they want inspiration!



An entry point to understanding and communicating climate risks

Developing countries are particularly vulnerable to the impacts of extreme weather. The Global Climate Risk Index 2017 analysed who suffers most from extreme weather events. The report shows that

“of the ten most affected countries (1996–2015), nine were developing countries in the low-income or lower middle-income country groups.”⁹

The Geography of Poverty, Disasters and Climate Extremes in 2030 shows where the poorest and most climate-vulnerable people are located. It finds that 325 million extremely poor people will be living in the 49 most hazard-prone countries in 2030, the majority in South Asia and sub-Saharan Africa.¹⁰

The good news is: investing to reduce climate-related risks up front, before disaster strikes, is a ‘no regrets’ approach with many social, economic and environmental benefits.¹¹



What can science tell us about local climate impacts?

In terms of communicating how the future climate will affect a specific area, and what those changes will be, it can be difficult to match people's information needs to scientific projections of the future climate.

First, climate projections describe plausible future scenarios based on computer models. They are not 'predictions' in the way that weather forecasts are. Communicators need to keep this distinction in mind.

Another challenge is that climate information tends to be produced for relatively large scales; bigger than the neighbourhood, city or district that concerns most individual and organisational decision-makers. Individuals and organisations want climate information that is relevant to them, and often this means information that is quite localised, which tells them how climate change will affect their local community, town, city or district.

As explained by Future Climate for Africa researchers:

6 Global climate models (GCMs) are the most widely used method to understand what the climate may be like in the future as a result of emissions of greenhouse gases (global warming). They are run on supercomputers that attempt to simulate the complex atmospheric and oceanic processes that determine the climate conditions we experience. Because they work at a global scale, the resolution of GCM results is typically quite coarse. Each grid cell is roughly 200×200 km.

Regional climate models (RCMs) are applied to smaller spatial areas to produce results with greater local detail. However, RCMs still rely on GCMs for input data and therefore are not necessarily more reliable or more accurate.¹²

Nonetheless, most climate models still give enough useful information about future climate trends to help people make decisions today. Local stakeholders have the scope to take the general information provided by climate projections, and consider how trends in temperature and rainfall could affect the natural and built environment in their area.

For example, hydrologists in Jamaica studied, trained and engaged with local communities to understand how heavier rainfall events expected in the future could affect water flows along river courses and, consequently, people, property and livelihoods (see case study: Citizens define Jamaica's climate vulnerability, page 58).

 http://www.futureclimateafrica.org/wp-content/uploads/2017/09/fcfa_gcm-guide-web.pdf

Framing specific adaptation solutions

A cardinal rule of good communications is ‘show, don’t tell’. If you can show your target audience what climate vulnerability and climate resilience solutions look like in real life, then do, rather than just telling them! The ‘demonstration effect’ will help your audience to imagine how something might work and galvanise them into action (see also page 51).



All audiences

- ✓ To be highly effective, adaptation interventions are usually very site specific. However, if you can demonstrate how smart behaviours have saved livelihoods and assets in one place, then it may help your audience imagine how they could adapt that solution to their circumstances. Find out if there are best practice examples of climate change adaptation – either close to you or in a similar setting – which can inspire others.
- ✓ Use the IPCC’s framework for identifying climate risks; which climate hazards are present (e.g. high rainfall, sea surges, drought), how are people exposed (e.g. living on coasts, or on degraded lands), and what kinds of vulnerabilities they have which increase their level of risk (e.g. landlessness, social discrimination, lack of access to credit) to pinpoint the key climate risks your target audience faces and to find relevant good practice stories elsewhere.
- ✓ Alternatively, find a sectoral entry point: See whether best practices of adaptation and resilience-building in a particular sector are relevant to your target locality or sector (see case study: Resilience in Rwanda’s tea and coffee sectors: Smart solutions with wider application, page 50).
- ✓ Be clear on communicating how broader government and/or business policies are important in helping or hindering people’s ability to develop resilience. ‘Bangladesh’s resilient migrants’ and ‘Typhoon-resilient housing in Vietnam’ demonstrate this (see case studies, pages 47 and 48).
- ✓ The demonstration effect is at its strongest when there is something tangible to show, such as climate-smart technology. In reality, many adaptation and resilience solutions involve ‘invisible’ institutional and governance processes or cultural change. Addressing these issues may need more than mass communications – and may come down to changes in people’s work plans and job descriptions. It can take creative and more hands-on engagements to instil institutional changes.



Best practices for early action alerts


This guide is about the medium- to long-term task of engaging audiences to take climate action. It is not about quick-action alerts, which may be needed to warn the public when an extreme weather event is imminent. For the latter topic, see the *Climate Information & Early Warning Systems Communications Toolkit* by UNDP.

It helps readers to

- define goals for the issuance of early warnings, and creation of improved climate information products and supportive communications strategies. •

It includes templates to help you

- package early warning systems, and engage with individual media and other relevant actors. •

 <https://www.weadapt.org/knowledge-base/using-climate-information/climate-information-early-warning-systems-communications-toolkit>

Framing specific mitigation solutions

For too long, policy-makers were reluctant to acknowledge the costs to human health, the economy and the environment of burning fossil fuels and deforestation – the greatest sources of greenhouse gas emissions that contribute to climate change.

Many argued misleadingly that there was a choice between jobs and the environment, or that we had to burn fossil fuels and cut and convert forests irreversibly in order to deliver prosperity.

In recent years, this has been revealed as a false choice. Former heads of state and finance ministers from across the world formed the Global Commission on the Economy and Climate. Their flagship ‘New Climate Economy’ project (www.newclimateeconomy.net) establishes conclusively that we should not be talking about ‘jobs versus the environment’ or ‘economy versus the environment’. Instead, the Commission establishes the case for why environmental protection and specifically, cutting greenhouse gas emissions to limit climate change, are the foundation for strong economies and people’s well-being in the future. We should be talking about how

- a healthy environment and pathway to zero net emissions = a healthy economy and healthy people. •

What is more, the World Health Organization’s 2018 report to the United Nations climate conference (<https://www.who.int/globalchange/en/>) finds that the health benefits of tackling climate change far outweigh the costs. Meeting the goals of the Paris Agreement would save a million lives per year through reductions in air pollution alone.

Here and in the following pages, find suggestions for framing and substantiating the benefits of low-emission development for people, jobs and local and national economies.



Government audiences

- ✓ Demonstrate how investing in reducing emissions today will mean fewer costs, economy-wide, to deal with impacts of climate change in the future.
- ✓ Make the case that policies that reduce reliance on fossil fuels may, depending on national circumstances, also improve a country or region's energy security. For example, in most small island states, importing fossil fuel energy makes the country highly economically vulnerable, whereas generating energy from homegrown renewable sources would make them far less dependent.
- ✓ Suggest that policies for improved, clean public transit and non-motorised transport can lead to better public health, improving people's wellbeing and reducing the burden on the health sector. With good management, such policies can also reduce deaths and injuries on the roads, and minimise lost productivity due to traffic congestion.



Business- and economics-focused audiences

- ✓ **Competitiveness:** Make the case that green jobs will be more enduring, productive and competitive in the long run. Focus on the growth and value opportunities in low-emissions products and services, including materials efficiency (see case study: Framing the benefits of climate action for business, page 49).
- ✓ **Avoid stranded assets:** Highlight that investing in new, fossil fuel-based developments will lead to 'stranded assets' which lose their long-term viability and value, in the light of worldwide political commitments to tackle climate change and the 'direction of travel' set by the Paris Agreement (see the case study on stranded assets, pages 72–73).




Communicating the benefits of low emissions development


The Low Emission Development Strategies Global Partnership (LEDS GP) has created a series of notes on the documented benefits of low-emission action. They draw on well-researched cases from low- and middle-income countries.

Some of the benefits are specific to low-emission transport; others describe the public benefits of low-emission energy and land use (agriculture, forestry) approaches:

- Fight poverty
- Save money and time
- Gain the competitive edge
- Create green jobs
- Boost ecosystem resilience
- Ensure energy security
- Make roads safe

Briefing notes describing how low-emission interventions can deliver these benefits can be accessed at:

 http://ledsgp.org/working-groups/transport/?loclang=en_gb

 <http://ledsgp.org/working-groups/benefits-assessment-of-leds/>



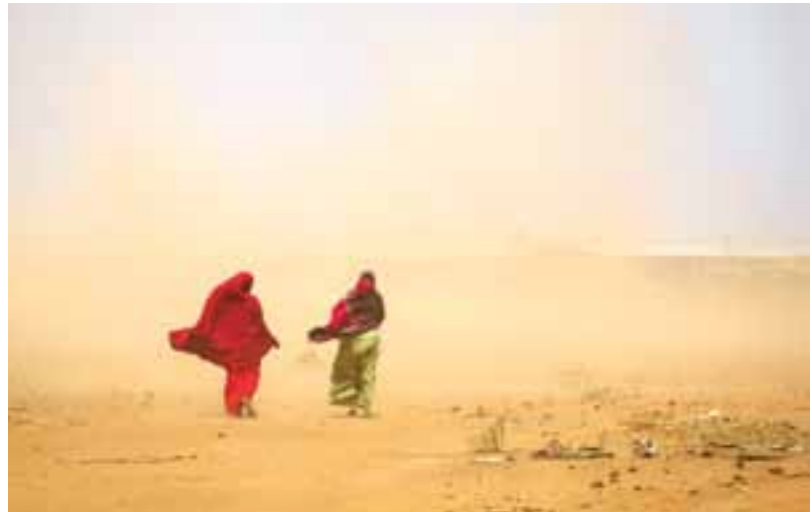
General audiences

- ✔ Health and well-being: Highlight how clean energy technologies deliver the energy that people need for household, business and industrial use, while also improving personal health and quality of life and tackling climate change, when they replace polluting alternatives.
- ✔ Saving money: Show how being more energy efficient almost always saves money – or pays back on the investment in the short term – and makes economic sense.
- ✔ Conserving habitats and ecosystem health: Some of the most cost-effective measures to mitigate climate change involve conserving forests and other carbon-rich land uses (including grasslands, seagrass meadows and mangroves). These measures do not just benefit the climate, they also have major benefits for ecosystems which may support rich biodiversity, tourism, fisheries and other aspects of local economies and people's well-being (see www.espa.ac.uk and select 'climate change' for more information).

Linking climate change accurately to extreme weather

When an extreme weather event such as heavy rainfall, a storm surge, heatwave or drought causes lots of damage, it inevitably hits the news headlines. This opens opportunities to communicate about climate change impacts with the public and with policymakers. Such events also open the door to speak about rebuilding damaged communities with greater climate resilience in mind. But in spite of the opportunity, there are some potential pitfalls to avoid – because climate change is not always to blame.

It is important for the sake of credibility and scientific accuracy to be careful how you link climate change and individual extreme events. First, it's not a given that climate change has 'caused' a single, extreme event. Weather varies naturally, even without the influence of human-induced climate change. Climate change refers to changes in patterns of minimum and



Drought conditions – UNICEF Ethiopia/Flickr

maximum temperatures and of rainfall, their timing, intensity and duration, and whether and how these patterns are shifting over 30-year timescales.

The good news for climate communicators and public understanding is that climate science is advancing. Scientists are now able to undertake ‘attribution analyses’ of individual extreme events, which allows them to determine the extent to which an extreme event has been made influenced by human-induced climate change (see Knowledge Builder: Extreme event attribution, right).

Even without such a fine-grained scientific analysis of an individual extreme weather event, there are other ways that communicators can talk about the increased likelihood of weather and climate extremes in the future, based on climate projections for a region.

For instance, the Intergovernmental Panel on Climate Change’s (IPCC) assessments have discussed how certain kinds of extreme events will become more or less likely to happen this century, in certain regions, compared to historic observations. Scientists can now say, for example, that in West Asia, by the end of the 21st century, a high daytime temperature that previously would have been observed only once in 20 years could start to occur every one or two years.¹³



Extreme event attribution

It is now possible to make quantitative statements about how human-induced climate change influences the likelihood of an extreme weather event. New methodologies, approaches and tools are being developed to improve our understanding of the impact of climate change on the likelihood and intensity of an individual extreme weather event. This emerging field of climate science is referred to as extreme event attribution.

Scientists use peer-reviewed methods, and a combination of observational data and climate models, to conduct extreme event attribution analyses.

Historical data is used to determine how likely an individual event is based on current climate records. Regional and global climate models are used to simulate worlds with and without climate change. These models allow scientists to isolate the climate change effect and can show where this has changed.

Scientists can now make statements such as this one on the Kenyan drought of 2016–17: ‘Trends indicated that the higher-than-usual temperatures could be the result of human-induced climate change, but that climate change did not have a strong influence on the lack of rainfall.’¹⁴

 <https://cdkn.org/resource/attributing-extreme-weather-events>

 <https://www.cdkn.org/climaterisk>

Partnerships for impact

Tackling climate change calls for bridging the science/policy/civil society gap. Effective communications and engagements contextualise people's lived experiences of climate change with scientific findings and analysis, so that they can make sense of the events around them. Effective engagements help scientists to 'ground-truth' their findings with people's experiences and – even more fundamentally – steer scientists' research toward answering the most pressing climate-related questions that shape people's lives. And finally, effective engagements catalyse action from the grassroots community level to the policy level. They help decision-makers to understand where new or updated policies are needed, whether policies are being implemented well, or where policies are working at cross-purposes to local innovation.

Crowdsourcing information to support climate action

Thanks to advances in technology and the falling costs of information technology, new opportunities now exist for crowdsourcing information about the impacts of climate change across developing countries. Often called 'citizen science', members of the public can help identify climate risks and spur democratic debate about adaptation and mitigation strategies.

Informing the community and engaging with them helps to capture and compile their relevant knowledge to address climate challenges. Once compiled, this often scattered information may often provide the basis for a government's strategy for climate-compatible development. To successfully gather and build on this knowledge, it is vital to engage the community in dialogue through events, workshops and information campaigns. In Belize, reliable data and information was scattered and difficult to acquire. WWF-Mesoamerica used locally available knowledge

Learn how to develop relationships with the people and organisations who will improve the content and reach of your climate communications.



Women meet to discuss climate risks, India – DFID

and data from socio-economic and ecological research, as well as from communities living in the cities and towns, to better understand how the interests of tourism could be reconciled with the protection of fragile coastal marine ecosystems. A key success of the initiative was the government of Belize's adoption of an integrated coastal zone management plan in February 2016.¹⁵ See also the stories on local people mapping flood risk in Brazil's Amazon River delta (page 58) and citizens defining Jamaica's climate vulnerability (page 58), both of which will be used as the basis for early warning systems to reduce the likelihood of future disasters. The InfoAmazonia Platform (page 58) uses citizens' data to highlight environmental abuses.

In Madurai, India, art and cultural events, as well as 'Water Walks' initiated by the Development of Humane Action (DHAN) Foundation, help the community learn more about the links between the river and their city. The 'Water Walks' also provide people with a platform to share their grievances, knowledge and solutions with the local government for reviving the river, which had become poorly managed and more liable to flooding in a changing climate (see case study: Water Walks in Madurai, page 54).

In Ghana, an imaginative outreach programme in schools first raised pupils' awareness of climate trends. Then a competition encouraged secondary pupils to put forward their own solutions for climate-resilient rural livelihoods – ideas which are now being considered by NGOs in the area for broader implementation (see case study: Pupils at the forefront of climate resilience in Ghana, pages 56–57).



Who can access information and communication technologies?

Information and communication technologies (ICTs) have great potential to involve citizens in pinpointing climate change-related problems and solutions, from data-gathering projects and citizen reporting to digital democracy initiatives, where governments invite public consultation on development plans via digital channels.

However, when embarking on a major data-gathering or consultative campaign, it pays to consider who has access to ICTs and which voices may be privileged through such a process. A recent report from the Web Foundation for the United Nations¹⁶ reveals that the rate of growth in internet access has slowed more than expected in recent years, and that rural populations and women are considerably underserved compared to city dwellers and men.

For this reason, communications initiatives in developing countries that rely on ICTs need to be carefully planned. Depending on the project's scope and initiative, you may need to make extra efforts to empower and involve under-represented groups.



Recording women's responses to climate-smart agriculture solutions – *Nicole Gross-Camp, ESPA*

Turning up the volume of voices that haven't been heard

Innovative forms of partnership and communication can empower women and other socially excluded groups to make their voices heard in broader climate-compatible development processes, and also empower them to access services (e.g. through ICTs) that were previously unavailable.

The initiative to involve communities in mapping urban climate risks in Lima, Peru (see page 52), is one example of putting ICT into the hands of local people to help them articulate and share their experiences of climate risk better, and contribute meaningfully to possible policy solutions.

Other approaches to amplifying the voices of under-represented groups include:

- creating radio broadcast slots for teenage and young women and other groups who are under-represented in public debates in rural India (see case study: Himalayan radio programme gives a voice to the most vulnerable, page 59);
- training rural women in the use of video cameras so that they can tell their stories directly to camera (see case study: Shining the spotlight on 'missing women' in India's climate action plans, page 60);
- using participatory theatre to challenge power structures and conceive of new and different solutions to climate vulnerabilities (see case study: Exploring new realities through participatory theatre, pages 62–63).

As well as such initiatives that intentionally provide a platform for under-represented voices, there are also opportunities to simply evaluate different groups' access to climate information and increase their access in the short term.

In Nepal, Local Initiatives for Biodiversity, Research and Development (LI-BIRD) engaged with key local institutions, such as farmers' groups and cooperatives, local forestry groups, women's groups and *Dalit* (lower caste) groups, to promote climate-smart agriculture approaches.¹⁷ They used these partnerships to communicate how climate-smart agriculture can involve less labour-intensive farming techniques and deliver more reliable crops than conventional approaches. Women and *Dalits* are now adopting these measures and improving their economic status.

A project to communicate weather and climate data in Namibia found that women were disadvantaged by their low literacy rates; they couldn't read the information distributed by mobile app. As a result, a CDKN-backed project supported the app developer to create a voice-recognition interface. The long-term solution is surely better access to education for girls and women, but this short-term solution is helping women farmers already.¹⁸

Mainstreaming climate messages

Climate change needs everyone's effort to tackle its effects and to limit global warming. That means working with partners in the 'mainstream'; teaming up with organisations, influential individual bloggers and spokespeople who are willing to talk about climate impacts and solutions and who are working outside environmental organisations.

A project to uncover the ingredients for successful local climate action, undertaken by CDKN and ICLEI, found that 'going beyond the environmental arena or public sphere to find partners often enriches the process of identifying appropriate solutions to climate-related challenges'¹⁹ (see case study: Unusual partners in Pakistan's industrial heartland, page 64).



Ideas for getting into the mainstream

A few of the tools and tactics CDKN has used successfully (among many others) include:

- advertorials and editorials on the benefits of investing in climate change adaptation and low-carbon economic growth in national news magazines in Colombia and Peru;
- 'write shops' with district planning officials in Indonesia to co-produce policy briefs on the business case for developing renewable energy; and
- case studies for business school students in Tamil Nadu, India.



Finding the community angle on climate impacts –
Mairi Dupar, ESPA

Exposing new angles and telling the human stories through investigative journalism

Journalists and their editors and producers are undoubtedly potential allies in raising public awareness on climate change and engendering well-informed debate and urgent action. Common myths and lazy story angles on climate change – like the discredited notion that there is a trade-off between jobs and the environment – are the enemy of civilised and productive debate.

Journalists in Africa, Asia, Latin America and the Caribbean have given the following reasons for why they sometimes struggle to publish high-profile climate change stories:²⁰

- Commercial pressures: Some editors fear that climate change stories won't sell papers or sell advertising. The onus is on reporters to find human interest and development angles (see the section on Framing, pages 14–23) that convince editors and audiences that climate change really is a story about people's lives and well-being – and about sustainable economies.²¹
- The perceived complexity of climate change as a subject: Especially five or ten years ago, climate change communications from the IPCC and other scientific bodies were dense and hard to follow. This has improved in recent years, and many more press statements, headline documents, videos and slides have become available from the IPCC that are accessible to laypeople – while also traceable back to their painstakingly referenced scientific text and proofs, for those who want to check.

- Some journalists say that there is a perception that climate change is an issue driven by interests in the Global North. The fact that historic greenhouse gas emissions were created overwhelmingly in industrialised countries makes some audiences in the Global South simply ‘shut off’ when the topic is raised, they say. The Paris Agreement on climate change moves beyond this position to recognise an overwhelming, global, political consensus for everyone to do their part and for rich countries to help pay for climate action in poorer countries. A more positive narrative, taken by many leaders for climate action in the Global South and picked up in the media, is to stress the competitiveness of economies that shed polluting fossil fuels and restructure economies toward low emissions. This storyline highlights how green jobs can be – and have been – created. (See also: Frame emissions reductions in terms of both poverty *and* climate change solutions, page 35).

Often, it takes in-the-field reporting for journalists to be able to uncover the compelling human interest stories that will illuminate a climate change event. CDKN, Future Climate for Africa, and other organisations have provided small targeted grants to journalists to enable them to travel out of their offices and tell such climate stories. See the case studies on investigative journalism in Latin America and Southern Africa (pages 64 and 65) for more on these partnerships.



Consulting communities on climate adaptation solutions –
Regional Institute for Population Studies, University of Ghana

Creative presentation

Data visualisation techniques can be tremendously powerful as a communications tool. Some of the ways that data visualisation has been used to great effect in the climate change arena are:

- Mapping changes in the climate itself over time (e.g. temperature, rainfall, sea level rise) and climate-related hazards (e.g. flooding) over time.
- Mapping exposure and vulnerability to climate change (e.g. poverty, sub-standard housing and infrastructure, crop vulnerability to climate changes and climate-related risks (e.g. food security risk, risk of incidence and spread of water-borne diseases, etc).

Mapping changes in the climate and climate-related hazards

Many reliable maps are now available showing, through colour keys, the warming of the whole world and of particular regions, countries and localities over historical time and into the future. Maps of projected warming show how different possible future scenarios might look, (i.e., how serious warming might be), depending on how much action we take to limit greenhouse gas emissions.

Time-series mapping is also a powerful tool to show historic and possible future changes in rainfall, temperature and sea level rise. As well as showing direct climate changes such as these, maps can also present climate-related hazards such as the incidence and severity of flooding or drought. Of course, these are not only functions of climate change but also a function of latitude, altitude/topography, underlying rock and soil composition, and ecosystem types.

Learn how to find or create your own visualisations of climate change-related information, which are often brilliant at attracting attention and deepening audiences' understanding of the issues.



Attributing extreme events to climate change –
A CDKN animation

Such maps are of wide interest and use at a global scale, and particularly useful to decision-makers at a river basin, national and sub-national scale. Visualisations of past, present and (projected) future climate-related hazards can create a potent tool for organising communities and motivating government and business to plan for adaptation action. Maps developed by scientists in Cartagena, Colombia, illustrated the intrusion of the sea onto Cartagena's historic quarter and tourist resort area by the 2040s. The maps were instrumental in convincing businesses to come to the negotiating table to discuss climate adaptation and its financing (see case study: Sea level maps convince businesses in Cartagena de las Indas, page 66).

Several CDKN-sponsored initiatives in Latin America and the Caribbean have successfully mapped areas at risk of flooding from extreme rainfall. These have been low-cost efforts; data about flooding has been captured on mobile apps by volunteers (citizens, researchers, students and local government workers). The main costs have been for scientists to quality check the data on a software platform and plot the data on maps. The potential benefits are high, as the data is helping to drive early warning systems that could help stakeholders avert future disasters. See the case studies on Jamaica and the Brazilian Amazon, page 58.

Skilful communicators have also shown how you can combine climate hazard maps with descriptions of solutions. A 'Nairobi story map' shows how water shortages will affect Kenya's capital city, as a result of both heavy consumption and erratic rainfall expected in the future.²² The problem is connected via a digital storyboard to an explanation of how reforesting upper watersheds can help to restore regular water flows to the lowlands.



Nairobi story map: exploring climate-related water stress and solutions



Maps of past and current climate change: free to access and use

A first stop for authoritative maps of how rainfall and temperature have changed historically the world over are the maps of the Intergovernmental Panel on Climate Change (IPCC, www.ipcc.ch) which assess and aggregate the latest peer-reviewed climate science. Each of the IPCC's assessment reports incorporates historic climate change maps and future climate projections into its Summary for Policy Makers. Each report offers graphic files under creative commons licence for download and reuse.

The Fifth Assessment Report maps and files are at:
<https://www.ipcc.ch/report/ar5>

The IPCC's Special Report on 1.5 °C of Global Warming (2018) provided updated maps, which may be obtained at:
<https://www.ipcc.ch/sr15>

A limitation with the maps is that they suggest a narrative of linear change and do not illustrate some of the 'tipping points' that scientists think may occur as a result of changes in earth's systems over decades. Such tipping points could include the irreversible melting of the Greenland and Antarctic ice sheets which would initiate hundreds of years' worth of further sea level rise. Tipping points are explained in the IPCC's Summaries for Policy Makers.

 www.ipcc.ch/reports

Mapping climate-related risks

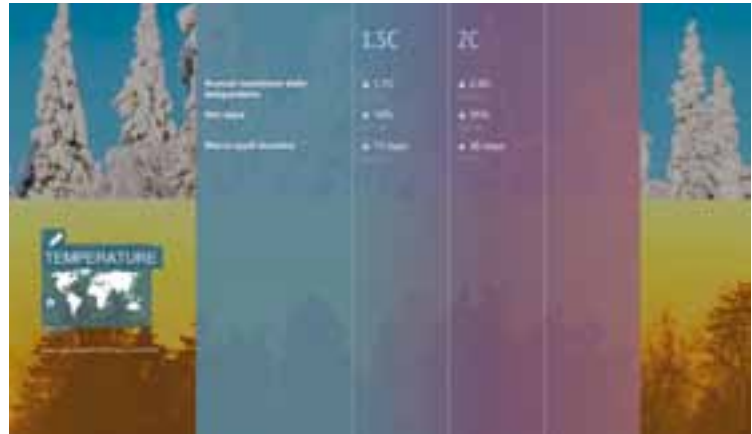
Mapping can be a useful tool to illustrate how different types of vulnerability to climate change impacts – including socio-economic, environmental and physical vulnerability – are distributed. Maps can help decision-makers to prioritise where resilience investments are most needed. For example, a recent product of CSIR has been a digital Greenbook (www.greenbook.co.za) which maps these different aspects of vulnerability for every local government authority area in South Africa, as a support to municipal decision-making.

Mapping is an effective way to illustrate the changing climate suitability of various wild species of plants, animals and crops, and the vulnerability of certain crops to climate change. A compelling example is the Carbon Brief interactive infographic showing the difference in impacts of 1.5°C versus 2°C of average global warming on nature, crops, economies and human health.²³ On a country level, data maps have been created to show how the climate suitability for key crops is likely to shift markedly in the decades ahead; these have been created to show shifts in coffee-growing conditions in 'coffee belt' countries.²⁴ The 'Surging Seas' tool developed by the World Weather Attribution Initiative and CDKN juxtaposes Bangladesh's population exposure with sea level rise, under different climate change scenarios (see case

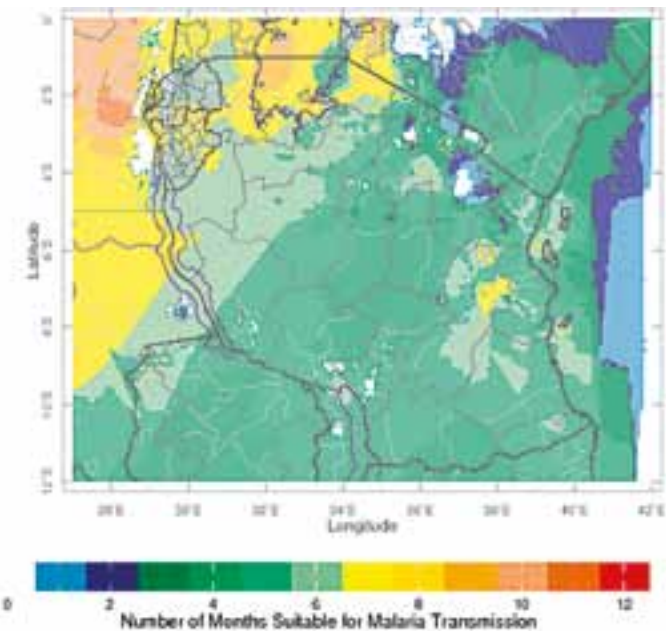
study, pages 68–69). Meanwhile, a data dashboard prepared by Prepdata for the Asian continent, the Indian subcontinent and even for individual Indian states, presents an overlay of climate-related hazards and vulnerabilities. Our case study describes how the mapping exercise has been part of the process of raising climate awareness among civil servants (see case study, page 70).

It is possible, and can be especially influential, to create risk maps for different sectoral risks. This provides an entry point for engaging sectoral audiences. For example, Enhancing National Climate Services (ENACTS) is an initiative to

- create a user-focused climate service that targets national and subnational decision-makers in Africa. ENACTS' flagship activity is the creation of online "maprooms", which present weather and climate information in user-friendly ways (see <http://www.iri.columbia.edu/resources/enacts>). These include bespoke online 'maprooms' to flag the risk factors for the incidence and spread of malaria in endemic countries. In Ethiopia and Tanzania this has helped officials to pinpoint which districts will be most exposed to the climatic conditions that foster the spread of malaria – and to better target malaria control measures.²⁵



Carbon Brief interactive infographic showing impacts of global warming at 1.5°C compared to 2°C (<https://interactive.carbonbrief.org/impacts-climate-change-one-point-five-degrees-two-degrees/>)



ENACTS project map shows when malaria risks are higher in Ethiopia's provinces.

Engaging with public policy and its implementation

Appealing across government

Climate change is a particularly thorny issue for policy design and implementation because its impacts and solutions affect so many aspects of society and the economy. In governmental terms, climate solutions call for coordination across ministries and departments, and across national, regional and local administrations. For examples of ‘across government’ approaches to championing climate policy, see case study: Climate campaign reaches across government in Kenya (page 71). Equally, policy-focused climate communications need to take into account ‘vertical integration’; harmony or alignment between high-level policies all the way down to local implementation – or vice versa, from local innovation all the way to high-level policies.

The power of witness

Testimonials from climate-affected people, as well as people on the forefront of solutions, are a powerful storytelling technique to illuminate climate impacts, risks and management techniques and to introduce audiences to practical management tools. If you invite climate-affected people or local leaders to give first-hand testimonies at a public event or on a media platform, ensure they have adequate briefing and support to perform at their best.

Video-based testimonials can be an important tool to substitute for face-to-face meetings. See, for example, the experiences documented in the case study on Bangladesh’s resilient migrants (page 48), which were screened for and discussed with policy-makers.

Learn how to apply the principles in this guide to engagements with government officials, and learn about specific tactics that have worked well.



Yolande Kakabadse, WWF President (right) and Manual Pulgar-Vidal (left), former Environment Minister of Peru, debate climate compatible development solutions for Latin America – Flickr

Witness trips, where affordable, are also important ways of breaking open new conversations with policy-makers. Whether these are based on climate-related disasters and the slow-onset impacts of climate change, or on positive solutions, witness trips can prove pivotal in unlocking new understanding, commitments and actions (see case study: What Nigeria learned from Ghana, page 75; and also the section in 'Getting the climate change framing right', pages 14–23, on the importance of demonstration projects).

Role plays put officials in the 'hot seat'

Role-playing games, in a small group environment, are a highly participatory way to stimulate decision-makers' thinking on climate-related risk. They are feasible with one small group or a large number of small groups in a shared learning space.

Dr Pablo Suarez of the Red Cross Red Crescent Climate Centre, who has pioneered the use of games to raise awareness and commitment to climate action among decision-makers, developed this method after what he calls many frustrating years of writing papers, which had more limited impact (see case study: Decision-makers switch on to seriously fun games, page 74).

Engaging with opposing views

Instigating climate protection measures intentionally is one thing. Undoing polluting policies or the financial incentives for polluting behaviour is another. Most governments are still subscribed to tax, subsidy, and other fiscal measures, as well as state investments, which actively support polluting developments such as coal-fired power stations and diesel-fuelled energy access. Strategically, campaigns to mobilise cross-government support for climate action need to aim at highlighting and dismantling harmful policies as well as promoting helpful policies.



Frame emissions reductions in terms of both poverty *and* climate change solutions

A word of caution: Withdrawing fossil fuels can have immediate public benefits, such as cleaner air, but could also cause economic damage to people on low incomes and living in poverty, whose energy access and livelihoods depend on fossil fuels and who cannot afford the alternatives. There are many proven, effective measures that can protect society's poorest from the withdrawal of unsustainable fossil fuels and help them make the switch to more sustainable alternatives. So any communication campaigns about decarbonising the economy and stamping out fossil fuel use need to be well informed by an analysis of who wins and who loses from climate-smart measures, and what steps governments can take to protect the poorest.



Communicate the ‘public goods’ and the ‘private goods’ created by cutting emissions

Taking on fossil fuel interests and the forces behind destructive deforestation and land use changes that drive climate change can involve communicating about the ‘public bads’ – as opposed to ‘public goods’ – created locally and nationally by greenhouse gas emissions. For example:

- Emissions data from polluting sectors and industries: This is typically collected and communicated by governments to the United Nations Framework Convention on Climate Change (UNFCCC) as part of their greenhouse gas inventories and so becomes a matter of public record. However, the robustness and reliability of the data for many developing countries still needs to be much improved.
- Evidence on the broader public health costs and public harm caused by climate-related emissions: For example, where researchers have gathered data on excess illness and death caused by air pollution.

However, another growing area of evidence is around the financial benefits to governments, companies and entire industry sectors of divesting from fossil fuels. The increasingly prominent financial debate around ‘stranded assets’ talks to the economic bottom line of investors, businesses and governments. It is not just a conversation of the industrialised world, either. Given the global nature of financial capital, the ‘stranded asset’ debate has far-reaching ramifications across developing countries. A recent initiative by Indian and UK researchers (see case study: Novel framing and analysis highlights India’s stranded assets, pages 72–73) shows how the government of India is going to great lengths to prop up coal power, working against the many forces that are otherwise ‘stranding’ these assets – but for how long?




‘Stranded assets’ as a framing for policy debate

A landmark 2013 report by the Carbon Tracker Initiative and Grantham Institute of the London School of Economics called *Wasted Capital and Stranded Assets* found that in the previous year, US\$674 billion had been invested in essentially ‘unburnable’ carbon.²⁶

A few years later, following the signing of the Paris Agreement, a study in *Nature* estimated that a third of oil reserves, half of gas reserves and more than 80% of known coal reserves would need to remain unused in order to meet the Paris Agreement’s global temperature targets. Sini Matikainen of Grantham explains:

‘The value of “stranded assets” might not be fully reflected in the value of companies that extract, distribute, or rely heavily on fossil fuels, which could result in a sudden drop if this risk were priced in.’

Other resources for communicators to understand the concept of stranded assets and to use the terminology appropriately include the Carbon Tracker guide.

 <https://www.carbontracker.org/terms/stranded-assets/>



Making good science go viral

It takes a bit of planning to produce high-quality, shareable materials on climate change science that will be influential and well used. And it takes a lot of careful consideration and creative thinking to tap into new knowledge markets and avoid overlap with existing initiatives. When you do, the results can be transformative.

CDKN took the key messages of the Intergovernmental Panel on Climate Change's *Fifth Assessment Report* and repackaged it in formats that development professionals and communicators find easy to use and share in their everyday work. CDKN's added value was to make this robust science easier for non-experts to access, apply to their work and share with others.

The IPCC communications toolkit focused on promoting evidence that is trustworthy and credible, so a key part of the programme was enlisting IPCC authors to fact-check all of CDKN's derivative materials before they were issued. The communications toolkit was extremely popular and continues to be well used; and it yielded lots of stories about how people are using the content in their daily work (see case study: An outreach programme for the IPCC's climate science, pages 76–77).

Meanwhile, an initiative in Nepal to boost awareness of climate change took off when a climate change centre offered students small grants for public education and a mobile public library, thus reaching people who had not been reached with good climate information before (see case study: Nepal's climate change centres diffuse climate knowledge at the grassroots, page 78).

Learn how to apply scientific rigour and communications best practice to your climate change content.



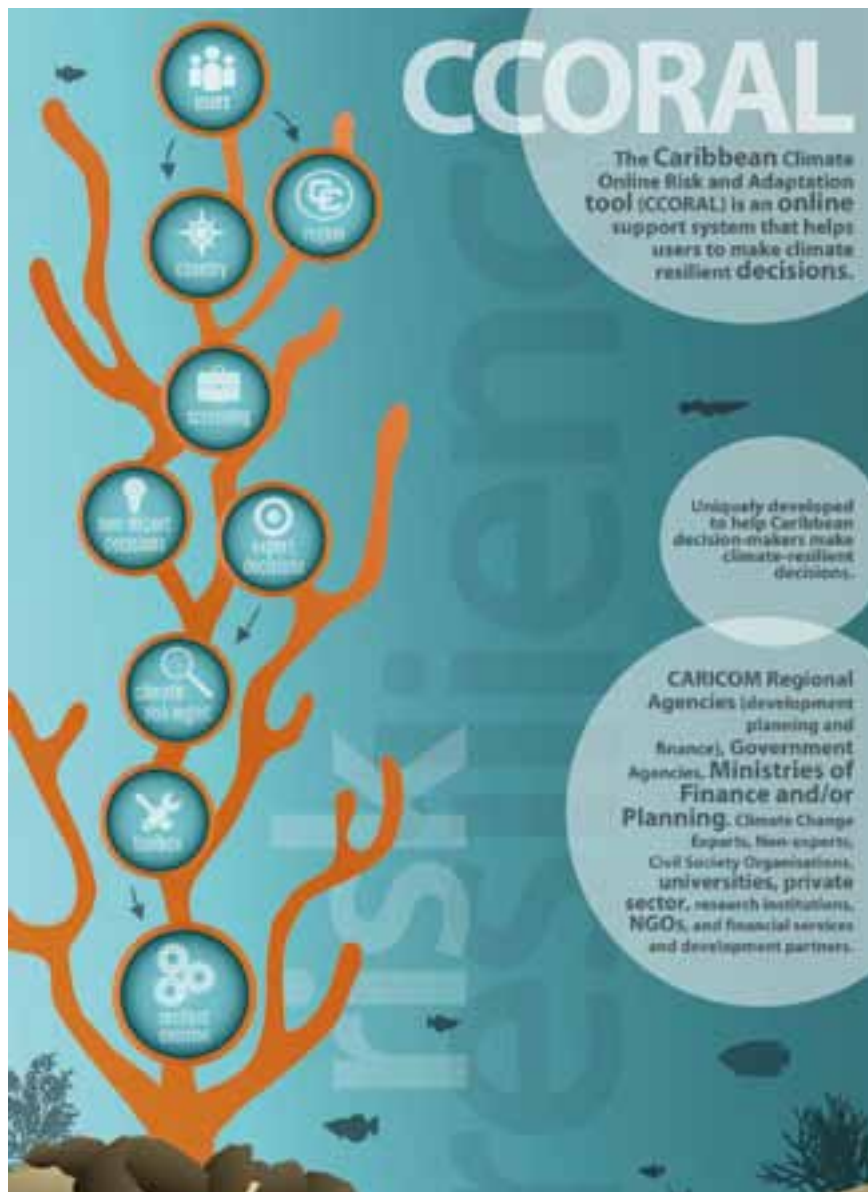
Future climate trends for South Asia – CDKN
(based on the IPCC's *Fifth Assessment Report*)



Making climate change content shareable

Think about how you can package your climate change content in small, bite-sized pieces that make it more likely that people will share it with others or incorporate it into their own presentations, papers and articles:

- ☑ Consider how to make complex concepts understandable at a glance – both through straightforward language and through infographics, with the help of a clever designer.
- ☑ Make individual image and infographic files available for download where possible, with clear instructions about how people can use them and who they must credit.
- ☑ Make your materials creative commons licenced, so that people know they are welcome to re-use them.²⁷



A range of eye-catching infographics has accompanied the promotion of The Caribbean Climate Online Risk and Adaptation Tool (CCORAL) – *Caribbean Community Climate Change Centre*

Walking the walk

It does not make sense to communicate about climate change and be part of the problem. Climate communicators can do much to avoid greenhouse gas emissions in the course of their work and still create impactful engagements.

Sometimes it has to do with the way a campaign is designed from the very start – and, of course, the budget available. Campaigns that can afford to mobilise many spokespeople in a *decentralised* way to engage others can be efficient and effective and potentially avoid emissions, compared to a centralised communications team reliant on core spokespeople who travel extensively.

Naturally, the rapid expansion of information and communication technologies (ICTs) has revolutionised the way that people can access climate information and the way that climate communicators can interact with information users. The previous generation of broadcast communications, such as radio, were one-way. ICTs enable two-way conversations, including digitally based peer-to-peer mentorship and knowledge exchange.

Learn how to communicate about climate change with large and dispersed audiences while minimising your own carbon footprint.



Studying global issues in school in India (top) – DFID;
Discussing climate-smart agriculture (bottom) – Nicole Gross-Camp, ESPA



Low-emission digital platforms that can support climate action

The following suggestions are about how ICTs can support virtual meetings, the strengthening of professional networks and the exchange of expertise on climate topics, and so replace expensive and environmentally damaging travel:

- Social media: While many individuals and organisations use ‘open’ social media posts for the principal purpose of announcing and promoting their content, CDKN and its partners have found that using closed (invitation-only) Facebook, WhatsApp and similar groups, where members know and trust each other, has been useful to nurture deeper, ongoing technical and strategic conversations about climate action.
- Webinars enable real-time interaction, where typically participants may pose questions to presenters in text or verbally. Recording webinars and making the recordings and associated publications widely accessible as ‘bundled’ resources afterwards is a good practice. For examples of webinar ‘bundles’ on low-emission development topics, see www.ledsgp.org/stories
- ScribbleLive, and similar functionality, provides a moderated way – again in real time, during an advertised window of time – for experts and practitioners to exchange ideas on specific discussion topics. Instead of relying on audio-visuals, this is a text-only interface. It has an advantage over Twitter debates insofar as it supports longer text comments (beyond Twitter’s 140 characters).
- Platforms such as Slack – again based on text – enable an invited group of people, located in a single office or a remotely dispersed group or network, to participate in one or multiple simultaneous conversations on topics of interest.
- E-learning platforms, including Massive Open Online Courses (MOOCs), allow course facilitators to take registered participants through a planned curriculum over several weeks to cover designated topics. This method supports learning and elicits comments and insights from students in remote areas.
- Livestreamed videos – via internet – of public events are a well-established technology and are supported by an increasing array of platforms. In late 2018, the scale of ambition for remote participation in mass events reached a new high with the Climate Vulnerable Forum’s 2018 Virtual Conference.

 www.virtualclimatesummit.org

As a diversity of digitally-supported platforms has blossomed, the popularity of different social media and digital channels has varied considerably by country, region and age group. For example, in some countries, LinkedIn is the best way to connect with mid-career and senior climate professionals; in other countries, it is Facebook.

For audiences more broadly, access to social media and digital platforms is, of course, limited by internet and mobile infrastructure in an area, or a person's or household's wealth. It can also be limited by social and cultural norms, which may, for instance, limit access by women²⁸ (see also the section Turning up the volume of voices that haven't been heard, pages 26–27).

What is certain is that ICTs offer tremendous potential for extending conversations and building momentum on climate action in the years to come. The degree to which ICTs do this effectively and inclusively will depend in part on the inclusivity of development as a whole.

The effectiveness of ICTs will also depend on the roles to be played by the facilitators and curators of climate knowledge – the 'climate knowledge brokers' – to create useful, relevant platforms. Their task is to make tailored, timely information on the fast-moving and complex subject of climate change more accessible and navigable in a growing ocean of climate information.



Graphic harvest from discussions at the 'Development and Climate Days' 2018 – IIED




1 BRINGING IT ALL TOGETHER: Integrated communications and engagement on climate change and gender issues

CDKN's 2016–17 gender and climate action campaign is a case study of how CDKN applied the following fundamentals of an integrated communications strategy to a climate and development issue:

- Establish a clear objective and overarching purpose: We wanted to demonstrate how women's empowerment is integral to effective climate action. Our overarching purpose was driven by new and compelling evidence on the links between women's leadership and better outcomes for climate-resilient development, emerging from research in Peru, Kenya and India.
- Identify key audiences: We identified a wide range of audiences. We saw that development programme managers (including NGOs and civil society organisations), funding agencies, researchers, academics and decision-makers at all levels of government, as well as media and 'influencers', could all benefit from the new evidence and be part of the solution. We wanted to reach these audiences in the research countries (Peru, Kenya and India) as well as international audiences who could learn from this important experience and apply the principles elsewhere.
- Select outreach channels and frame messages specifically for different audience groups: We recognised that development audiences who were already quite strong on gender mainstreaming may need engagement on the climate aspects of the research, while climate policy-orientated audiences may need special engagement on the gender mainstreaming aspects. As a consequence, our exhibitions and event presentations targeted:
 - development stakeholders for whom the intersection of gender and climate issues would be new and interesting, e.g. Habitat III conference; Resilient Cities Congress
 - climate policy stakeholders for whom the gender mainstreaming recommendations would be especially important, e.g. the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties; Global Green Growth Week.
- Craft communications products and services appropriate to different audiences' levels of technical understanding and time availability, and in multiple formats, to suit people's different needs and preferences, to suit people's different needs and preferences, as follows:

1. We produced an authoritative series of research reports, principally for academic audiences. Each country report was a 60- to 120-minute read and was written as a reference guide with a full explanation of our results and methodologies.
2. We produced the report *10 things to know: Gender equality and achieving climate goals* to make international findings more readily accessible to programme managers and busy executives, as well as country-by-country policy briefs to support conversations with national audiences in each of the study countries.
3. We translated policy briefs into Spanish and French, to reach wider audiences.
4. We delivered webinars, led by research experts, to invite universal engagement from the international development community.
5. We created a slide pack with notes to empower everyone on the CDKN team, from chief executive to programme officer, to deliver the key messages with confidence.
6. We mounted a social media campaign in partnership with the research partners to drive digital traffic to the online resources.



 <https://cdkn.org/gender-equality-climate-compatible-development/>



2 SRI LANKA: Highlighting coral reefs as an economic and cultural icon at risk of climate change

In Sri Lanka, warming seas are negatively affecting the country's coral reefs, with implications for the important tourist industry. This message provided a strong wake-up call to government decision-makers. In a short video interview, Buddika Hemashantha explains how this issue became one of the driving forces for Sri Lanka's low-emission, climate-resilient development strategies.

 <https://ledsgp.org/2018/09/leds-gp-voices-mainstream-low-emission-development/>



Sri Lankan coral reef – iStock

3 UGANDA: Economic framing: Comparing the costs and benefits of early climate action with inaction

A series of reports published by CDKN and its partners in 2015 – accompanied by films, press releases, a colourful brochure and outreach events – made the case that immediate investments in adaptation action would cost Uganda 1/20th of the price tag than if the government waited ten years, until 2025, to take action.²⁹

 <https://cdkn.org/regions/uganda/>



The people of Uganda and the country's main economic sectors, such as agriculture, are highly vulnerable to climate change – *Mountain Partnership*



4 KENYA: Showing that responding to climate change is not bad for business

In 2014, CDKN supported the Kenya Private Sector Alliance (KEPSA) in communicating climate change to the private sector. The International Institute for Sustainable Development (IISD) conducted a detailed analysis on the implications of climate change for five Kenyan business sectors – including tourism, agro-processing and manufacturing – and developed briefing notes for KEPSA on ‘Climate Change and Your Business’.

The communications products showed that responding to climate change could be good for the bottom line and create opportunities for the private sector, such as new products and services in response to new market demands created by climate change.

Kenyan businesses could take advantage by becoming leaders in sustainability and creating a positive, climate-friendly image for their companies. It was shown how Kenyan firms are producing and distributing energy-efficient products such as improved cooking stoves and efficient lights, sustainable energy technologies such as solar and wind, and mobile phone applications that enable farmers to access insurance products and make successful claims.³⁰



Kenya’s cut flower industry –
Felix Masi

5 VIETNAM: The power of demonstration: Typhoon-resilient housing

In Da Nang, Vietnam, 244 houses were built using ‘climate-adapted’ design principles developed by a CDKN-supported project by The Institute for Social and Environmental Transition-International (ISET-International).

In 2013, Typhoon Nari made landfall in Da Nang, putting the houses to a severe test. All 244 houses remained intact while numerous households around them suffered heavy damage. Convinced by the visible evidence of disaster resilience, the Da Nang city government has decided to integrate climate resilience into their building policy.³¹



Flood-resilient housing, Vietnam – *Chris Goldberg*



6 BANGLADESH: Documentary film supports debates on climate migrants' rights



Flooding in Bangladesh's delta region forces some residents to migrate seasonally or permanently – *UK Department for International Development*

In Bangladesh's delta region, the intrusion of sea water from rising sea levels is having a negative impact on farming. It is becoming more difficult for farmers to grow enough to eat, let alone sell their produce for a living. Individuals and families have begun migrating in response to environmental pressure. Some migrate seasonally to jobs in inland cities and send remittances back to their families in the rural areas; others uproot their families permanently.

In this context, migration can mean many things, and it is not necessarily a disaster; it can be an effective strategy for coping with climate change. The documentary film *Living on the Go* followed researchers into the delta to hear the climate migrants' stories first hand. The film also followed migrants to the cities to uncover some of the gaps in labour rights and protections that they encountered there. By providing this evocative insight, the film has supported public policy debates on the circumstances of Bangladesh's climate migrants, both nationally and internationally.³² It was screened to Bangladesh government decision-makers and international donors at policy roundtables in the capital, Dhaka, and screened for global audiences at the Paris Climate Summit in 2015.

7 BUSINESS: Framing the benefits of climate action for business

Businesses want to hear about climate change in their language. They want to focus on risks they must manage and opportunities they may exploit to shore up their business development.

One initiative sought to present the science in the IPCC's *Fifth Assessment Report* so that it was in the language of business and presented actionable recommendations for businesses.³³ For example, a briefing note, slide pack and infographic looked at the emissions-savings potential of buildings. It showed how measures to tackle climate change would deliver major benefits for building owners and managers and others in the construction sector:

“The buildings sector offers near-term, highly cost-effective opportunities to curb energy-demand growth rates ... In 2010, the world's buildings accounted for 32% of global final energy use and 19% of all greenhouse gas emissions. Widespread implementation of best practices and technologies could see energy use in buildings stabilise or even fall by 2050.”

This initiative was careful to frame climate mitigation actions in terms of the financial benefits and economic security they would deliver for companies:

- Mitigation options offer multiple co-benefits:
 - Higher asset values
 - Lower energy bills
 - More jobs
 - Improved energy security
 - Improved productivity of commercial building occupants
 - Better living and working conditions for owners and tenants³⁴



Infographic for business audiences – CISL, WBCSD, BIE, GBPN



8 RWANDA: Resilience in the tea and coffee sectors: Smart solutions with wider application



Tea plantations like this one may need to become more climate resilient – *World Bank*

By their very nature, tea and coffee crops are vulnerable to climate variability and change. They grow in subtropical to temperate, wet conditions, but the plants can be damaged by unseasonably heavy rains, or harmed by pests and diseases that spread in a changing climate.

The government of Rwanda has been relying on a major expansion of the country's tea- and coffee-growing areas to drive future economic and social development. Climate change puts these plans at risk, but there are many wise steps that government and industry leaders can take to protect crops from current climate variability and manage climate-related risks in the future.

In a policy brief and a compelling film, the Future Climate for Africa (FCFA) programme documented some of the smart measures that farmers and estate managers can take to safeguard tea and coffee crops and local livelihoods, in the short to medium term.

The brief and film present a pragmatic approach to climate-proof tea and coffee sector plans from the early design stage, through implementation and project finance. The approach, developed by Paul Watkiss and the Tea and Coffee Climate Mainstreaming Project, in association with the Government of Rwanda, holds promise for Rwanda but also offers lessons to tea and coffee regions elsewhere in the world.³⁵

 <https://youtu.be/QAI18ao1XiU>



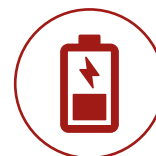
9 PERU: The 'demonstration effect' from one business to another in the energy sector

A project to promote greater energy efficiency and emissions savings by Peruvian businesses started with technical studies on how to save energy in selected companies and followed with a business-to-business outreach programme. The project:

- Identified and assessed energy efficiency opportunities for seven companies in Peru, by carrying out reviews of the operations and procedures, and developing strategies to implement change.
- Built the capacity of specialist energy consultants in Peru, e.g. to carry out energy audits and develop business cases to cut energy use.
- Piloted an energy efficiency workshop for groups of small and medium enterprises (SMEs) to help them manage their energy demands and identify savings. The pilot targeted groups of SMEs that are either suppliers or customers of larger corporates, and was designed to be replicable.
- Disseminated the results nationally to the Peruvian private sector, in business language, and also presented the results at the World Climate Summit (a business-led event held in association with the UNFCCC Conference of Parties).

An easy-to-use summary of the firms' energy saving opportunities offers practical pointers, such as, for example, how unblocking air conditioning filters and condensers can increase the performance of appliances. Not only are such solutions useful for the businesses that received the energy audits, but they are relevant for other businesses in Peru and the developing world.³⁶

By showing businesses what was possible, based on their peers' experience, the project encouraged higher ambitions for energy efficiency in Peru and beyond.



Energy management

.....



Data availability

.....



Operational maintenance

.....



Staff engagement and awareness

The project highlighted these operational energy management opportunities for Peruvian businesses – *Carbon Trust*



10 PERU: Making the 'invisible' visible by mapping climate risks in Lima



Researcher monitors community's climate risks –
cLIMA sin Riesgo project

According to the action research team that pioneered the cLIMA sin Riesgo (Climate without risk) project, collaborative mapping is a vital tool to capture spatially the natural and man-made conditions that shape people's different aspects of vulnerability. The project team explains that they have worked with public agencies in Lima's low-income neighbourhoods and directly with many residents to undertake 'the collection and analysis of spatialised quantitative and qualitative data, its visualisation and communication in an accessible way, as well as the development of evidence-based tools for discussion at policy level. Additionally, mapping provides a basis to enable the design of co-produced interventions, contributing to the creation of synergies between climate compatible development, the management of the urban territory and the prevention of risk.'⁴⁰

Among these tools, there are maps created with the help of drones, 3D representations of the areas studied, methods for community-led data gathering and monitoring using applications on smartphones, and methods of visualising that information online. Having reassessed the contributions of this research each year, and created a consolidated legacy from the experience in Lima through cLIMA sin Riesgo, these tools have been deployed in Freetown in Sierra Leone and also in Karonga in Malawi under a project entitled Urban ARK. The aim is to continue consolidating and expanding the application of mapping tools and processes that have the capacity to change lives.

 <https://climasinriesgo.net/>



11 BRAZIL: Local people map flood risk in Amazon delta

An action research project, 'Medios de Vida', in the Amazon delta aimed to monitor, measure and support local action to adapt to climate-related risks, such as flooding. The project developed a mobile phone application, *AquiAlaga* ('it floods here'), to enable citizens to collect data on flooding from excessive rainfall and tidal surges. The citizen science effort became pivotal in creating an evidence base of risks, nurturing local understanding of climate-related problems, and informing public policy.

• The design of the app was carried out in a participatory manner, with representatives from various [local government] secretariats and other organisations giving their opinion on what the app should be used for, how it should be used, and what information would be the most relevant. •

– Maria Jose Pacha, Knowledge Coordinator of the Climate Resilient Cities which formed part of this initiative.

Initial road-testing of the app also highlighted ways to optimise its accessibility to local people, and therefore increase its use.

- The app was at first difficult to download and complex to use, and it was converted into a simpler system that was easy to download.
- The app originally functioned only when users were connected to the internet; it was modified so that it could still be used off-line.
- The app was first linked directly to a database, which enabled some users to delete data accidentally and when they did so, the whole app broke down for all users; this linkage was subsequently removed and a new protocol was adopted for updating the database.

The project then worked with the Brazilian Ministry of Defence to convert part of its website, the *Management and Operational Centre of the Amazon Protection System*, into a user-friendly app. Now an early-alert system for dangerous weather and hydrological events is widely accessible to the public via the Ministry.

 <https://crclatam.net/proyectos/medios-de-vida-y-resiliencia.html>



12 INDIA: Inspiration from the 'bottom up': Water Walks in Madurai

The city of Madurai in Tamil Nadu, southern India, is struggling to adapt to a complicated set of development risks, made worse by climate change.

Madurai developed as a collection of villages on the banks between the main river Vaigai and the minor river Kiruthumal. As the population grew and the city developed, the river served the needs of the inhabitants for bathing, washing and agriculture, as well as for cultural life and religious ritual. It also served the important role of high-quality groundwater recharge and as a flood carrier.

Until the 1970s, the Kiruthumal River flowed full throughout the entire year. With a bed width of between 20 to 50 feet, it supplied an intricate network of water tanks and canals. The remnants of the old villages can be seen along the river, and many of the historically important temples were surrounded by wide and full water tanks.

However, the pattern of development in Madurai during the late 20th and 21st century has significantly affected the quality of the Kiruthumal River and its ability to serve the needs of inhabitants. This essential 'blue-green infrastructure' is now severely disrupted by urban development encroaching onto the river, blocking of channels and the concreting of the river bed.

A toxic mix of plastic and industrial waste clogs the flow and chokes cattle to death, and many of the historically and functionally important tanks are now completely dry. Yet

families, often housed in informal settlements, still depend on the river for agriculture, animal husbandry, drinking water and sanitation. Their vulnerability is significantly multiplied by their dependence on the river and they are disproportionately impacted by its degradation.

The Future Proofing Cities India project, led by Atkins with the Development Planning Unit of the University College London, the Indian Institute of Human Settlement (IIHS) and the DHAN Foundation, examined rapid urban growth in Madurai with the aim of developing strategies for sustainable development and resource scarcities, while reducing multi-dimensional poverty.

The project began with a diagnostic of the city's risks and vulnerabilities to climate change and then involved an action planning phase: moving beyond expert-dominated top-down solutions, towards co-production of knowledge and solutions with a wide range of local stakeholders.

During fieldwork, an innovative new way of understanding and finding solutions to the complicated risks facing the river emerged. The fieldwork included a series of conducted tours along the river corridor. More than 50 participants, including journalists, officials, academics and activists, toured 15 km of the corridor. These 'Water Walks' brought these decision-makers face to face with life as it is lived close to the river: how sewage frequently contaminates the drinking water; how the foul smell



makes houses unpleasant for residents and visitors; how residents often need to wade through waste water during flooding incidents; the prevalence of diseases such as diarrhoea and skin infections; the infestation of mosquitoes, fleas, rodents and snakes; and the systemic causes of the degradation.

By bringing people from the community and institutions together to focus on the lived experience of the degraded river corridor, the Water Walk rapidly became not just a means of documenting impacts and vulnerability, but also a forum for interaction and deliberation. It was true action-planning in action. Ideas generated during the Water Walk were then explored in the multi-stakeholder workshops that followed. The Water Walk, initiated by the project, has already left an enduring impact.

An evocative film on the state of the river and its impact on inhabitants was also created by the architect Balaji. This artistic response to the river as experienced during the Water Walk further stimulated creative solutions to the current state of the river, building resilience for those who live in the corridor.

This led to the emergence of collective action planning, bringing together diverse viewpoints and lived realities and generating an awareness of the interactions between the disrupted water system, the poor sewage system, the lack of effective waste collection and disposal, the water scarcity and flooding.

The Water Walks have been a catalyst for the growing social movement in Madurai, and they are now a regular occurrence. The Water Walks, and the problems that are documented, are frequently reported in the local media as part of the growing river restoration advocacy campaign. There are a growing number of social groups who gather to clean up and protect water tanks and channels, such as “Wake up Madurai”, a volunteer collective who work selflessly to help conserve water bodies.’

*Excerpted directly from 'Water Walks in Madurai',
authored by Elizabeth Gogoi.³⁷*

 <https://cdkn.org/2014/02/feature-water-walks-in-madurai>



Residents of Madurai discuss ways to clean up the river and restore green-blue infrastructure during a water walk – DHAN Foundation



13 GHANA: Pupils at the forefront of developing climate resilience



Project stakeholders discuss climate solutions – ASSAR (Adaptation at Scale in Semi-Arid Regions) project

- In the Upper West region of Ghana, dry spells are becoming more frequent as a result of climate change, and are affecting farming, the primary livelihood in the area.

In this region, the Adaptation at Scale in Semi-Arid Regions (ASSAR) project has focused on building community members' resilience for food security by developing knowledge and capacity in the Lawra and Nandom districts. The project used a Transformative Scenario Planning (TSP) model³⁸ to envisage the future of agriculture and food security in the Upper West region. TSP workshops brought a diverse range of stakeholders together, who identified that disaster risk reduction, ecosystem management, sustainable food and livelihood adaptation, improved market systems and climate smart water management would be key to the region's water security to 2035. The project designed capacity building and communications activities around each strategic area, to work with target audiences and vulnerable groups according to their needs; this included teenagers in Lawra and Nandom Districts.

An ASSAR Small Opportunities Grant (SOG) was used to develop a competition for senior high schools to raise awareness about local climate and environmental challenges, and promote the development of solutions by students. The Climate Change Adaptation Through Youth Innovation (CATYI) competition promoted dialogue and information exchange among students and enhanced their capacity to identify and communicate local adaptation issues.

The ASSAR team first toured senior high schools in the region to raise awareness about climate and sustainability issues, then invited students to form teams and submit solutions to address the five strategic challenge areas. A total of six teams from Birifoh, Lawra and Nandom Senior High Schools were selected to make oral presentations in the finals. Judges selected the winners as follows:

- *Save the forest* (ecosystem management) by the Pundits Team (Nandom Senior High School)
- *Assisting women to establish woodlots for fuelwood* (ecosystem management) by the Tierebio Fuelwood Growers Team (Lawra Senior High School)
- *Extraction and improvement of groundnut oil and cakes (kulikuli)* (sustainable livelihood empowerment) by the Mwinnebangfo Team (Lawra Senior High School).

The competing schools received cash prizes, educational materials and certificates. The ultimate winners, the team from Nandom Senior High School, won a three-day trip to the capital city, Accra, which featured visits with the University of Ghana and key national institutions, including the Ministry of Environment Science Technology and Innovation (MESTI) and environmental NGOs. 9

Excerpted from Ansah, P. and Scodanibbio, L. (2019).³⁹



Project stakeholders discuss climate solutions – ASSAR



14 JAMAICA: Citizens define climate vulnerability

An initiative by the University of the West Indies helped communities to understand the risks of current weather patterns and future climate change in their watersheds. The project team initially trained technical staff from different stakeholder organisations in Jamaica to use a mobile data app to collect disaster data, and particularly to document how flooding is affecting communities. They followed this up by training local parish disaster coordinators and community representatives to use the app.

After an initial briefing, participants headed out to the field to practise collecting data on the app, then returned to the lab and uploaded and organised their data on an online platform. Data on the CARISKA platform involves GIS databases (parish, river, road, flood location, critical infrastructure and hazard maps) as well as different map layers to display. Course participants helped to populate all these data categories.



Jamaican inland flooding – iStockphoto

The outreach initiative has helped communities to understand where flooding risks are currently most acute. When they compare the present-day situation with the projections for future rainfall and sea level rise, they can assess whether extra flood resilience efforts will be needed.⁴¹

 <http://cariska.mona.uwi.edu/>

15 AMAZON BASIN: Citizen journalism in Amazonia

InfoAmazonia provides timely news and reports on the endangered Amazon region. Using Google Earth software, the project has created an interactive map of the Amazon Basin that contains layers of information combining satellite images, news, information and multimedia reports about climate and development from both professional and citizen journalists. The map features information and stories that have helped the public and policy advocacy groups accurately report and respond to the region's need to combat forest fires and deforestation, adapt to environmental change and build a sustainable economy. InfoAmazonia actively encourages the public to submit data and stories through the GeoJournalism platform. <https://n.openearth.net/#submit>.

 <https://infoamazonia.org/en/>



InfoAmazonia platform



16 INDIA: Himalayan radio programme gives a voice to the most vulnerable

“In some of the most arid parts of India, isolated communities that depend directly on their immediate environment for food and livelihoods are experiencing the worst impacts of climate change. Farmers are observing long-term changes in their local climate patterns, winter and summer weather has become more erratic, and extreme events such as flash floods and droughts are more frequent and intense. Although local communities are well aware of these changes, they see them as either aberrations or consequences of land use changes and environmental degradation.”

A Sustainable Environment and Ecological Development Society (SEEDS)-CDKN project looked at what kinds of local multi-stakeholder platforms could stimulate action on disaster risk reduction and adaptation, both within and outside of their communities.

“In Barmer, Rajasthan, SEEDS helped start a community radio programme with a local NGO called Unnati. Malnutrition, illiteracy, child marriage and abuse are very high among adolescent girls in western Rajasthan, where the Human Development Index for women and female children is among the lowest in the world. Unnati trained a group of local adolescent girls from a highly vulnerable and marginalised community to develop, edit and broadcast ten radio programmes of 15 minutes each on climate change and disaster-related issues facing western Rajasthan. The twice-weekly programme covered a range of topics on climate change, disasters, local adaptation and risk-reduction solutions, and government policies, and included expert interviews and some cultural entertainment. The radio programmes were broadcast from 2013–14. A huge success, the broadcasts helped communities express their views on development decision-making and connect with policymakers through interviews. Also, they brought cutting-edge research outputs and information directly from experts to local communities, and vice-versa.”

Excerpted directly from Sharma, S., Chauhan, S. and Kumar, S. (2014).⁴²



Weather station results reported by community in Leh, India – SEEDS India



17 INDIA: Shining the spotlight on 'missing women' in climate action plans



Agricultural work in rural India – Elizabeth Gogoi



Marketing produce, India – Elizabeth Gogoi

India's economy is predominantly agrarian and increasingly female dominated. About 80% of all economically active women are employed by the agricultural sector. As men migrate to urban areas for employment opportunities, partly because farming is now a riskier business, the women are staying behind and keeping homes and farms afloat.

According to the government's own assessment, the agriculture sector is facing serious risks due to the current impacts of climate change: increasing temperatures, erratic rainfall patterns and a higher number and severity of floods, droughts and cyclones. A number of studies project that, unless India adapts to the impacts of climate change, there is a probability of 10–40% loss in crop production in India by 2080–2100 due to global warming. Economic growth, food security and the fight against poverty stand to lose.

'Women are at the front line of these impacts, not only due to their involvement in the agriculture sector, but also because they face the burden of the household tasks such as fetching water, fuel wood and fodder.'



CDKN commissioned a film from Indian filmmaker Krishnendu Bose to document women's concerns and opportunities to incorporate climate resilience into farming practice – and especially to investigate how State Climate Change Action Plans could be more 'gender aware'.

Instead of simply recording rural women, Dr Bose and his team at Earthrights embarked on a project to train women farmers in the use of the video equipment and record their own views. They gained the trust of a group of local women in the hill state of Uttarakhand and trained them in basic filmmaking techniques. The Nayi women then told their story about how women can be leaders in the fight against climate change.

The women have benefited from a state government initiative to set up *panchayats* (forest community governments), which bring together forest department officers and villages to jointly manage village forests. A third of the members of the executive committee, and half of the general body members, are mandated to be women.

'In 2005, after the policy came in, we together with the *panchayat* (village government) and *sarpanch* (village leaders) made our own rules and regulations ... cutting grass would be 500 INR fine (GBP 5) ... chopping green

leaves, 100 INR fine (GBP 1) ... and the defaulting person deposits her sickle, and we auction it. This way, we women protected our forest.'

The women have also formed a cooperative, taking knowledge from local NGOs, and gather dry leaves to use for organic farming. The products are then shared within the community, contributing to food security. At the same time, they are bringing to life traditional farming practices as they have seen how commercial farming has been affected by climate change. These strong, proactive women are taking charge of their community.

'The 2005 rule said that a woman could become the *sarpanch* (village leader). The men protested against this. But a woman *sarpanch* was elected. This is good for the forest. And we women benefit from it. Now even men have started supporting us.'

Their message to the government is that this is just the first step. For true empowerment, other power hierarchies must be tackled, such as providing women with land ownership. Enhancing such capacities will help women, as well as the rest of their communities, cope and better adapt to climate change and fight environmental degradation.⁴³

Excerpted from Gogoi, E. (2015).



18 ALL: Exploring new climate realities through participatory theatre



Theatre of the oppressed performance in South Africa –
Daniel Morchain, Oxfam

• The use of participatory theatre (or ‘Theatre of the Oppressed’ – TO) as a transformative social learning tool has proven to be a highly effective yet underappreciated mechanism for knowledge co-production, empowerment and communication. In contrast with top-down approaches, TO creates supportive environments where people from diverse backgrounds come together to experience, understand, analyse and challenge unjust realities.

The TO is a methodology conceptualised by Augusto Boal in the 1970s, where the audience has an opportunity to walk into the play as ‘spect-actors’ (spectators who become actors) and change the outcome of the story being told. They do so by bringing their values and priorities into it, effectively shifting a given narrative from a situation where only the dominating views are welcomed and where only business-as-usual solutions are pursued, to one where a vision of just, liberatory and hopeful futures is possible and encouraged.



In research, just as in development practice, TO can help validate the relevance of transdisciplinary processes by promoting an equal appreciation of different sources of knowledge and facilitating their integration.

TO sessions can be run as follows: Start by performing the play, ideally based on a script that specifically addresses the interests of the audience. After a brief reflection of what the audience has just experienced, a re-enactment of the play follows, only this time spectators become 'spect-actors' and interact with the 'real' actors on stage. The actors will now have to improvise, based on the new information that the 'spect-actors' bring to the story. In doing so, everyone contributes to reshaping the story being told and questions its assumptions. This new narrative, being produced in real time, will offer glimpses as to what needs to be done differently, and what voices need to be brought to the fore, in order to address the challenges presented in the play. The TO session can then conclude with group discussions and/or plenary feedback.

Theatre of the Oppressed helps us engage with and communicate issues as complex as climate change primarily as humans, before we engage as technical experts, as stakeholders bound by the roles we play in our organisations, or as individuals restrained by established structures and social norms.

'This was a great way of landing a message that we have seemingly struggled to get across using other methods. The session grabbed your attention and involved the audience actively, bringing out participants' own views and passion to find ways of moving the issue forward. It certainly had an impact!'

Ken De Souza, Research Manager, Climate, Energy and Water Research Team, Research and Evidence Division, DFID.⁴⁴

Excerpted from Morchain, D. and Bosworth, B. (2019).⁴⁵



19 PAKISTAN: Unusual partners for climate action in Pakistan's industrial heartland

In the burgeoning industrial centre of Sialkot, Pakistan, climate champions Ecofys and PITCO found a strong partner in the Sialkot Chamber of Commerce and Industry, which gave them an entry point to its membership of industry associations. This partnership allowed them to communicate the potential of renewable energy sources to representatives of most small and medium companies in the area. The chamber agreed to proceed with developing photovoltaic solar collectors, which will be a cost-efficient, reliable and very low-carbon option for ensuring regular power supply, compared to diesel alternatives.⁴⁶



Medium-sized business in Pakistan – Shutterstock

20 SOUTHERN AFRICA: Journalist training makes important connections

CDKN and the Republic of South Africa's Department of Environmental Affairs trained journalists from Zimbabwe, Mozambique, Zambia, Malawi and South Africa on the key messages from the IPCC's *Fifth Assessment Report* (AR5), and a government official provided South Africa's official response. This filled an important gap.

“There is a lack of resources and funding to adequately pursue in-depth stories on climate change.”

Organiser Claire Mathieson noted that small, targeted amounts of funding can make all the difference in enabling journalists to get out and cover stories that would not happen otherwise. She added:

“While the IPCC's *Fifth Assessment Report* was not necessarily “news” – as it was published months prior to the training and outreach events – the speakers could be quoted and their views were story-worthy and often heard for the first time. Journalists found feel-good stories to be better received than doom and gloom pieces. Sharing story ideas on these angles was invaluable.”⁴⁷



Journalists and trainers discuss connection between climate change and extreme weather – *Raising Risk Awareness* project

21 SOUTH AMERICA: Investigative journalism targets climate issues

CDKN Latin America ran a project to increase the capacity of investigative journalists in the region to cover climate-compatible development issues. Investigative journalists from Colombia, Ecuador, Peru, Bolivia and Brazil were trained on key aspects of development and climate change, promoting a deeper understanding that they could apply to their work.

The Institute of Press and Society (IPYS) – a well-established regional organisation – ran training workshops and supplementary webinars, while CDKN established a Journalistic Fund to which participants could bid, competitively, for money to support their journalistic investigations. This enabled journalists to get out of their offices and into the field to uncover new and different stories.

As a result of the Journalistic Fund, 11 investigations were completed and published. Outlets included: *Vistazo* magazine (Ecuador), *El Comercio* and *Poder* magazines (Peru), *Semana* magazine (Colombia), *Pagina Siete* (Bolivia) and *Estado* (Brazil). A compilation of all the pieces was also published and distributed in *Desarrollo y Cambio Climatico: Reportes Periodisticas desde America Latina*.

The informal network of journalists said they learned a lot from one another. This exchange was followed by training on the international climate negotiations in 2014 and further training in 2016 to explain the significance of the Paris Agreement and its related national climate plans.⁴⁸



Amazonia region – SPDA



22 COLOMBIA: Sea level maps convince businesses to join adaptation action in Cartagena de las Indas

The story of how diverse groups worked together in the coastal city of Cartagena de las Indas, Colombia, to come up with Latin America's first climate change adaptation plan is a story of 'unusual partnerships'. It is also a story about the power of maps and data visualisations to coalesce conversations on a city's future.

Cartagena's historic centre is a UNESCO World Heritage Site which, as well as being an important source of pride and beauty to Colombians, generates millions of dollars annually in tourism revenue. The coastal city also has an economically important working port. The city is, however, highly exposed to climate change, having already felt the impacts of storm surges, coastal flooding, erosion and sea water intrusion, with the threat of more to come as a result of a changing climate.

CDKN formed an alliance with marine and coastal research institution INVEMAR, the Cartagena city authority, the local Chamber of Commerce and other interest groups. The team invested heavily in cultivating buy-in among civil servants (they out-stay politicians) and made the case to businesses for taking adaptation action to boost their long-

term competitiveness. One of the most important framings used in communications to get business on board was to highlight the issue of Cartagena's future competitiveness: if companies simply chose to ignore the rising seas and associated risks, they would reduce their future value. Some of the most vital tools in bolstering this case were the data visualisations and maps of near-term sea level rise, which scientists at INVEMAR were able to make, based on historic climate records and future climate projections.⁴⁹

Later, the CDKN team commissioned drone footage of the city, producing breathtaking views of the World Heritage Site as well as Cartagena's low-income neighbourhoods and industrial areas, all of which are exposed to climate hazards. This different perspective on the city has also provided an important tool for raising awareness and starting public conversations on issues and solutions.

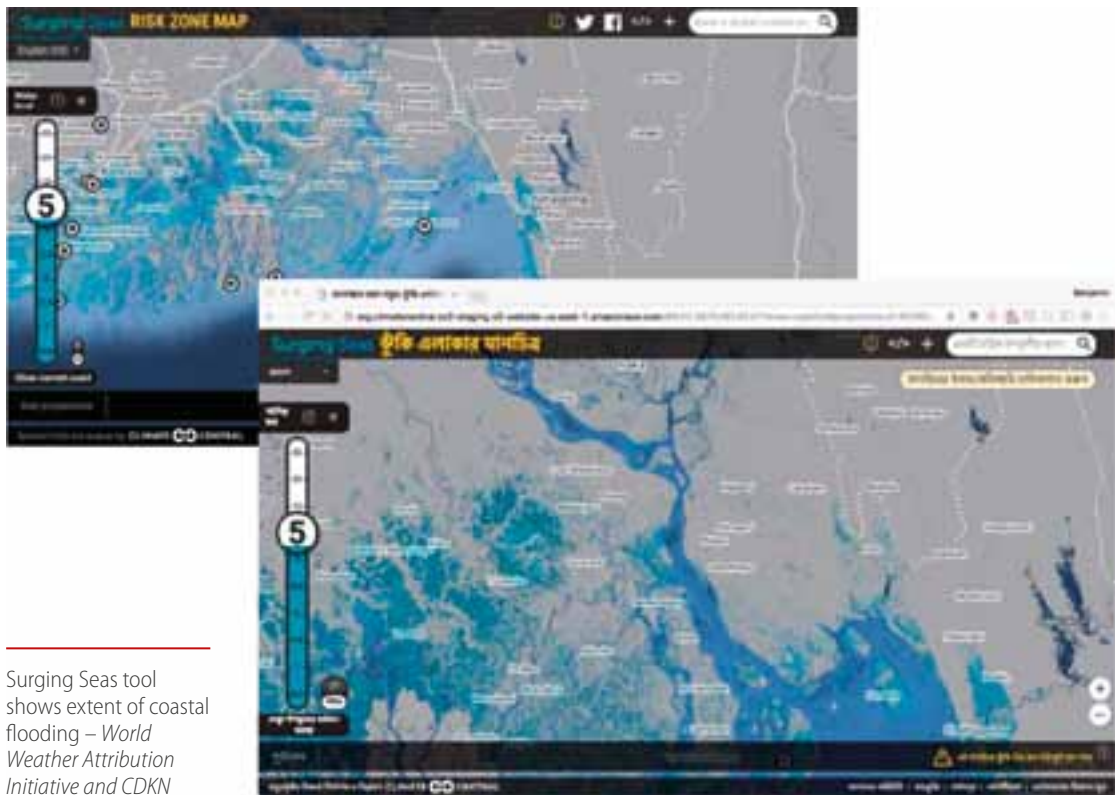
Film: Cartagena – Thriving in a changing climate

 https://youtu.be/ppy_Q72LDDQ



23 BANGLADESH: The Surging Seas tool shows widespread exposure to rising water

The Surging Seas tool helps communities, planners and leaders better understand sea level rise and coastal flood risks. It was adapted for use in Bangladesh and translated into Bengali to make it more accessible. A workshop in Dhaka brought together the technical team that had produced Surging Seas to train a wide range of stakeholders from government and NGOs. They exchanged ideas, local stakeholders learned how to use the tool, and together they identified ways to improve the tool in the future.



Surging Seas tool shows extent of coastal flooding – *World Weather Attribution Initiative and CDKN*

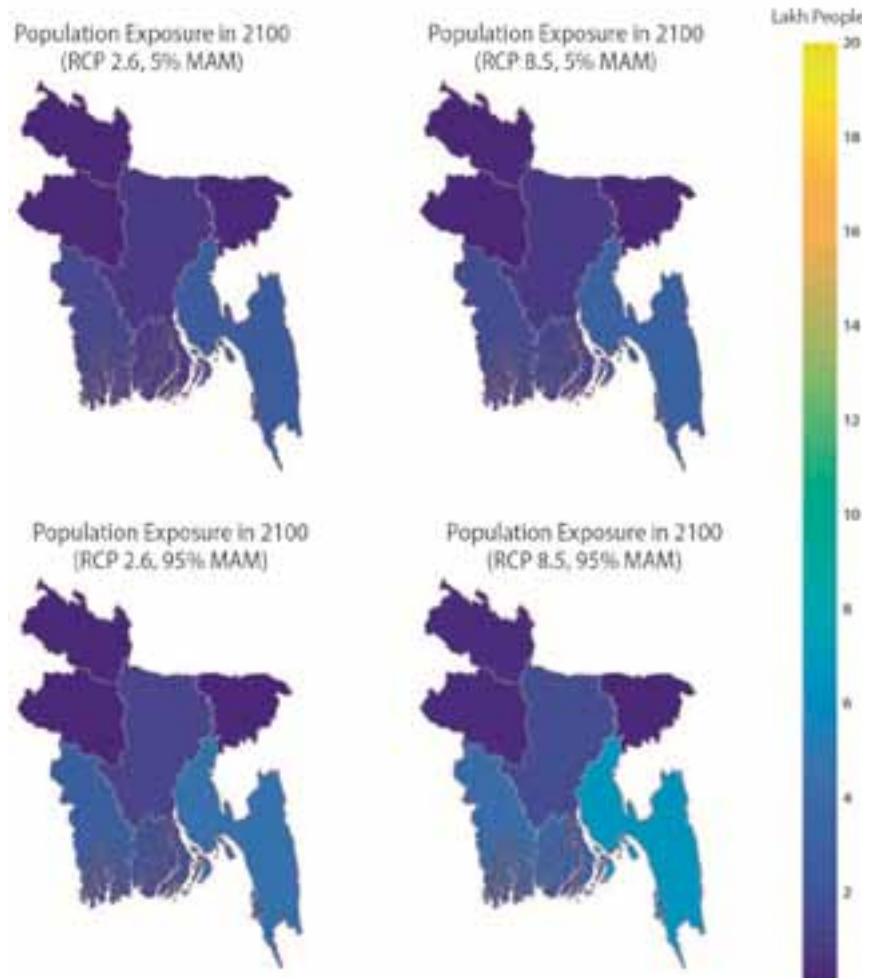


Lowest (5th percentile, top) and highest (95th percentile, bottom) likely number of people currently living under the projected high tide line in 2100 in Bangladesh divisions, under emissions scenarios Representative Concentration Pathway (RCP) 2.6 (large, immediate cuts to global emissions) and RCP 8.5 (global emissions continue to rise unabated).

The technical team also produced an 'exposure report' (see graphic on right), which estimates the population and land that would be at risk of inundation in the period 2050–2100 under worst-case and best-case greenhouse gas emission scenarios. The figures on the left, top and bottom, describe the range of outcomes for sea level rise and flooding under a best-case scenario (RCP 2.6), under which global emissions are cut massively and immediately; the figures on the right, top and bottom, describe a range of outcomes for sea level rise and flooding under a worse-case scenario (RCP 8.5) under which global emissions keep increasing at current rates.

 <https://cdkn.org/resource/bangladesh-surgin-sea/>

 <http://www.climate-lab-book.ac.uk/spirals/>



Exposure of Bangladesh's population to sea level rise under different climate scenarios –
World Weather Attribution Initiative and CDKN



24 INDIA: Engaging with civil servants boosts climate action in India

Madhya Pradesh was one of the first Indian states to develop a State Climate Change Action Plan (2012), following from the national plan issued two years earlier. Climate leaders in the Madhya Pradesh state government soon realised that one of the greatest challenges to implementing the Action Plan was civil servants' low awareness of and commitment to it.

To remedy the situation, the state government and CDKN commissioned policy briefs that talked about the relevance of the Action Plan for different economic sectors, and presented the messages in an attractive, easy-to-read format.



Producing a Madhya Pradesh climate change dashboard is one of the most recent knowledge initiatives - this wider snapshot shows climate hazards and vulnerabilities across Asia – *Prepdata*



One briefing note summarises the entire Action Plan, nine further notes discuss its application to specific sectors (forests, water, health, etc) and one addresses cross-cutting issues, such as gender and technology development.⁵⁰ A science brief summarises the state's key vulnerabilities to climate change.

As part of a process of engaging local stakeholders to implement the Action Plan, the project also invited local and national experts to write supporting articles, which were published in a special compendium. The partners distributed the materials widely in government departments and these publications remain go-to references – both in print and on the website of the Madhya Pradesh Knowledge Management Centre on Climate Change: www.climatechange.mp.gov.in

More recently, new alliances have enabled the state government to offer further tailored information to decision-makers in Madhya Pradesh. For example, the 'Partnership for Resilience and Preparedness' programme with World Resources Institute (WRI) has developed a Madhya Pradesh online dashboard. This interactive dashboard encourages government departments, research and academic institutes to explore robust scientific information on climate impacts and vulnerabilities – all of which can support development planning and practice.

25 KENYA: Climate campaign reaches across government in Kenya

- 6 A major lesson learned from the process of developing Kenya's Climate Change Framework Policy and Bill is the importance of stakeholder involvement and engagement. Governments often focus on stakeholders from outside government at the expense of those within government. The Kenyan experience underlines the importance of bringing on board both categories of stakeholders. Within government, the involvement of Parliament, county governments and key national government ministries such as the National Treasury, and Devolution and Planning, have proved invaluable. It is also informative that membership of the National Climate Change Council cuts across the whole spectrum of stakeholders, with representation from both government and non-state actors. 9

Stephen King'uyu, Coordinator of Kenya's National Climate Change Action Plan

 <https://www.ledsgp.org/2016/06/kenya-spearheading-low-emissions-development-africa>



Stephen King'uyu, government of Kenya – LEDES GP



26 INDIA: Novel framing and analysis highlights India's stranded assets

One framework – developed by ODI, Global Subsidies Initiative and Vasudha Foundation – highlights the links between government interventions in industry and greenhouse gas emissions. The organisations apply this concept of 'stranded assets' to India's coal power sector, but the same framing could be used in research and communications on fossil fuel investments in other sectors and countries.

“In 2015, under the UNFCCC's Paris Agreement, governments committed to keeping global temperature increases to 2°C and to pursue efforts towards a more ambitious 1.5°C target. Global decarbonisation efforts may increase the risk of asset stranding – that is, loss of value, revenue or return on investment – in fossil fuel production assets. This is particularly relevant to coal assets, as it is estimated that phasing out inefficient coal power plants alone could contribute to halving power sector emissions globally.”

They find that five major current and future factors are driving India's coal power generation industry toward being 'stranded assets':


- the cost competitiveness of renewable energy alternatives;
- financial distress in distribution companies;
- air pollution regulation;
- water scarcity; and
- coal shortages.

“A number of these drivers are already significantly impacting India's power sector. 40 gigawatts of commissioned and under-construction coal-fired power capacity are already “stressed” which presents an ongoing systemic financial risk for the government and the financial system dominated by the Indian public sector. The government of India is intervening in coal power – across the value chain, from coal mining to power production and distribution – in several ways ...”

These include financial support to the tune of billions of dollars' worth of public finance and national subsidies. In so doing, the government is delaying the influence of market signals and delaying the costs to coal power project developers and investors of the environmental and wider climate impacts of their activities.

Experts find similar patterns of government intervention in the coal power value chain elsewhere – e.g. European Union, United States, China, South Africa, Indonesia and South Korea. It will be critical for governments in these countries and regions to carefully manage their interventions in the power sector to avoid fossil fuel subsidies and support their wider commitment to energy access, and a transition to low-carbon energy sources.⁵¹

Excerpted and adapted from Worrall, L., Whitely, S., Garg, V., Krishnaswamy, S. and Beaton, C. (2018).

 <https://www.odi.org/publications/11185-india-s-stranded-assets-how-government-interventions-are-propping-coal-power>

Five major drivers of stranded assets in India's coal power sector



Cost competitiveness of renewable energy



Air pollution regulation



Water scarcity



Coal shortages



Financial distress in power distribution companies

Government interventions are undermining these signals and giving a lifeline to coal



27 KENYA: Decision-makers switch on to seriously fun games



Seriously fun game at Sendai Disaster Risk Reduction Conference – *Climate Centre*.

Games are a way of getting people's brains more deeply engaged in climate challenges, according to Dr Pablo Suarez, game designer at the Red Cross Red Crescent Climate Centre. A typical game puts the participant in the role of a decision-maker who must guess the coming season's weather and its effect on crops and food security. They also have the option to make different kinds of 'investments' to protect their assets. Then participants are subject to rolls of the dice to see how the climate and weather unfold. Pablo said, 'You have to think about trade-offs, thresholds and delays. You have to think about what happens if you do or if you don't take action.'

The games, and the practical, reflective discussions they encourage, are appropriate for community or policy settings. The Climate Centre team has delivered them in settings that range from subsistence farmers developing contingency plans for flooding, to World Bank staff integrating games into their risk assessment methodology.

Dr Pablo Suarez's creative partner and wife, Janot Mendler de Suarez, even took the games concept into the 'gender dimension', following the success of the first round of game design.

'With support from PopTech and the Red Cross Climate Centre, I worked with the Kenya Red Cross (KRC) to design a game that staff and volunteers could use to open conversations about gender implications of climate change with rural farming communities,' she said. 'Existing gender asymmetries include land ownership (over 90% of the land belongs to men), and unequal access to credit or fertiliser. Such unequal access means that women often derive less benefit from farm work than their male counterparts.'



28 NIGERIA: What Nigeria learned from Ghana

In one game about crop-planting decisions, Janot has introduced male and female roles through the assignment of coloured bracelets to the players:

“Those given a brightly coloured bracelet to wear play as ‘men’; all those with no bracelet play ‘women’ and find themselves starting the game with fewer beans – the currency of the game. As the game plays out, women reap a smaller harvest than the fictional men ... The Kenya Red Cross now plans to train facilitators to use this game in rural communities. The game should deepen understanding within affected communities about climate risk strategies to cope with the changing weather patterns affecting agriculture. With luck, it will help open deep discussion about the differential implications of climate change for women and girls, compared to men and boys, and what these additional pressures mean for their life choices.”⁵²

 <https://climatecentre.org/resources-games/games>

Peer-to-peer exchanges and related communications (blogs, articles) can be a fruitful way of engaging decision-makers in climate solutions. For example, in 2018, a team of Nigerian experts on mini-grids (small electricity grids that are independent from the main grid and can be powered by renewable energy) travelled to Ghana to better understand how Ghana is scaling up its low-carbon mini-grids programme.

Victor Osu, of Nigeria’s Rural Electrification Authority, said:

- “When we started this project, there were three key questions we wanted to answer about the mini-grids power system in Ghana:
- How are the enabling policies regulated?
 - What is the implementation methodology used?
 - How can this implementation be sustained?

‘[The trip enabled us to] to understand the whole framework that Ghana has put in place for developing mini-grids. Being there in person was so important. That said, even outside of normal 9–5 meetings, we’ve started our own internal communications channels where we call to discuss our mini-grids problems and check that everyone is on track with their strategies – often on weekends and Sundays.’⁵³



Ghanaian professionals visit a successful Nigerian mini-grid – Charlie Zajicek, LEDES GP

 <https://cdkn.org/2018/09/scaling-up-mini-grids-how-nigeria-learned-from-ghana>



29 ALL: An outreach programme for the IPCC's climate science

The IPCC's *Fifth Assessment Report (AR5)* was released in 2013–2014. It was made up of reports on the physical science of climate change impacts, adaptation and vulnerability, climate change mitigation and a final synthesis report. CDKN ran a wide-ranging outreach programme to bring the report's findings to developing country governments and other stakeholders, so that the latest state-of-the-art climate science could be better incorporated into their decision-making.

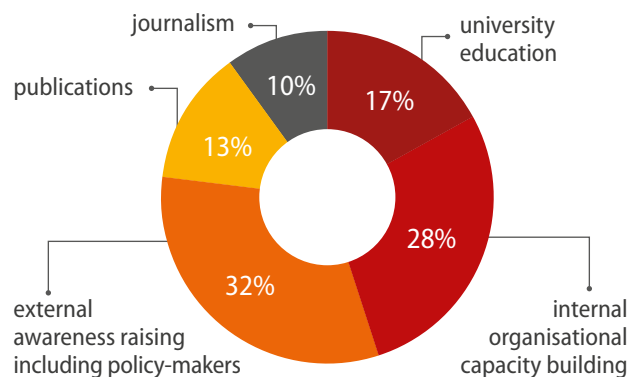
Often policymakers want to access country and region-specific climate information quickly. The IPCC's country information is tucked away in the long chapters of the reports, but CDKN pulled out the information and made it more readily available. The original AR5 runs to well over 5 000 pages.

CDKN produced four regional summaries of the AR5 science, in a colourful and appealing format: 'The IPCC's *Fifth Assessment Report*: 'What's in it for Africa?', 'What's in it for South Asia?', 'What's in it for Latin America?' and 'What's in it for Small Island Developing States?'. Each of these summaries is just 24 to 28 pages long.

CDKN also launched an online communications toolkit with the IPCC's key messages for countries and regions, which contains slide packs, free infographics and image resources for communicators to use. Our slide packs 'boil

down' the essential messages of the assessment and present them largely in graphical format. Since launching, the kit has had over 28 000 visits.

Those who registered to use the communications toolkit report that they are using it for:



Interviews with these toolkit-users revealed:

- An NGO worker described the materials as his 'armour' to contribute to national plans and forums on how to mitigate the effects of climate change.
- One ministry representative in Rwanda said she would use the material for community sensitisation programmes.
- An academic said he would use the materials to prepare the national UNFCCC delegation of Uganda for climate talks.



30 NEPAL: Nepal's climate change centres diffuse climate knowledge at the grassroots



Nepali students' imaginations have been fired by the climate outreach campaign – *Shutterstock*

An initiative to promote better understanding of climate change in Nepal took off at local levels, thanks to a modest small grants programme via the Nepal Climate Change Knowledge Management Centre. The grants were given to students to innovate ways to spread climate information at the local level. Programme organisers noted that there was a lot of information about climate change in the capital, Kathmandu, but little outside, and so local people jumped at the chance to access and share information.

The Knowledge Management Centre also organised a Mobile Library Campaign for Climate Change Awareness, which visited community schools in ten remote districts of Nepal. Of the campaign, Dinesh Raj Bhujju, Bimala Devkota and Pawan K Neupane wrote:

“The Centre organised the campaign targeting students and teachers at community schools in ten remote districts of Nepal. In pursuit of sensitising the young minds on issues related to climate change, the challenge was to develop concise and portable related materials. We displayed the self-explanatory posters and short films in simple Nepali language. We also organised inter-school climate change quizzes and panel discussions on local FM radios. The interaction between experts with students, teachers and policy-makers helped to make the campaign effective. As there was high demand for the posters, NCKMC reproduced handy-sized posters and distributed to the schools for wider use.”⁵⁴

After participating, Kumari Suwal, a ninth-grade student in Panchthar district, said that she and her friends came to understand the basics of climate change and its impacts and hoped for more, future campaigns.



Endnotes

1. UNFCCC (2015). *The Paris Agreement*. Retrieved from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
2. Sourced from internal planning documents for CDKN and Ecosystem Services for Poverty Alleviation programme, Mairi Dupar (2015–17).
3. Retrieved from <https://www.firstpost.com/tech/science/climate-strike-on-15-march-when-where-to-join-protests-against-inaction-in-india-6265601.html>
4. Retrieved from <https://www.fridaysforfuture.org/events/list>
5. Bauer, F., & Smith, J. (eds). (2015). *The Climate Knowledge Brokers Manifesto: Informed Decision Making for a Climate Resilient Future*. Vienna: Renewable Energy and Energy Efficiency Partnership (REEEP). Retrieved from <https://www.climateknowledgebrokers.net/manifesto/>
6. See the World Bank series of reports, 'Shockwaves', by Rosenberg, Julie and Stephane Hallegatte, (2015). 'The impacts of climate change on poverty in 2030 and the potential from rapid, inclusive and climate-informed development.' Retrieved from <http://documents.worldbank.org/curated/en/349001468197334987/The-impacts-of-climate-change-on-poverty-in-2030-and-the-potential-from-rapid-inclusive-and-climate-informed-development>
7. Planetary boundaries is a concept involving Earth system processes which contain environmental boundaries, proposed in 2009 by a group of Earth system and environmental scientists led by Johan Rockström from the Stockholm Resilience Centre and Will Steffen from the Australian National University. An introduction to the concept is retrieved from <https://stockholmresilience.org/research/planetary-boundaries.html>
8. Dupar, M. 'Making the case for climate compatible development' in Bickersteth, S., Dupar, M., Espinosa, C., Huhtala, A., Maxwell, S., Pacha, M. J., Sheikh, A. T. & Wesselink, C. (2017). *Mainstreaming Climate Compatible Development: Insights from CDKN's First Seven Years*. London: Climate and Development Knowledge Network. Retrieved from www.cdkn.org/mainstreaming

9. Kreft, S., Eckstein, D., & Melchior, I. (2017). *Global Climate Risk Index 2017: Who suffers most from extreme weather events? Weather-related loss events in 2015 and 1996 to 2015*. Berlin: Germanwatch. Retrieved from <https://germanwatch.org/en/12978>
10. Shepherd, A., Mitchell, T., Lewis, K., Lenhardt, A., Jones, L., Scott, L., & Muir-Wood, R. (2013). *The geography of poverty, disasters and climate extremes in 2030*. London: ODI. Retrieved from <https://www.odi.org/publications/7491-geography-poverty-disasters-climate-change-2030>
11. Tanner, T., Rentschler, J., Surminski, S., Mitchell, T., Wilkinson, E. & Peters, K. (2015). *Unlocking the triple dividend of resilience: Why investing in DRM pays off*. London: ODI. Retrieved from <https://www.odi.org.uk/tripledividend>
12. Conway, D., Vincent, K., Grainger, S., Archer van Garderen, E. & Pardoe, J. (2017). *How to understand and interpret global climate model results*. Cape Town: Future Climate for Africa.
13. Climate and Development Knowledge Network. (2012). *Managing climate extremes and disasters in Asia: Lessons from the SREX report*. CDKN. Retrieved from www.cdkn.org/srex.
14. World Weather Attribution Initiative and Climate and Development Knowledge Network. (2017). *Building capacity for risk management in a changing climate: A synthesis report from the Raising Risk Awareness project*. Princeton and London: WWA and CDKN.
15. Bood, N. & May, P. (2016). *Trouble in paradise – New initiative transforms tourism in Belize and its threat to the environment*. London: CDKN.
16. The report of the Web Foundation regarding the slowdown in rates of access to the internet globally is described in 'Exclusive: Dramatic slowdown in global growth of internet access'. *The Guardian*. (18 October 2018). Retrieved from <https://www.theguardian.com/technology/2018/oct/18/exclusive-dramatic-slowdown-in-global-growth-of-the-internet>
17. Thapa, K., Bhatta, K., Bhattarai, B. & Gurung, K. D. (2017). *Climate-smart agriculture: Learning from three agro-ecological regions of Nepal*. London: CDKN.
CDKN (2017). Film: Farmers of the future. Retrieved from <https://youtu.be/G8bkGka1GRM>

18. Reframing Rio. Film: *Life Apps. Once a Nomad* – Namibia. tve with the support of CDKN.
Retrieved from <http://tve.org/reframing-rio/life-apps/life-apps-namibia/index.html>
19. Reil, A. & Dupar M. (2016). 'Joining forces – how to make local climate partnerships a success'.
Retrieved from <https://cdkn.org/resource/essential-joining-forces-make-local-climate-partnerships-success/>
20. The reasons were cited by journalists in the Southern African regional climate training (see Box: Journalist training in Southern Africa).
21. From discussions at the CDKN South Asian Journalist Fellowship training workshop, Kathmandu, Nepal, 2013.
22. Retrieved from <https://getf.maps.arcgis.com/apps/Cascade/index.html?appid=a18818ec2f1a4c8f939a606e0dd1aa83>
23. Retrieved from <https://interactive.carbonbrief.org/impacts-climate-change-one-point-five-degrees-two-degrees>
24. Scott, M. (2015). 'Climate and Coffee'. Retrieved from https://www.climate.gov/sites/default/files/CoffeeGrowingCountries_large.jpg See also Financial Times (2017). 'Special Report: The coffee bean belt'. Retrieved from <https://www.ft.com/content/a3b5748e-51c8-11e7-a1f2-db19572361bb>
25. Owusu, A., Thomson, M. & Woyessa, A. (forthcoming, 2019). 'NMA ENACTS: An example of a co-produced climate service' in WISER co-production manual.
26. Grantham Institute (2013). '\$674 billion annual spend on "unburnable" fossil fuel assets signals failure to recognise huge financial risks'. Retrieved from www.lse.ac.uk/GranthamInstitute/news/674-billion-annual-spend-on-unburnable-fossil-fuel-assets-signals-failure-to-recognise-huge-financial-risks-2/
27. For more on the different categories of licence available, see: <https://creativecommons.org/licenses>
28. Sarpong, E. (2019). 'Half the world's people are still offline'. Retrieved from <https://webfoundation.org/2019/02/half-of-the-worlds-people-are-still-offline-how-do-we-connect-them-as-quickly-as-possible/>

29. CDKN (2017). 'Study shows that inaction on climate change will cost Uganda 20 times more than adaptation'. Retrieved from <https://cdkn.org/resource/report-study-shows-that-inaction-on-climate-change-will-cost-uganda-20-times-more-than-adaptation/>
30. CDKN (2015). 'Briefing series launched to communicate climate change to the Kenyan private sector'. Retrieved from <https://cdkn.org/2015/04/news-briefing-series-launched-communicate-climate-change-kenyan-private-sector/>
31. To read more about the 'Sheltering from a gathering storm' project and its achievements in protecting homes from damage in Vietnam after Typhoon Nari, please read: <https://isetinternational.wordpress.com/2013/11/08/lesson-from-typhoon-nari/> and <https://isetinternational.wordpress.com/category/iset-vietnam/>
32. The film was screened at policy round tables with government decision-makers in the capital city Dhaka, and was also selected by the United Nations Office of Migration to be screened and publicised to delegates at the UNFCCC Conference of the Parties (COP21) in Paris in 2015.
33. An initiative spearheaded by the Cambridge Institute for Sustainability Leadership, Cambridge Judge Business School and the European Climate Foundation, with other sectoral organisations, see <https://www.cisl.cam.ac.uk/business-action/low-carbon-transformation/ipcc-climate-science-business-briefings>
34. University of Cambridge, Buildings Performance Institute Europe, World Business Council for Sustainable Development, Global Buildings Performance Network. *The IPCC's Fifth Assessment Report: Implications for buildings*. Retrieved from <https://www.cisl.cam.ac.uk/business-action/low-carbon-transformation/ipcc-climate-science-business-briefings/pdfs/infographics/ipcc-ar5-implications-for-buildings-infographic.pdf>
35. Watkiss, P. (2015). *Mainstreaming climate into sector development plans: The case of Rwanda's tea and coffee sectors*. Cape Town: Future Climate for Africa. Retrieved from <http://www.futureclimateafrica.org/resource/mainstreaming-climate-information-into-sector-development/>
Read more about the film and find it on the Future Climate for Africa website: <http://www.futureclimateafrica.org/news/adapting-rwanda-growing-rwandas-tea-coffee-sectors-changing-climate/>
36. Carbon Trust (2015). *Enhancing private sector engagement in energy efficiency in Peru: A project funded by the Climate and Development Knowledge Network and delivered by the Carbon Trust with the support of Südesco Energy and Peru 2021*. London: Carbon Trust.

37. Gogoi, E. (2014). 'Water Walks in Madurai'. Retrieved from <https://cdkn.org/2014/02/feature-water-walks-in-madurai>. For more information, see the CDKN Inside Story on Climate Compatible Development: Kumar, M. & Vasimalai, M. P. (2017). *Future proofing of an Indian City: Lessons from Madurai*. London: CDKN. Retrieved from <https://cdkn.org/resource/inside-story-future-proofing-madurai/>
38. Retrieved from <https://www.youtube.com/watch?v=nhRB1DpliV&feature=youtu.be>
39. Ansah, P. & Scodanibbio, L. (2019). 'Ghana climate research reaches deep into farming communities'. Retrieved from https://cdkn.org/2019/02/feature-ghana-climate-research-reaches-deep-into-farming-communities/?loclang=en_gb
40. cLIMA sin Riesgo. 'Disrupting urban "risk traps": Bridging finance and knowledge for climate resilient infrastructural planning in Lima'. Retrieved from <https://climasinriesgo.net/mapping-everyday-and-episodic-risks/>
41. The information about the training workshops is from internal project reports, with thanks to Dr Arpita Mandal, University of West Indies, Mona campus. For more about the overall project, see: Mandal, A., Smith, D., Wilson, M., Taylor, M., Nandi, A. & Otuokon, S. (2016). *Climate change and flood risk: Challenges for Jamaican towns and communities*. London: CDKN.
42. Sharma, S., Chauhan, S. & Kumar, S. (2014). *Local approaches to harmonising climate adaptation and disaster risk reduction policies: Lessons from India*. London: CDKN. Retrieved from https://cdkn.org/wp-content/uploads/2014/05/Leh-Barmer-Inside-Story_WEB.pdf
43. Gogoi, E. (2015). 'Giving a voice to the missing women in India's climate plans'. Retrieved from <https://cdkn.org/2015/01/opinion-giving-voice-missing-women-indias-climate-plans>
Also, view the film *Missing* online: <https://cdkn.org/resource/missing-the-forgotten-women-indias-climate-plans>
44. Referring to a Theatre of the Oppressed performance directed by Daniel Morchain and supported by the ASSAR project: assar.uct.ac.za
45. Morchain, D. & Bosworth, B. (2019). Retrieved from 'Theatre of the Oppressed: Challenging top-down approaches to climate change'. Retrieved from <https://cdkn.org/2019/03/feature-theatre-of-the-oppressed-challenging-top-down-approaches-to-climate-change>

46. Osornio, J. P. & Bosquet, M. (2016). *Renewable energy solutions for Punjab's industrial sector – Evaluating the NAMA approach in Sialkot City, Pakistan*. London: CDKN.
47. Narrative courtesy of internal project documents, Claire Mathieson, CDKN Africa.
48. Narrative courtesy of internal project documents, Jorge Villanueva, CDKN LAC.
49. Adams, P., Castro, J., Martinez, C. & Sierra-Correa, P.C. (2014). *Embedding climate change resilience in coastal city planning: Early lessons from Cartagena de Indias*. London: CDKN. Retrieved from <https://cdkn.org/resource/embedding-climate-change-resilience-in-coastal-city-planning-early-lessons-from-cartagena-de-indias-colombia/>
50. CDKN (2012). 'Knowledge management for Madhya Pradesh State Action Plan on Climate Change'. Retrieved from <https://cdkn.org/project/knowledge-management-for-madhya-pradesh-state-action-plan-on-climate-change-sapcc/>
51. Worrall, L., Whitely, S., Garg, V., Krishnaswamy, S. & Beaton, C. (2018). *India's stranded assets: How the government's interventions are propping up coal power*. London: ODI. Retrieved from <https://www.odi.org/publications/11185-india-s-stranded-assets-how-government-interventions-are-propping-coal-power>
52. Mendler de Suarez, J. (2012). 'The climate and gender game'. Retrieved from <https://cdkn.org/2012/08/the-climate-and-gender-game/>
53. LEDSGP (2018). 'Scaling up mini-grids: What Nigeria learned from Ghana'. Retrieved from ledsgp.org/2018/09/scaling-up-mini-grids-how-nigeria-learned-from-ghana
54. Bhaju, D. R., Devkota, B. & Neupane, P. (December 2013). 'The story behind Nepal's Climate Change Knowledge Management Centre'. Retrieved from <https://cdkn.org/2013/12/feature-the-story-behind-nepals-knowledge-management-center/>

ABOUT CDKN

The Climate and Development Knowledge Network works to enhance the quality of life for the poorest and most vulnerable to climate change.

We support decision-makers in designing and delivering climate compatible development.

Please visit: www.cdkn.org

This work was carried out with the aid of a grant from the Ministry of Foreign Affairs of the Netherlands and the International Development Research Centre (IDRC), Canada, as part of the Climate and Development Knowledge Network (CDKN) Programme. The views expressed herein do not necessarily represent those of the Ministry of Foreign Affairs of the Netherlands, or of the International Development Research Centre (IDRC) or its Board of Governors, or of the entities managing CDKN.

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