

# the future climate for development

scenarios for low-income countries  
in a climate-changing world

Forum for the Future, the sustainable development NGO, works in partnership with leading businesses and public service providers, helping them devise more sustainable strategies and deliver new products and services which enhance people's lives and are better for the environment.

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Please note that the scenarios contained in this report are not predictions, and do not represent desired futures. They are explorations of possible futures only, and reference to specific countries and events is purely illustrative.

**Forum for the Future team:**

Louise Armstrong  
Ann-Marie Brouder  
Alice Chapple  
Helen Clarkson  
Geraldine Gilbert  
James Goodman  
Jemima Jewell  
Alex Johnson  
David Mason  
Gustavo Montes de Oca  
Ben Tuxworth  
Iain Watt

**DFID team:**

Gregory Briffa  
Nick Godfrey  
Phil Lewis

**Report authors:**

Jemima Jewell  
Helen Clarkson  
James Goodman  
Iain Watt

**For more information please contact:**

Jemima Jewell: [j.jewell@forumforthefuture.org](mailto:j.jewell@forumforthefuture.org)

**Registered office:**

Overseas House  
19–23 Ironmonger Row  
London, EC1V 3QN

Registered charity number 1040519  
Company limited by guarantee 2959712

**Enquiries:**

+44 (0)20 7324 3660  
[info@forumforthefuture.org](mailto:info@forumforthefuture.org)

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[thomasmatthew.com](http://thomasmatthew.com)

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# executive summary

Low-income countries often get overlooked in discussions about climate change. Despite the fact that they are affected first and worst – and have done least to cause the problem – comparatively little attention has been paid to how climate change will affect the development of states which are home to over a billion people around the world. This is starting to change – but not fast enough.



**The central message of this report is that successful development must take climate change into account.**

It has been supported by the UK Government's Department for International Development (DFID) to help facilitate a holistic approach to development, which looks to the long term. The work, led by independent sustainability experts Forum for the Future, draws on extensive research, the expertise of a high-level steering group and the opinions of more than 100 development experts from all over the world, including development professionals, government officials, business leaders, entrepreneurs and independent thinkers.

As our climate changes over the next 20 years, the probability is very high that temperatures will rise, the frequency of storms will increase and rainfall patterns will shift. Ecosystems will be disrupted, ice caps and glaciers will continue to melt and sea levels will rise. We may or may not reach tipping points within that timeframe, beyond which change becomes irreversible and much less predictable. Either way, climate change impacts will transform low-income

countries, with significant social, economic and political repercussions.

It is therefore vital that development in low-income countries becomes 'climate-resilient'.<sup>1</sup> Without this, there is a significant risk that investment made today could be undermined by climate change impacts in the future. Furthermore, relying on carbon-intensive development today (such as coal-fired power stations) could well mean a lack of efficiency and competitiveness in the long term, when the world's economy becomes a low-carbon one, as eventually it must.

There is also a huge opportunity agenda to address. Low-carbon, 'climate-resilient' development could position low-income countries well in the future global economy. Addressing climate change can complement and reinforce other development goals, such as poverty reduction, health improvement and education. Identifying the 'win-win' opportunities is crucial: for example, how a low-carbon city can be designed so that it also improves the health of its citizens; or how climate-friendly

business start-ups can generate wealth in low-income communities.

**One thing is clear: low-income countries cannot and should not have to make a false choice between addressing climate change and development.** This report shows how the two are fundamentally and inextricably linked, and demonstrates the value of a holistic approach that addresses them together. *The future climate for development* is designed for anyone who has a stake in the future of low-income countries, including development organisations and other non-governmental organisations (NGOs), businesses, policy makers and low-income country governments. It is a practical tool to aid long-term thinking, to ensure that decisions made today continue to have positive consequences in years to come.

The report contains a 'horizon scan', which examines key issues that will affect low-income countries over the next 20 years, and four scenarios, which explore how these issues may play out in different ways, highlighting the challenges and opportunities

low-income countries may face in a climate-changing world. The horizon scan and scenarios can be used to:

- 'future-proof' current strategies, and prioritise areas for work;
- generate new ideas for future strategy or policy;
- look for opportunities for collaborative working;
- create a vision of a preferred future.

There are more details on how to use the scenarios at the end of the report. There is also a range of supporting materials available to download from our website, at: [www.forumforthefuture.org/projects/the-future-climate-for-development](http://www.forumforthefuture.org/projects/the-future-climate-for-development)

<sup>1</sup> 'Climate-resilient' is the term used in this report to refer to development that is robust in the context of climate change. Similar terms in use elsewhere include 'climate-proofed' and 'climate-smart'.



## 2030: a horizon scan and four scenarios

We conducted a horizon scan to explore how key issues will influence the development of low-income countries and how they respond to climate change. It explores both the long-term trends and possible shocks in nine broad areas:

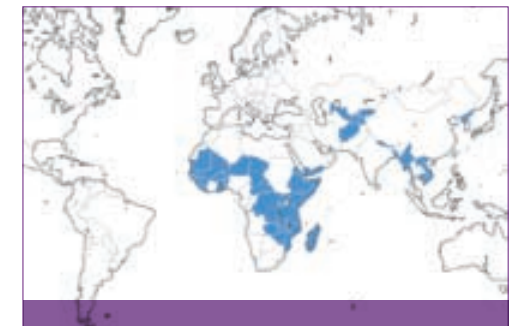
- the global political context;
- global economies;
- low-income country politics;
- demographics in low-income countries;
- attitudes to climate change in low-income countries;
- use of natural resources;
- the role of technology;
- the business response to climate change;
- the direct impacts of climate change.

Needless to say, not all low-income countries will face the same opportunities or challenges; a group (see map) that includes countries as diverse as the Comoros Islands, Bangladesh and Kenya will have equally diverse issues to contend with. We also recognise that the low-income countries of today are not necessarily the ones of 2030.

We explore the global context that these nations will share, and pull out common themes that will be significant for many of them.

The horizon scan poses questions as diverse as ‘how politically stable will low-income countries be in 2030?’, ‘what developments in energy technology might we see?’ and ‘will business investors take climate change into account?’. The different possible answers inform the differences between our four scenarios. Climate change forms the backdrop to all of them.<sup>2</sup> For more analysis of these issues see pages 11–33.

The **scenarios offer vivid, plausible, and robust explorations of different possible futures**. Scenarios are powerful tools because they take us beyond the day-to-day, and show the inter-connections between different issues. They are not predictions, but are designed to challenge current thinking and provide a structured way of bringing the future into decision-making today. The following pages summarise the key points of each scenario.



Low-income countries (World Bank, 2009). The current list is: Afghanistan, Bangladesh, Benin, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Congo, Dem. Rep. Eritrea, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, Kenya, Korea, Dem. Rep, Kyrgyz Republic, Lao PDR, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Senegal, Sierra Leone, Somalia, Tajikistan, Tanzania, Togo, Uganda, Uzbekistan, Vietnam, Yemen, Rep. Zambia and Zimbabwe.

<sup>2</sup> The direct impacts of climate change do not vary across the scenarios – but the way each world responds to them does.

# summaries of the four 2030 scenarios

## 1 Reversal of Fortunes

This is a **fraught world** where the urgent need to cut carbon dominates international relations. Drastic measures to **decarbonise** the global economy spell crisis for many industries and no country is immune to the pain. Having rapidly developed – mostly on **carbon-intensive pathways** – many low-income countries of the 2010s are now middle-income. They speak with a strong, **united voice** on the world stage, holding wealthier nations to account for the problems of climate change. These new emerging economies are the **least resilient** and are suffering the most, and with the world focussed on cutting carbon there is little money in the pot for aid.



Reversal of Fortunes

### In this world...

- the 2026 Climate Treaty makes failure to meet emissions reduction targets as serious as failure to comply with a UN Security Council resolution. Countries that refuse to sign the treaty are threatened with sanctions and even military intervention;
- low-income countries are handicapped by 'white elephant' high-carbon infrastructure. Carbon emissions penalties make coal-fired power plants and similar installations prohibitively expensive to run;
- the pan-African grassroots 'Elephant Movement' campaigns for high-income countries to repay their 'carbon debt' to Africa. It unites the voices of low-income countries in climate change negotiations and funds lawsuits against companies and governments;
- multinational companies' products disappear from many low-income countries. Entrepreneurs fill the gaps, offering locally-branded alternatives;
- the 2028 Olympics are cancelled for the first time since World War II, because of a lack of carbon credits to fund either the building of stadiums or travel;
- the UN sets up an office to coordinate geo-engineering initiatives to tackle climate change; China proposes the world's largest programme of seeding rain-clouds to protect its agricultural investments in Africa;
- the number of climate refugees grows by the day and campaigners demand that developed nations make land available for settlement.

## 2 Age of Opportunity

This is a world where low-income countries have received **significant and effective development assistance** as part of a strong climate change deal. They play a growing role in the world economy and are spearheading a **low-carbon energy revolution**, leapfrogging the old high-carbon technologies in pursuit of a prosperous and clean future. **Cultural confidence** in these countries is high: their politicians take a prominent place on the world stage, and increasingly people reject high-carbon Western lifestyles as uncivilised. In many states **power has devolved** to regions and communities; in some countries this has brought positive change, but in others large areas have fallen under the control of local mafia and warlords.



Age of Opportunity

### In this world...

- billions of dollars are spent each year on emergency aid and measures to help countries adapt to climate change, funded by the 'Climate Relief Tax' – a 0.05% levy on international currency and commodity transactions (modelled on the so-called 'Tobin Tax');
- low-income countries generate 40% of the world's solar energy, a huge increase since 2010;
- communities and businesses have unprecedented access to low-carbon electricity thanks to a boom in decentralised power generation. Broadband internet access is widespread and almost cost-free. This has boosted delivery of water and services like health and education;
- there is a widespread move to more devolved politics, and cities become powerful political entities: Nigeria's protests are overruled when Lagos sends its own delegation to the United Nations;
- cultural confidence in low-income countries is high and rising: Kinshasa attracts musicians and artists from around the world; the Mali Film Festival receives as much coverage as Cannes;
- smallholder cooperatives have become the dominant agricultural model in low-income countries; these are linked into global supply chains and organised using collaborative online software;
- many multinational companies have moved their operations to low-income countries, attracted by cheap labour and low-carbon electricity. Home-grown businesses thrive, supported by microfinance and mobile phone-based payment systems.

### 3 Coping Alone

This is a world in which low-income countries feel increasingly **abandoned**. Two decades of **high oil prices and economic stagnation** have driven the global community apart. Attempts to coordinate action to reduce carbon emissions have been dropped. **Regional blocs** now focus on their own concerns, such as food security, resource shortages and adapting to climate change. Low-income countries face all these problems with **few resources** and limited support from wealthy nations; some states have collapsed. New models of business and governance are starting to emerge from the shadows of increasing inequality.



Coping Alone

#### In this world...

- the world is still recovering from the Middle East conflict of the 2010s which pushed the oil price above \$400 and destabilised the whole region. Low levels of conflict over water persist;
- oil-importing countries have suffered hugely. Oil-exporting countries have built up huge sovereign wealth funds with massive influence over the global economy, and are starting to invest in renewable energy technologies;
- most global supply chains have contracted under the shadow of high oil prices; some are kept moving by biofuels, tar sands oil, and shipping powered by advanced kite systems;
- regional integration of low-income countries is a common strategy to increase resilience and political power: the Pacific members of the Alliance of Small Island States become a single state in 2023; the East African Union has a common currency;
- food security is a worldwide concern; vegetarianism is a global moral movement;
- 'nuclear offshoring' is becoming common: wealthy nations build nuclear plants in low-income countries, which are run by their own military; they export the power giving the host country a share;
- desktop manufacturing is beginning to take off in some low-income countries where energy is available: people use recycled plastics to make all sorts of products using 3-D printers to replicate blueprints available on the internet.

### 4 The Greater Good

This is a world where people understand that economies rely fundamentally on access to natural resources. Climate change is seen as the **ultimate resource crunch**, but there are equal concerns over water, food and soil depletion. **States manage natural resources pragmatically** to give the greatest good for the greatest number and are prepared to take draconian action to protect them. **Individual liberties and choice have suffered**, but most people feel that their future is at least being safeguarded. Those low-income countries with natural resources prosper; those without have little bargaining power. **Tensions** between rival resource blocs are intense, and sometimes spill over into violent conflict.



The Greater Good

#### In this world...

- new political alliances form around natural geographic boundaries such as the Niger/Volta watershed collaboration. Regional blocs manage food, energy, biodiversity and even population;
- state-sponsored family planning and public health initiatives – and limits on numbers of children – are common;
- compulsory identity cards holding information about personal resource consumption are common all over the world; companies sell services (such as 'personal carbon quota management') to help people avoid falling foul of the strict legislation;
- 'smart dust' – a worldwide network of nanotech computers – monitors environmental conditions, resource use and pollution, providing governments and business with real-time information;
- international retailers, whose presence in low-income countries increases year-on-year, demand full 'ecosystem integrity' in the goods that they sell; entire product lines have been withdrawn for being unsustainable;
- insects, such as farmed grasshoppers, have replaced animals and fish as the main source of protein for hundreds of millions of people in Africa and Eurasia. Vegetarian diets are common – and enforced in some areas;
- rapid urbanisation and new planned cities create a huge market for flat-pack housing which can be constructed quickly and easily using government-approved materials.

# what does this mean for development in low-income countries?

The scenarios are tools that any organisation can use for strategic planning, but we have given particular thought to what they mean for development agencies. We believe that the seven points below are important messages for anyone working in the development field.



## 1. Climate change is a development issue

Climate change and development should be seen as complementary, not competing, issues: acting on one involves acting on the other. If ignored, climate change has the potential to fundamentally undermine even the best development initiatives.

Taking action on climate change can bring a host of co-benefits for development: these 'win-wins' need to inform the development discourse. Investment in renewable energy generation and energy efficiency can enhance energy security. Promoting low-carbon transport means reduced congestion, pollution and healthcare costs. Low-input agriculture focussed on maintaining soil quality boosts food security and is likely to be a robust strategy for adapting to a changing climate. All of these examples can also lead to the creation of new jobs.

Development in a climate-changing world is not about sacrificing opportunities, but about making smart choices, which address these kinds of long-term co-benefits.

## 2. Climate change will change the nature of development

Whatever happens, there will still be a need to focus on some of the fundamental tenets of development with which all development professionals are familiar: building peaceful states and societies; protecting and enhancing the livelihoods of the poor and vulnerable; and building governance systems that are capable, responsive and accountable to their citizens.

But some elements of development 'success' may look very different in the future, and our scenarios explore this possibility. For example in 'The Greater Good' democracy is no longer perceived by Western donors as fundamental for development, and in 'Age of Opportunity' GDP (gross domestic product) loses its place as the defining measure of success. The prospect of radical changes such as these means that development organisations will need a flexible approach and a readiness to deploy different strategies.

## 3. All development must be 'climate-resilient'

Development initiatives must be evaluated against the context of climate change and the radical changes it is likely to bring about in low-income countries, in terms of economic, social and political impacts as well as environmental ones. Decision-making processes must take into account the potential long-term consequences of today's initiatives to make sure they will survive and continue to deliver benefits.

Low-carbon development is part of a resilient long-term strategy. It is not the only way, nor should it be the only consideration, but it is a vital ingredient in the development mix if low-income countries are to be competitive players in a climate-changing world.

## 4. Climate change may cause dramatic reversals in countries' fortunes

Climate change may cause major reversals in the economic fortunes of countries at every development level – for both better and worse. This may result from both the direct impacts of climate change and the indirect ones such as political and economic restructuring, and the value attached to different resources.

It will be crucial to map the potential 'winners' and 'losers' of the coming decades by considering which countries are the best and worst prepared, socially and economically, to adapt to climate change in a variety of futures. This is likely to highlight the limited usefulness of the current categorisation of low-income countries, which does not capture characteristics like economic diversity that will help determine how they are affected by climate change and how they may respond.



## 5. Support change from within

As those working in development know, building a stronger civil society in low-income countries will bring many benefits. In the future, provision of climate finance (to help countries adapt to climate change) and the price of various natural resources may change suddenly and in unexpected ways. Demand for accountability that comes from within, rather than from external partners, will therefore be the most robust strategy. It will also be important to increase public understanding and awareness of climate change in low-income countries, in order to build both social support for climate change action and scrutiny of whatever climate change initiatives are undertaken.

## 6. Work with business to catalyse change

Business can be an important vehicle for catalysing low-carbon approaches globally and a powerful partner, particularly where government-level engagement is difficult. There is significant potential for multinational corporations to export climate change good practice from high and middle-income to low-income countries, even if the latter's governments are pursuing high-carbon growth strategies. Development agencies could play a vital role in helping low-income countries put in place incentives to attract business investment in low-carbon development, such as tax relief.

Partnering with business can also unlock new ways of working: because companies need to respond to (or create) demand, they are well placed to take a proactive, opportunity-focussed approach to climate change.



## 7. Prepare for the challenges that feature in a range of futures

The four scenarios are very different, but they have several common themes that development organisations should be prepared for:

- rapid urbanisation is one theme: projections indicate that in many low-income countries the majority of the population will live in cities by 2030. There is huge potential for early intervention to maximise sustainability – effectively designing expanded cities from first principles;
- change in agriculture and land use more broadly – especially how forests are managed – will also be of great significance in low-income countries, affecting their capacity to adapt to climate change and avoid emissions, and of course their food security;
- absolute population growth persists in all scenarios, and cannot remain the taboo subject it currently is in some quarters. Development organisations will need to explore the implications of this trend and consider their views on the subject;

- persistent and growing inequality is likely, so continuing investment in social policy will be important;
- future political ‘heavyweights’ such as China, and other rapidly growing economies may interact with low-income countries in unexpected ways; there is a need to better understand how these relationships could play out;
- established political boundaries may change: the wider region or the individual city could be the crucial points for engagement in the future.



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# how might low-income countries respond to climate change over the next two decades? and how can looking to the future in this way improve decision-making today?

*The future climate for development* is a report by Forum for the Future, supported by the UK's Department for International Development.

It addresses the above questions by way of a 'horizon scan', which examines the key issues that will affect low-income countries over the next 20 years, and four scenarios, which explore how these issues may play out in different ways, highlighting the challenges and opportunities that low-income countries might face. The scenarios are a practical tool, and can be used to 'future-proof' current strategies, prioritise areas for work and inspire new ideas.

This work is designed for anyone who has a stake in the future of low-income countries, including NGOs, businesses, policy makers and low-income country governments. The report outlines seven key implications for development organisations, but is also applicable to a wide range of stakeholders.

## Visit

[www.forumforthefuture.org/projects/the-future-climate-for-development](http://www.forumforthefuture.org/projects/the-future-climate-for-development) to find out more and watch the scenario films.



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