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Protecting Our Future:

An Investment Framework for Quantifying the Climate Adaptation Benefits of Health and Immunisation Investments

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Gavi The Vaccine Alliance

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Contents

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"It's difficult, but we'll find a way": a new vaccine against typhoid rolls out in a flood-devastated province of Pakistan.

Click here to read the article and watch the video.

Definitions

Climate adaptation	Adjustments in social, economic, or ecological systems to the effects of climate change; sometimes referred to as 'resilience'
Climate mitigation	The process of reducing the flow of or preventing the amount of greenhouse gases (GHGs) in the atmosphere
Climate-sensitive diseases	Diseases (infectious or non-infectious) whose transmission and spread are affected by changes in climate and weather, such as temperature, precipitation, and extreme weather events. In this report, Dengue, Men A, JE, Yellow Fever, Cholera, Malaria, Typhoid, Chikungunya, and Shigella were included in this list (as defined in both the Gavi-Dalberg Quantifying the Impact of Climate Change Report and the Gavi Investment Opportunity 2026-2030)
Climate-vulnerable	Countries who are especially susceptible to climate risk. Vulnerability is impacted by lack of adaptive capacity and the propensity for climate disaster
Funder	An organisation or individual that provides financial support to projects, initiatives, or organisations
Funding	Money or resources to support specific projects or goals; can be in the form of grants, loans, or other investment vehicles
Health infrastructure	The systems, facilities, and services that contribute to public health (e.g., hospitals and equipment, vaccination programmes)
Climate x Health	The intersection between climate change and health systems, in terms of climate-related impacts on health systems (e.g., infrastructure) and health implications of climate change (e.g., increase in disease)
Climate x Health investments	The support funders provide to reduce risk, prevent harm, and help health systems adapt to adverse climate effects, or to integrate health adaptation into climate funding. Interchangeably referred to as 'projects' or 'funding'
Adaptation category	Within this methodology, health investments related to adaptation were allocated to one of six categories, based on primary focus of the investment: • Early Warning Systems/Health Surveillance (EWS/HS) • Immunisations against Climate-Sensitive Diseases (ICS) • Rapid Response Teams for Climate Emergencies (RRT) • Vaccine Delivery/Cold Chain (VD/CC) • Strengthening Health Infrastructure (SHI) • Other
Adaptation share	Adaptation share refers to the proportion of an investment or funding contributing to adaptation, either on a country/funder/investment basis

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Executive Summary

Climate change is not just an environmental challenge; it is a growing health crisis.

Rising temperatures and extreme weather events are shifting disease patterns and placing growing pressure on health systems, threatening the wellbeing of communities worldwide.

As countries confront these challenges, there is growing recognition that climate action must include measures that help people and systems adjust to the changes already underway. This is known as ***climate adaptation*** – steps taken to reduce the harm caused by climate change and to protect lives and infrastructure from its impacts.

Health systems are often at the forefront of responding to these climate impacts. For example, in flood-prone regions, cholera vaccination campaigns have helped reduce deadly outbreaks by protecting the most vulnerable before disaster strikes, demonstrating how targeted health investments can act as life-saving adaptation strategies.

Despite this, only a small fraction of the financing to tackle climate change (climate finance) is directed towards health. Recent estimates suggest that just 0.5 per cent of total climate funding supports initiatives that protect or improve human health.[1] This is due to several reasons. In the past, funding primarily focused on reducing emissions rather than helping people cope with the effects of climate change. There has also been a lack of consensus about what counts as a health-focused climate adaptation investment, and limited data (especially from the private sector) to show how much health programmes are actually helping communities adapt. As a result, health adaptation has often been overlooked. Better ways to track and measure the impact of these investments can help change that.

This report, commissioned by Gavi and the Asian Infrastructure Investment Bank (AIIB) highlights a major opportunity: ***targeted investments in health can be a powerful lever for climate adaptation***. Strengthening health systems is not only essential for protecting lives, but also a practical and cost-effective way for countries to meet their climate goals.

This report offers a new, evidence-based framework to identify health investments contributing to climate adaptation, and the extent to which they do so. It groups these investments into five core categories and provides concrete examples of activities—such as immunisation against climate-sensitive diseases and resilient cold chain infrastructure—that can improve both health outcomes and climate resilience. It also estimates the proportion of existing investments that are already delivering adaptation benefits, even if not explicitly labelled as such. These insights can help guide future decision-making, ensuring that resources are allocated effectively and strategically.

These findings make a clear case: investing in health is a core component of climate action. For funders seeking to deliver on climate commitments while improving health and wellbeing, health adaptation investments offer a compelling and underutilised pathway forward.

1 Alberti, 2024.

Key Findings

Health is a key investment against climate change.

Strengthening health infrastructure and expanding access to essential services, like immunisation, directly improves communities' ability to cope with climate shocks. Over the past five years, the organisations assessed in this report have invested US $42.2 billion in climate health initiatives.

Immunisation against climate-sensitive diseases ranks among the most important health investments for climate adaptation.

Diseases like cholera, malaria, and dengue are spreading more rapidly as climate change drives effects like more frequent and severe flooding. These floods create ideal conditions for water and vector-borne diseases to spread. Investing in vaccines and delivery systems helps protect at-risk communities and makes them more resilient to future climate-related health threats. Gavi focuses on immunisation programmes against climate diseases, investing nearly five times more than MDBs in this area over the period analysed.

MDBs play a pivotal and complementary role in building resilient health systems by investing in strengthening health infrastructure.

MDBs primarily invest in strengthening health systems (e.g., through investments into green and climate-resilient infrastructure, equipment or improved water and sanitation systems). Collectively, the MDBs analysed in this report (Asian Development Bank, World Bank, and AIIB) have invested nearly US $2 billion in making health systems more resilient to the effects of climate change over the period. Together with Gavi, they provide a more complete response to climate-health challenges – combining system-level resilience with targeted protection against specific disease risks.

Ambitions to fund future climate-resilient health investments have scaled up significantly.

Looking ahead, MDBs and Gavi are scaling up their health investments which help improve the resilience of communities to climate change. For instance, Gavi plans to significantly increase its spending on vaccines against climate-sensitive diseases to $2.2 billion. Additionally, the AIIB, ADB, and the World Bank have committed to ensuring that ~50% of their investments have climate goals. This commitment will unlock billions of dollars more each year for climate-health investments, marking a significant boost in the global response to climate-related health risks.

Country case studies show growing investment in health systems that also help communities adapt to climate change.

In countries highly vulnerable to climate impacts, such as Nigeria, Bangladesh, Pakistan, the Philippines, Ethiopia, and Malawi, the share of funding in health programmes with climate adaptation objectives has increased in recent years. However, better coordination between national and local actors is still needed to ensure these resources have the greatest possible impact.

INVESTMENT FRAMEWORK

CATEGORY OF INVESTMENT	RANGE OF INVESTMENT ACTIVITY RELEVANCE TO CLIMATE ADAPTATION	TOTAL INVESTMENT DOLLARS CONTRIBUTING TO CLIMATE ADAPTATION FROM ALL FUNDERS (US$, ~2019-2023)
Early warning systems and health surveillance Strengthen capacities to detect, monitor, and respond to climate-sensitive diseases through research, diagnostic tools, data integration, and cross-sector collaboration.	Low to Medium Relevance 	**$448.6M**
Rapid response teams for climate-driven health emergencies Strengthen health systems' capacity to prepare for and manage climate-related disaster risks ensuring rapid and coordinated responses.	Low Relevance 	**$283.3M**
Improving vaccine delivery and cold chain systems Increase both the reach and resilience of vaccination programmes, particularly in underserved areas via improvements in delivery and/or cold chain systems	Low to Medium Relevance 	**$325.7M**
Strengthening health infrastructure Enhance the resilience, accessibility, and efficiency of healthcare systems and services to better withstand the impacts of climate change.	Low to High Relevance 	**$1,636.1M**
Immunisation against climate-sensitive diseases Focus on routine immunisation and preventative campaigns for diseases/antigens exacerbated by climate change.	Medium to High Relevance 	**$608.6M**

Credit: Gavi/2022/Asad Zaidi

Introduction

Climate x Health Financing

The intersection of climate change and health is emerging as a critical investment area, as climate-induced health impacts pose profound and far-reaching global challenges. Extreme weather events, infrastructure destruction, and shifting disease patterns are already overwhelming fragile health systems. Rising temperatures are projected to result in an additional 250,000 deaths per year, a burden exacerbated in places with poor health infrastructure.[2] However, climate-related investments in the health sector have historically prioritised climate mitigation, while programmes to support people's health and help communities adapt to the impacts of climate change have been underrepresented.[3]

Climate adaptation refers to efforts that help people and systems prepare for and cope with the impacts of climate change. In the health sector, this can take several forms—from reinforcing clinics to withstand extreme weather to expanding vaccination programmes for outbreaks after floods. The adaptation share is the portion of an investment that directly contributes to making communities more resilient to these climate risks. For example, a health programme that delivers vaccines for diseases that spread more easily due to climate change (such as cholera or dengue) would have a measurable adaptation share. Being able to identify and quantify this share is essential to making more targeted and effective use of climate finance.

There has been an increasing focus on this climate-health nexus as a key contributor to climate adaptation efforts. The recent Development Banks' Joint Roadmap for Climate-Health Finance and Action (2024) emphasises the urgent need to prioritise health within climate adaptation efforts and increase resilience of health systems.[4] AIIB's 2024 Health Strategy: Tomorrow's Infrastructure for Health outlines a strategic priority for green and climate-resilient health systems, including financing climate adaptation in health infrastructure. [5]

Despite this growing recognition, a primary challenge is twofold—the missed opportunity to finance investments that contribute to building resilience in the health sector, as well as the lack of recognised frameworks for tracking climate adaptation investments, which require sector-specific methodologies to evaluate and quantify how health investments contribute to climate resilience.

A recent report examining climate-health financing in both adaptation and mitigation highlighted the difficulties in sourcing and tracking adaptation funding in the health sector.[6] The current MDB Methodology, which is commonly used by the Multilateral Development

2 Alberti, 2024
3 Ebi & Hess, 2020
4 Development Banks' Joint Roadmap for Climate-Health Finance and Action, 2024
5 AIIB Health Strategy, 2024
6 Resourcing Climate and Health Priorities, 2025

banks and has also been adopted by the International Development Finance Club (IDFC) outlines the key principles for tracking climate adaptation finance in their investment operations, and cites classification examples from sectors such as energy, agriculture, and infrastructure, however, it does not provide health-specific considerations.[7] It is therefore challenging to objectively assess whether the benefits of health-related climate investments, such as reducing morbidity and mortality linked to climate-sensitive diseases have been consistently quantified when reporting climate adaptation financing.[8]

Moreover, analysing the multifaceted nature of these investments requires a nuanced consideration for the direct and indirect effects of climate change on health. For instance, rising temperatures can exacerbate the spread of vector-borne diseases such as malaria and dengue, while extreme weather events can disrupt healthcare delivery and increase the incidence of waterborne diseases.[9] Climate can also impact non-communicable diseases (NCDs), as seen in some studies.[10]

These dynamics necessitate a comprehensive framework to systematically assess and quantify adaptation relevance in health and immunisation investments at the community and system levels.[11] While some MDBs have internal sector-specific mechanisms for tracking health adaptation contributions, there are no commonly used and widely accepted methodologies specific to the health sector. This report directly addresses these challenges by developing the Camber Approach for this purpose, using a tiered approach to categorise adaptation contributions based on data availability, ensuring a scalable and transparent process specific to climate-health finance related activities and related adaptation tracking. By providing a transparent and public framework, this work enables MDBs, governments, and other funders to more effectively identify and report health system investments that contribute to climate resilience.

While governments are significant in funding health sectors, MDBs and other funders are essential to strengthening health system resilience—particularly through health governance, regulation, and institution-building.[12] However, adaptation finance reporting mechanisms are not clear and transparent across funders, and it is difficult to compare and track funder contributions to climate resilience in the health sector.

Addressing this gap will equip funders with greater support and evidence to strategically allocate resources towards interventions that have potential to reduce climate-driven health risks.

Focus and Context

This report aims to enhance health adaptation finance tracking through increased consistency and transparency, by providing a structured framework to map health and immunisation investments and evaluate their role in climate adaptation. This supports a "shared, clear understanding of evidence-based high-impact climate and health investment areas" at global and country levels, one of the key needs identified in the climate-health financing space through a recent analysis.[13] The report builds on previous Gavi and MDB analysis; it sought to analyse climate adaptation financing from three MDBs and Gavi. These four organisations have been selected due to the ease of data accessibility, and this list is not intended to be comprehensive of all funders of climate-health investments. The report was developed in consultation with multiple experts and organisations in the climate x health space, including those in academia (e.g., the Vaccine Impact Modelling Consortium), policy, and development finance institutions.[14]

7 *Joint Methodology for Tracking Climate Change Adaptation Finance*, 2021
8 Watts et al., 2019
9 Patz et al., 2005
10 Abiona & Ajefu, 2023
11 Ebi & Hess, 2020
12 AIIB Health Strategy, 2024
13 Resourcing Climate and Health Priorities, 2025
14 Quantifying the Impact of Climate Change, 2023

Previous efforts such as the MDB Joint Methodology for Tracking Climate Change Adaptation Finance 2022 lay out cross-sectoral guidance and a three-step approach for tracking adaptation finance.[15] This report seeks to provide a **complementary, consistent, conservative, and granular approach** to quantifying adaptation shares specifically in the health sector, which could be used together with the existing methodologies. The Joint MDB Methodology relies on clear intent in project documentation to link investments to adaptation and focuses on investment inputs, the Camber Approach supplements this with proposed categorisation, classification, and assessment of adaptation co-benefits once the climate vulnerability context and the linkages of the project to existing vulnerabilities is established.

The Camber Approach therefore complements existing guidance by providing a structured framework to systematically assess adaptation relevance in health sector activities. It focuses on adaptation share and impact of investments, rather than inputs, and offers an additional layer of analysis, guidance, and classification to better capture and evaluate adaptation contributions from climate-health investments. This is explained in further detail in the methodology section of this report.

The proposed methodology is designed to assess the estimation of different health investments that support climate resilience, and propose some methodology based on existing approaches and data.

- **Need for Tailored Solutions:** A more tailored and nuanced approach is needed that addresses key climate and health consideration. As in this report, it is important in bridging evidence gaps in the health sector and sub-sectors like immunisation where adaptation impacts are less explicit but highly relevant.[16]

  Sector-Specific Evidence Gap: The global health sector has not yet incorporated robust shared frameworks to measure adaptation effects. Our approach incorporates sectoral nuances and proxies, including country-level climate vulnerability indices and a sectoral benchmark, to address this consideration.

- **Data Availability Challenges:** The Camber Approach works to provide a structured and detailed approach to determining adaptation relevance of all types of health investment activities. This methodology provides a tiered approach to accommodate varying levels of data availability on climate adaptation (e.g., when investment data may not provide granularity on activity breakdown), as well as sector-based historical trends and assumptions to quantify adaptation contributions when detailed data is not available. This ensures that adaptation relevance can still be quantified even when data is limited.

This framework provides structured insights that can help development finance institutions refine their investment strategies, ensuring more efficient funding and more effective integration of climate resilience considerations into health financing.

These findings make a clear case: investing in health is a core component of climate action. For funders seeking to deliver on climate commitments while improving health and wellbeing, health adaptation investments offer a compelling and underutilised pathway forward.

Gavi/2025/Ashraful Arefin

15 *Joint Methodology for Tracking Climate Change Adaptation Finance*, 2022
16 Health and Climate Change, n.d.

Objectives and Scope

This report addresses critical gaps in tracking and assessing investments that address the health impacts of climate change, particularly in low- and middle-income countries where vulnerability is highest. It therefore aims to:

- **Prioritise Health within Climate Adaptation:** Elevating health investments as one of the central pillars of climate adaptation financing[17]
- **Develop and Harmonise Methodologies:** Contributing to shared methodologies to assess and track climate-health investments, better define and classify health-related adaptation activities, and establish a common taxonomy, particularly where data limitations exist
- **Facilitate Collaboration and Partnership:** Increasing coordination and partnership between countries, financing partners, and other agencies to enhance climate-health outcomes
- **Direct Resources:** Providing an analytical foundation to facilitate the scale-up of climate-health investments from public and private sectors and leveraging innovative financing mechanisms

This specific analysis seeks to generate a detailed inventory of health-related climate adaptation investments among key global funders and conduct an initial mapping of the climate adaptation share of these investments, where not already available.

This includes a detailed mapping of all health systems and immunisation-related investments made by the Asian Infrastructure Investment Bank (AIIB), Asian Development Bank (ADB), the World Bank (WB), and Gavi over the last five years, based on the most recent complete years of data available. Where available, funders' internal estimates were used to determine the climate adaptation share of health investments; these investments were also assigned to adaptation categories in the Camber Approach.

Investment data covered is summarised in the table below. Investments and project years were determined by data availability and MDB input. It should be noted that this period is heavily weighted to COVID-19 management and response, based on world events at the time. However, given the rapidly evolving evidence base in the climate and health space, this most recent period was still selected over years prior to COVID-19.

17 Other sectors with major adaptation contributions include ecosystems and ecosystem services, food and water security, resilient infrastructure, and livelihood interventions for vulnerable communities.

Table 1. Data Sources and Adaptation Share Assignment Methodology of Key Funders

	GAVI	AIIB	WORLD BANK (SELF-REPORTED)	ADB (SELF-REPORTED)	OTHER
Data source	Health strengthening, vaccine expenditure investments	Health infrastructure, public health, economic resilience projects	Health investments in annual Climate Finance reports		Desk research
Years covered	2019-2025	2019-2024	2019-2023	2019-2023	Similar timeframe
Adaptation share estimate*	Camber Approach applied	Camber Approach applied	Camber Approach not applied; World Bank and ADB internal adaptation estimates used		N/A

*For funders that have already assigned estimates of climate adaptation contributions (i.e. World Bank and ADB), this analysis did not apply the Camber Approach methodology and instead deferred to the provided calculations, to avoid duplication of efforts and to leverage internal methodologies and expertise on investments. Where estimates were not already provided (i.e. Gavi and AIIB), the Camber Approach methodology was used to determine the climate adaptation share of investments.

Report Methodology

This report seeks to apply the Camber Approach to consider climate adaptation benefits in a range of health sector investments, to account for data restrictions/limitations and country vulnerability context.

Climate-health investments were identified through the self-reported sources discussed in the previous section, mainly to understand which health investments have climate relevance and which climate finance investments are within the health sector. The adaptation share of these climate-health investments refers to the proportion of funding that contributes to climate adaptation, either determined through self-reporting of internal methodologies (World Bank and ADB) or by applying the Camber Approach.

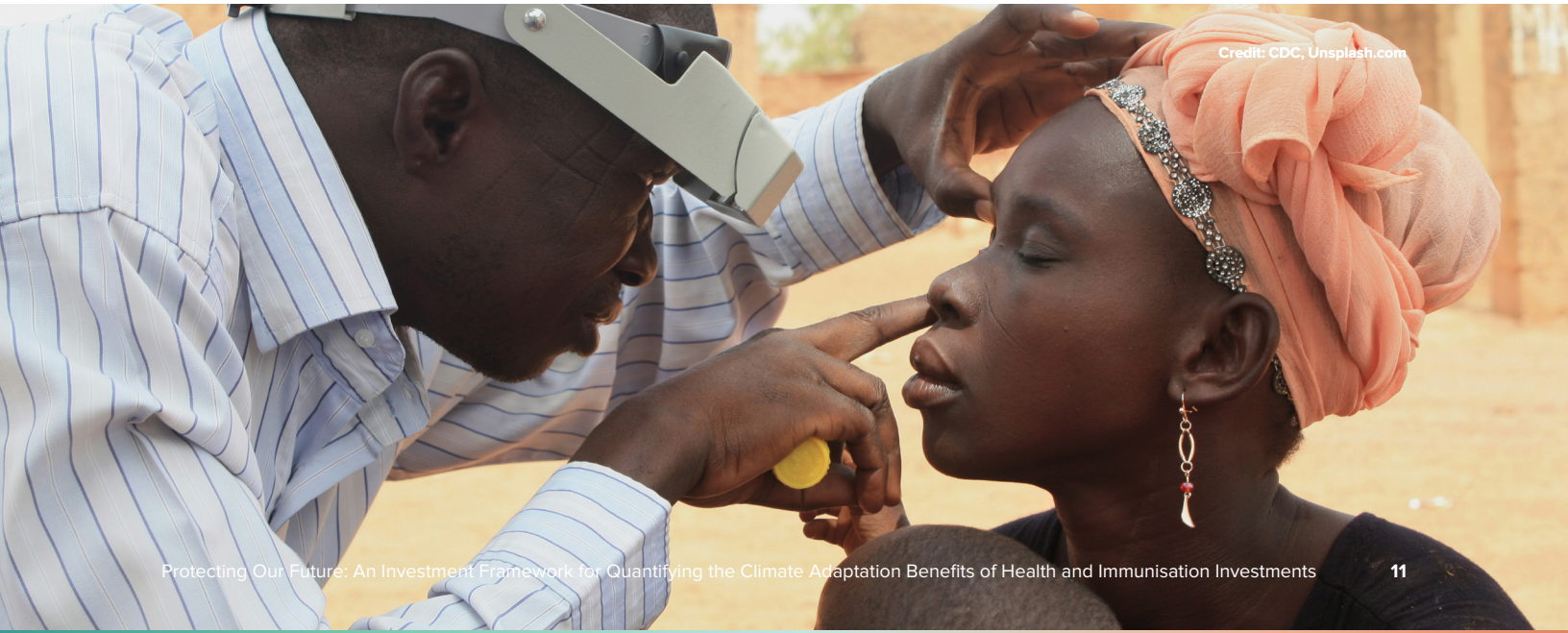
Complementarity

Existing methodologies for tracking adaptation finance provide broad cross-sectoral guidance but do not always account for sector-specific nuances in health and immunisation investments. Climate-health financing is an evolving field where the evidence base continues to advance, and funder strategy continues to evolve. In addition, some publicly available investment information lacks detail, hindering assessment of intentionality or adaptation relevance.

The Camber Approach is designed to complement these existing frameworks by offering a structured, sector-specific methodology that refines adaptation finance tracking in health and focuses on the benefits and impacts of adaptation-related investments rather than inputs. It fills critical gaps by integrating historic sectoral benchmarks, climate vulnerability adjustments, and tailored activity classifications for health interventions, allowing for application over diverse regions and health sub-sectors. By applying a balanced tiered estimation approach, the framework ensures robust and unbiased assessments of adaptation relevance, even when investment data is incomplete or lacks detail.

Rather than replacing existing methodologies, the Camber Approach enhances adaptation tracking with a detailed health-specific analytical layer. It provides clear categorisations and granular adaptation breakdowns of health investment activities – such as immunisation against climate-sensitive diseases.

In this report's Camber Approach, we seek to further account for the value and impact of investments at the intersection of climate and health. The goal is to provide further detail and insight on MDB climate-adaptive health investments in the last five years.



Credit: CDC, Unsplash.com

Overview

There are three key phases in this report's methodology:

1 | Define key components of climate adaptation in immunisation

Health and immunisation investments will be **categorised into five adaptation categories** using a keyword-search methodology:

Early warning systems and health surveillance

Immunisation programmes against climate-sensitive diseases

Rapid Response Teams for Climate Emergencies (RRTs) for climate-driven health emergencies (community health preparedness programmes)

Improving vaccine cold chain systems

Strengthening health infrastructure to withstand extreme weather

Investments will be assessed for their contributed share to these adaptation activities.

2 | Assign adaptation weights to each categorisation

2a) Co-benefits Approach ➜ where data is known and there is a clear breakdown of activities and allocated costs

- Percentage attributions are made according to their contribution to climate resilience

2b) Sector Incidence Approach ➜ where there is no breakdown of activities/costs needed to "unbundle" the investments. There are two potential approaches, based on data granularity

Adaptation Weight (*AW*) =

More granular [1]

$$(CV * AC_{base} * 0.01)$$

Less granular [2]

$$\frac{CV * 0.1 * (SB + AC_{base} * 0.1)}{2}$$

The AW reflects the sectoral contribution to adaptation and adaptation relevance of the specific component, both adjusted for regional vulnerability. Inputs used are:

- **Sectoral Benchmarks (*SB*)*:** Typical proportion of sector adaptation investment
- **Component Adaptation Classification (AC *base*):** Classification of the relevance to climate adaptation conceptually similar to the MDB framework
- **Climate Vulnerability Index (*CV*):** A measure of the region's climate vulnerability to climate impacts based on the ND-GAIN index, adapted for scale

3 | Allocate climate adaptation value

Adaptation Value is calculated using:

- **Investment component:** Each major component of the health project (Step 1)
- **Adaptation Weight:** % of that component that is explicitly or implicitly contributing to climate adaptation (Step 2)
- **Total Investment:** Total MDB health investment in the country

$$\sum \textit{Adaptation Share (AS)} = \left(\frac{\text{Investment Component} * \text{Adaptation Weight}}{\text{Total Investment}} \right)$$

Activities were allocated to one of five adaptation categories, detailed in Step 1 above, through keyword mapping. The Camber Approach then applies a two-tier method developed with input from climate experts, with calculation rules that vary by data granularity. This allocates less weight towards AC base (component relevant classification) when there are data limitations created by less detailed or granular data. Climate vulnerability is calculated based on the ND-GAIN index.[18] The sectoral benchmark is based on a weighted average of World Bank and ADB adaptation share allocation within health investments from 2019-24.

Through this multi-faceted approach, the methodology can complement existing methodology by applying a proportional approach to activities based on health-specific categorisations and evidence. It can account for key factors such as climate vulnerability and sectoral benchmarks, providing a moderate approach to estimating the adaptation share of investments where it is not already available.

18 The ND-GAIN Index is a tool developed by the University of Notre Dame Global Adaptation Initiative (ND-GAIN) to measure a country's vulnerability to climate change and its readiness to improve resilience

Table 2. Investment Framework: Classifying Climate-Health Investments into Adaptation Categories

ADAPTATION CATEGORY	DEFINITION	EXAMPLE ACTIVITY
Early warning systems and health surveillance	Strengthen capacities to detect, monitor, and respond to climate-sensitive diseases through research, diagnostic tools, data integration, and cross-sector collaboration.	Development of diagnostic tools for emerging diseases exacerbated by climate change
Immunisation programmes against climate-sensitive diseases	Focus on routine immunisation and preventative campaigns, while enhancing vaccine development and community engagement to address emerging health threats exacerbated by climate change.	Integrating climate-sensitive diseases into routine vaccination schedules
Rapid Response Teams for Climate Emergencies (RRTs) for climate-driven health emergencies	Strengthen health systems' capacity to prepare for and manage climate-related disaster risks ensuring rapid and coordinated responses.	Develop protocols, playbooks, and knowledge management tools for managing complex climate-related health crises.
Improving vaccine delivery and cold chain systems	Increase both the reach and resilience of vaccination programmes, particularly in underserved areas via improvements in delivery and/or cold chain systems	Implementing solar-powered cold chain solutions
Strengthening health infrastructure	Enhance the resilience, accessibility, and efficiency of healthcare systems and services to better withstand the impacts of climate change.	Adapting healthcare infrastructure for extreme weather (e.g., energy-efficient equipment, robust water and sanitation systems).
Other	Activities that do not fall into the above categories but have been tagged as health and assigned an adaptation contribution amount by MDB funders	Livelihood and nutrition support programmes

The following approach was used to determine how common investment activities were assigned a Component Relevance score and AC base value.[19] The Adaptation Classification (AC base) value is detailed in Table 3; it informed the calculation of the project's adaptation weight as in the formulas above (i.e., the proportion of the investment contributing to climate adaptation) and ultimately, the adaptation share of an investment.[20]

Further detail on each of these components and guidelines for assessment can be found in Appendix B.

19 Low Relevance investments were assigned an AC base of 1-3; Moderate Relevance investments were assigned an AC base of 4-7; High Relevance investments were assigned an AC base of 8-10.

20 Adaptation share per country refers to the proportion of investments contributing to adaptation, across all funders analysed over the given time period. Adaptation share per funder refers to the proportion of investments contributing to adaptation, across all countries and regions those funders operate in over the given time period.

Table 3. Approach to Assessing Component Adaptation Classification (AC base)/ Adaptation Contribution of Investments

ACTIVITY CATEGORY	ADAPTATION CATEGORY	AC BASE VALUE/ ADAPTATION RELEVANCE
Immunisation service delivery for zero-dose	Vaccine delivery/Cold chain	Low
Immunisation service delivery for climate-sensitive diseases	Immunisation against climate-sensitive diseases	Varies*
Other climate-relevant health service delivery	Other	Medium
Supporting health services workers (e.g., capacity-building, inclusion)	Strengthening health infrastructure	Low
Supply chain capacity and planning	Vaccine delivery/Cold chain	Medium
Supply chain capacity and planning (not for vaccines)	Strengthening health infrastructure	Low
Disease outbreak response	Rapid response teams	Medium
Healthcare monitoring systems/ surveillance	Early warning systems and health surveillance	Low
Community and partner engagement/demand generation	Strengthening health infrastructure	Low
Health infrastructure and maintenance (e.g., hospitals)	Strengthening health infrastructure	Low

Data Exclusions and Limitations

This methodology is designed to apply a conservative and granular approach to avoid potential overestimation of adaptation financing. Health systems strengthening (HSS) investments are defined based on MDB/Gavi internal assessments of health investments designed to improve health systems. All health systems strengthening investments were considered but were selected for inclusion based on the climate adaptation relevance of the project objectives or description.

Cold chain investments were generally included, given the climate benefits of increasing temperature resilience of vaccine delivery and expert validation. COVID-19 related investments that had broader goals and applicability (e.g., strengthening health systems, general emergency response) were included, but investments solely focusing on immediate and limited COVID-19 response were excluded. Vaccine-related investments were mainly included for climate-sensitive diseases.[21] Zero dose efforts were included as they represent a cross-cutting priority that is vulnerable to climate impacts but generally received the lowest AC base (component-relevance classifications) score due to indirect relevance.[22] General global stockpiles for disease outbreak and emergency response were also excluded from data analysis, although they were included in spotlights as examples of notable innovations.

As previously mentioned, the scope of this analysis covers multiple years when health investors focused significant attention towards COVID-19. Therefore, this data might not be fully representative of typical health strengthening investment trends.

This approach is also focused on historical investments and may not reflect most recent investment strategies and updates. In recent years, MDBs have increasingly called attention to the need for climate adaptation in healthcare systems. Bilateral donors have increased the share of climate finance directed to the health sector from 1 per cent in 2018 to 9 per cent in 2022.[23] Additionally, one of the strategic priorities for AIIB's 2024 Health Strategy is "green and climate-resilient health systems."[24] Adaptation shares in this report are intended to reflect only the years and funders analysed, and therefore are likely to underestimate the overall scale of climate-health investments. It is expected that adaptation shares will increase in most recent and future periods with advancing knowledge and focus on the intersection between climate and health.

Table 4.Climate-Sensitive Diseases & Other Grants Included in Analysis

EXCLUDED FIELDS FROM ANALYSIS	INCLUDED IN ANALYSIS
PCV, IPV, Rota, Penta, HPV, Measles, COVID-19, TD, HEPB, Rabies PEP, MPOX, Ebola, Hexa	Yellow Fever, Cholera, Typhoid, Meningitis A, Malaria, Japanese Encephalitis, Vaccines – Zero Dose, Big Catch-Up, Dengue (limited existing investment data)

21 These include Dengue, Meningitis A, Japanese Encephalitis, Yellow Fever, Cholera, Malaria, Typhoid, Chikungunya, and Shigella. (Quantifying the Impact of Climate Change, 2023). There have not yet been any programmes dedicated to Dengue, Chikungunya and Shigella, but were included nonetheless so that future analyses can be comparable.
22 Quantifying the Impact of Climate Change, 2023
23 Resourcing Climate and Health Priorities, 2025
24 AIIB Health Strategy, 2024

Landscape Review

The Camber Approach was applied to ADB, AIIB, Gavi, and World Bank investments within the last five years. The Camber Approach was entirely leveraged to assess AIIB and Gavi health-related investments in these countries. World Bank and ADB investments were classified into adaptation categories, but the MDB internally calculated adaptation finance share was used and reported, based on their internal methodologies. The following section details the findings from this analysis.

Note:

This report builds on similar data sources but takes a slightly different approach than the recent SEEK Development and The Rockefeller Foundation report on climate-health financing, reflecting the distinct objectives of each analysis. While the SEEK-Rockefeller report examined both adaptation and mitigation financing within the health sector, this report adopts a distinct perspective by analysing adaptation financing as a proportion of total climate-health investments, as reported by funders.

With a specific focus on examining adaptation financing trends and categorisation, the Camber Approach provides a more detailed breakdown of adaptation-relevant investments, offering deeper insights into how adaptation funding is structured within climate-health finance. Despite these differences, both reports share a common goal of improving transparency in climate-health funding flows and highlight similar challenges in tracking and mobilising adaptation finance for health.

Credit: Clickpiks, Freepik.com

Data Dashboards

Table 5. Overall CxH and Adaptation Funding by Funder (2019-2023)

	ADB (SELF-REPORTED)		AIIB (CAMBER APPROACH)		GAVI (CAMBER APPROACH)		WORLD BANK (SELF-REPORTED)	
	Total CxH Investment	Adaptation Amount	Total CxH Investment	Adaptation Amount	Total CxH Investment	Adaptation Amount	Total CxH Investment	Adaptation Amount
YEAR	(US $M)	(US $M)	(US $M)	(US $M)	(US $M)	(US $M)	(US $B)	(US $M)
2019	$ 250.0	$ 1.9	$ -	$ -	$ 115.7	$ 16.6	$ 3,100.5	$ 144.5
2020	$ 300.2	$ 1.2	$ 1,055.0	$ 205.5	$ 19.1	$ 2.4	$ 8,274.8	$ 624.7
2021	$ 1,775.3	$ 129.4	$ 500.0	$ 164.8	$ 165.0	$ 47.7	$ 5,517.5	$ 142.6
2022	$ 946.7	$ 13.5	$ 100.0	$ 22.5	$ 272.8	$ 77.9	$ 9,584.4	$ 477.5
2023	$ 2,160.8	$ 415.4	$ 1,532.0	$ 391.7	$ 533.3	$ 104.3	$ 4,383.5	$ 348.2
Total (2019-23)	$ 5,433.0	$ 561.5	$ 3,187.0	$ 784.5	$ 1,105.9	$ 248.9	$ 30,860.7	$ 1,737.5
Total (all years analysed)	$ 5,433.0	$ 561.5	$ 3,300.9	$ 790.1	$ 2,633.9	$ 614.6	$ 30,860.7	$ 1,737.5

Table 6. Adaptation Category Investments Breakdown by Funder

	ADB (SELF-REPORTED)		AIIB (CAMBER APPROACH)		GAVI (CAMBER APPROACH)		WORLD BANK (SELF-REPORTED)	
Adaptation Category	Adaptation Funding ($M)	% of Adaptation Investment	Adaptation Funding ($M)	% of Adaptation Investment	Adaptation Funding ($M)	% of Adaptation Investment	Adaptation Funding ($M)	% of Adaptation Investment
Early warning systems/health surveillance	-	0.0%	$149.0	18.9%	$2.9	0.5%	$296.7	17.1%
Immunisations against climate-sensitive diseases	-	0.0%	-	0.0%	$509.8	83.0%	$98.8	5.7%
Rapid response teams for climate emergencies	$39.8	7.1%	-	0.0%	-	0.0%	$243.5	14.0%
Vaccine delivery/ cold chain	$48.4	8.6%	$164.8	20.9%	$101.4	16.5%	$11.1	0.6%
Strengthening health infrastructure	$448.1	79.8%	$476.3	60.3%	$0.4	0.1%	$711.3	40.9%
Other	$25.1	4.5%	-	0.0%	-	0.0%	$376.1	21.7%

'Strengthening health infrastructure' investments are largely in modernising hospitals and health systems, particularly after COVID-19; 'Other' investments are mostly by the World Bank in the areas of livelihood/nutrition/disaster management support.

Table 7. Overall Adaptation Share by Funder

	ADB (SELF-REPORTED)	AIIB (CAMBER APPROACH)	GAVI (CAMBER APPROACH)	WORLD BANK (SELF-REPORTED)
Share of Climate-Health funding going towards Adaptation	10.3%	23.9%	23.3%	5.6%

Table 8. Gavi Climate-Sensitive Diseases Adaptation Investment Breakdown

Disease/Antigen	TOTAL INVESTMENT (US $M)	ADAPTATION INVESTMENT (US $M)	ADAPTATION SHARE %
Yellow Fever	$446.1	$162.5	36.4%
Cholera	$475.0	$171.5	36.1%
Typhoid	$216.6	$42.9	19.8%
Meningitis A	$74.6	$14.5	19.5%
Malaria	$325.6	$118.0	36.2%
Japanese Encephalitis	$1.5	$0.4	23.2%

Table 9. Expected Adaptation Contribution of Investment Activities (per $100 invested)

INVESTMENT ACTIVITIES CONTRIBUTING TO ADAPTATION			DEMONSTRATION OF EXPECTED ADAPTATION CONTRIBUTION (PER $100 INVESTED)		
Adaptation Category	**Investment Type***	**AC base Weighting**	**High Vulnerability**	**Moderate Vulnerability**	**Low Vulnerability**
Early warning systems and health surveillance	Use of surveillance data to identify how to improve immunisation programme effectiveness and disease detection	4	$19.9	$11.9	$4.0
	Strengthening detection and response systems for COVID-19	3	$15.7	$9.4	$3.1
	Monitoring of Adverse Events Following Immunisation (AEFI) in all health areas	1	$7.4	$4.4	$1.5
	Improving quality of timely routine management information & regular surveillance systems				
Rapid response teams for climate-driven health emergencies	Health services for underserved populations following emergencies	1	$7.4	$4.4	$1.5
Improving vaccine delivery and cold chain systems	Cold chain (supply chain, procurement/ expansion, physical capacity improvements)	4	$19.9	$11.9	$4.0
	Extend immunisation service to zero-dose, under-immunised children (service delivery and demand generation)	1	$7.4	$4.4	$1.5
	Improve design of immunisation supply chain to improve efficiency and vaccine availability				
	Improve access to immunisation services (including training of health workers, strengthening governance and coordination, vaccine storage and distribution quality improvement)				
Strengthening health infrastructure	Scale-up of supply chain infrastructure, including solarisation of health facilities	8	$36.5	$21.8	$7.3
	Enhance equitable access to quality EPI/VPD (Expanded Programme on Immunisation/ Vaccine Preventable Disease Surveillance) to increase uptake of priority health services	4	$19.9	$11.9	$4.0
	Improve data quality accessibility to improve health system performance (including digital health interventions in health facilities); Post-COVID health systems strengthening; general health systems improvements	1	$7.4	$4.4	$1.5
Immunisation against climate-sensitive diseases	Highly climate-sensitive diseases	8	$36.5	$21.8	$7.3
	Moderately climate-sensitive diseases	4	$19.9	$11.9	$4.0
Other	Livelihood and nutrition support	1	$7.4	$4.4	$1.5

Figure 1. Estimated Climate Adaptation Funding by Funder, 2019-2023 (US $M)

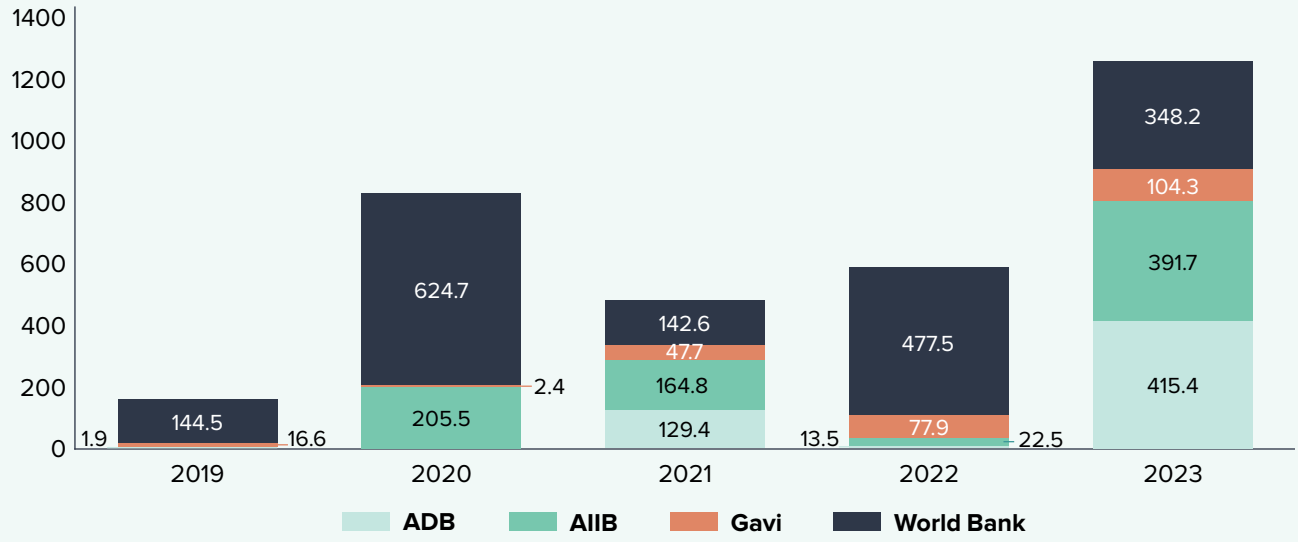


Figure 2. Total CxH Investment by Adaptation Category (US $M)

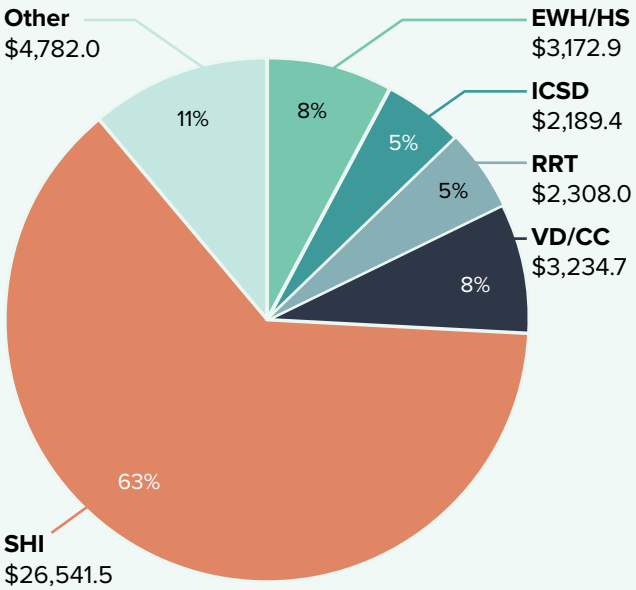
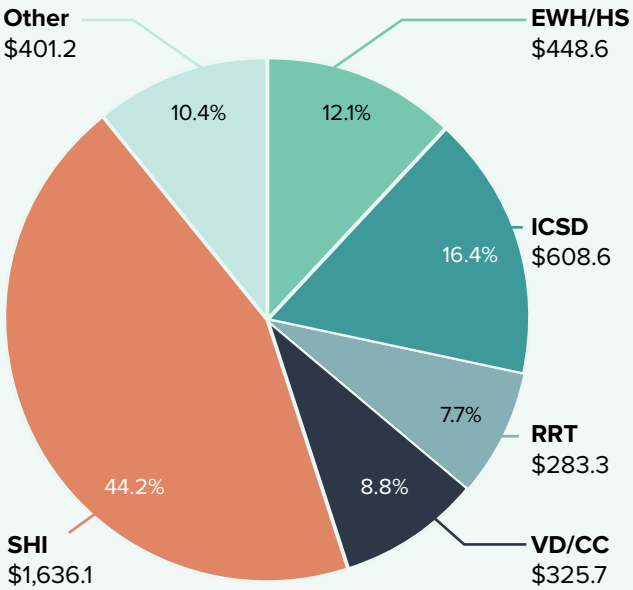


Figure 3. Adaptation Funding by Adaptation Category (US $M)



EWS/HS: Early warning systems and health surveillance
ICSD: Immunisations against climate-sensitive diseases
RRT: Rapid Response Teams for climate-driven health emergencies
VD/CC: Improving vaccine delivery and cold chain systems
SHI: Strengthening health infrastructure
Other includes general development and nutrition services reported by ADB/World Bank

Please note that the investments analysed do not represent an exhaustive list of climate-health investments in these countries, and focus on investments for the funders listed.

Understanding the Data

An analysis on climate-health funding over the years reveals an increasing focus and amount of climate-health investments, particularly those focused on adaptation. Since 2019, a total of US $42.2 billion has been invested in climate-health initiatives by ADB, AIIB, Gavi, and the World Bank. Of this, 8.8 per cent (or US $3.7 billion) has been allocated to climate adaptation. The number of investments dedicated to climate and health have increased significantly from 2019 to 2025, for all funders in this analysis. This trend highlights an increased funder focus on the important intersection of climate and health, and the importance of adapting health systems to a changing climate.

However, while funding has grown over the years analysed, continued and increased investment in this space remains essential. Recent reports find that climate-health finance often fails to reach the most climate-vulnerable countries, underscoring the need for finance partners, particularly multilateral development banks and multilateral climate and health funds, to scale up this financing.[25] To meaningfully address the challenges posed by climate to health and health systems, it is important for climate-health funding to continue to grow, as underscored by multiple experts interviewed for this report.

Funders analysed tend to invest in climate-health in ways aligned to their strategic priorities. The majority of World Bank, ADB, and AIIB investments are in the category of strengthening health infrastructure, which reflects both the strategic priorities of these organisations (in health infrastructure and systems) and the period considered (including health systems support related to COVID-19). For example, **41 per cent** of World Bank's and **60 per cent** of AIIB's climate-health adaptation funding was towards health infrastructure. Similarly, Gavi's investments were overwhelmingly towards addressing the immunisation and disease-related impact of climate change, such as immunisations against climate-sensitive diseases, comprising 83 per cent of all climate-health adaptation funding.

Some of the most significant investments analysed in this report were the result of partnerships across funders. Both experts and data analysis suggests that partnerships (often between funders, governments, and other related organisations) are critical to scaling climate-health adaptation financing.

The Bangladesh Climate and Development Platform (BCDP), which mobilises US $1.4 billion, is one such example of partnerships between international financial institutions, multilateral and bilateral donors, and the national government to create a mechanism for greater adaptation and mitigation funding. Similarly, climate-health investments that were emphasised by experts as being particularly impactful were those where funders were able to understand local government context and priorities, and fund adaptation efforts within these priorities. For instance, four out of five of the largest adaptation-contributing investments in the Philippines were geared towards implementing health financing, service delivery, and performance monitoring reforming needed to achieve universal healthcare, a key priority for the country's government.

The potential adaptation contribution of an investment depends heavily on the adaptation relevance of an investment. Investments most closely tied to climate adaptation naturally have the highest adaptation benefits, in addition to the health benefits already known. In the data analysed, investments **adapting health infrastructure in renewable or sustainable ways and investments in immunisation against highly climate-sensitive diseases** presented the strongest adaptation contributions; this analysis revealed these 'highly relevant' adaptation activities could be expected to yield US $36.5 dollars (for every US $100 invested in a highly climate vulnerable country). Table 9 outlines the adaptation contributions of various sub-activities within health sector investments based on this analysis. This data can potentially be utilised to guide future health sector investments.

25 Resourcing Climate and Health Priorities, 2025

Challenges and Limitations

A significant challenge in assessing climate adaptation financing in the health sector is the lack of publicly shared methodologies used by MDBs and other funders to evaluate adaptation investments. Without standardised and transparent adaptation assessment frameworks, it becomes difficult to compare and analyse how MDBs are categorising and measuring their contributions to climate adaptation, leading to inconsistencies in assessment. While this report's Camber Approach devises a framework to address data challenges, full comparison with the MDB methodologies used by ADB and the World Bank is impossible without further public data on individual approaches, or the adoption of shared approaches.

Additionally, while MDBs and other funders disclose broad funding and project figures, publicly accessible data often lacks sufficient detail to accurately classify investments into individual adaptation categories and understand adaptation objectives. This restricts efforts to track and compare progress across funders, identify gaps, and optimise resource allocation for climate adaptation in the health sector. While the Camber Approach accounts for such gaps through a two-tier approach, more detailed and consistent reporting of climate-health adaptation financing across funders is key to meaningful evaluation of investments.

As previously discussed in this report, determining the intentionality behind climate-related investments remains a challenge when relying on publicly available data. Many projects may contribute to climate adaptation even if they were not initially designed with that purpose in mind. Even projects explicitly intended for climate change must be rigorously evaluated to determine realistic adaptation share and impact. Furthermore, external data does not always provide explanations on why investments are classified as being climate-intentional or provide detail to allow external assessment of intentionality. Addressing these transparency gaps is crucial to ensuring more effective, evidence-based decision-making in climate and health investments.

The Camber Approach aims to complement existing methodologies by adding classifications and details for health activities, but it is essential for all funders to report investment activities transparently and in detail, to enable future adaptation share assessment.

Credit: Jonathan Borba, Unsplash.com

Spotlights on Key Innovations

Planned Climate x Health Investment by MDBs and Gavi

As climate and health gain prominence in global dialogues surrounding health, **MDBs and major funders are increasing formal recognition of this intersection and strengthening their commitments to climate resilience.** Among these, the funders discussed in this analysis (World Bank, ADB, AIIB, Gavi) have made concerted efforts to align their financing strategies with global climate goals, namely the Paris Agreement. AIIB, with its regional focus on Asia - home to some of the most climate-vulnerable countries - has established their first Climate Action Plan (2023-2030).[26] AIIB's Corporate Strategy aims to maximize climate benefits and exceed a 50 percent share of climate finance of its investments by 2030; while there are no adaptation financing targets for climate-health investments, AIIB's overall adaptation finance share has been growing. In 2024, AIIB approved US $5.6 billion in climate finance, accounting for 67% of the total approved financing, of which 27% was allocated to adaptation. AIIB's climate financing has grown significantly from the US $3.4 billion in 2023, with a US $ 1.2 billion rise in climate adaptation finance compared to the previous year.[27]

Similarly, the World Bank has significantly expanded its climate finance targets, announcing at COP28 that 45 per cent of its annual financing for 2024-2025 (totalling upwards of US $40 billion) will support climate finance.[28] This figure is around US $9 billion more than previously committed.[29] In order to target adaptation and resilience investments specifically, the World Bank has set a goal for half of all public sector climate financing, via the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), to target adaptation.[30] The organisational target aims for adaptation financing to be 50 per cent of total climate co-benefits (CCBs). Given the organisation-wide target is 45 per cent CCBs, this results in a target of 22.5 per cent of overall financing going to adaptation, including in the health sector.

ADB has elevated its climate finance commitment to US $100 billion by 2030, with at least 75 per cent of its committed operations to contribute to adaptation and mitigation activities.[31] In 2022, ADB reported committing US $7.1 billion to climate finance, of which 60 per cent (or US $4.3 billion) was expected to contribute to mitigation and 40 per cent (or US $2.8 billion) to adaptation; this was the largest adaptation figure the Bank had on record since reporting started in 2011.[32] ADB has announced a target of 15 per cent of its health-focused investment portfolio to include climate considerations.[33] They have not publicly shared how much of this climate-health funding will be targeted towards adaptation.

From 2021 to 2025, Gavi committed a total of US $1.5 billion to six climate-sensitive diseases: cholera, Japanese encephalitis, meningitis, typhoid, yellow-fever, and malaria.[34] Looking ahead to its next strategic period (spanning 2026-2030), Gavi has announced that it will accelerate its work to reduce the number of 'zero-dose' children. These children are often part of the most vulnerable, marginalised and underserved communities which are never reached by routine immunisation services, including for climate-sensitive diseases).[35] Additionally, Gavi will strengthen its efforts to help countries adapt to climate change scaling up its investment to at least US $2.2 billion. This funding plans to provide more protection against climate-sensitive diseases, to introduce a dengue vaccine, and expand preventative campaigns and vaccine stockpiles against diseases like cholera and yellow-fever.[36]

Collectively, these funders are driving significant investments in climate and health. Through increased financing commitments and strategic initiatives, they plan to reduce climate-related health risks, promote sustainable development, and help countries build adaptive capacity.

Credit: Freepik.com

26 AIIB Climate Action Plan, 2023
27 AIIB Annual Report, 2024
28 *World Bank Group Doubles Down on Financial Ambition to Drive Climate Action and Build Resilience,* n.d.
29 Valerie Volcovici, 2023
30 *Climate Finance Fiscal Year 2024 Snapshot,* n.d.
31 *ADB's Work on Climate Change and Disaster Risk Management,* 2025
32 *ADB's Work on Climate Change and Disaster Risk Management,* 2025
33 Resourcing Climate and Health Priorities, 2025
34 Figure obtained from this analysis.
35 *Introduce and Scale Up Vaccines,* 2024
36 *Introduce and Scale Up Vaccines,* 2024

Gavi Climate x Health Innovations

Gavi, the Vaccine Alliance, has been **among the forefront of innovative financing and preparedness efforts to address climate-sensitive diseases and health challenges exacerbated by climate change.** This has been demonstrated particularly in financing that can help address emergencies resulting from climate-sensitive diseases, such as rapid-response financing, vaccine stockpiling, and vaccine-preventable disease (VPD) surveillance.

Gavi has strengthened global vaccine stockpiles to combat climate-sensitive diseases, including cholera, yellow fever, and meningococcal disease. These emergency vaccine reserves are crucial in responding to outbreaks quickly and efficiently. When a country reports a sufficient number of confirmed cases, it can request vaccines from the International Coordinating Group (ICG), which reviews the request and authorises immediate shipment if necessary.[37] This mechanism has been successfully deployed in Bangladesh to limit cholera outbreaks among Rohingya refugees in Cox's Bazar, demonstrating the effectiveness of stockpiling in preventing large-scale health emergencies among vulnerable populations.

Further reinforcing its commitment to climate resilience, Gavi's 6.0 strategy emphasises the introduction and scale-up of vaccines for climate-sensitive diseases, such as malaria and dengue.[38] Given the increasing threat of vector-borne diseases due to rising global temperatures, expanding immunisation programmes for these illnesses is critical. By integrating these vaccines into national immunisation schedules, Gavi helps protect vulnerable populations in regions most affected by climate change and works towards adapting health systems and services to the effects from climate change.

Beyond direct vaccination efforts, Gavi also supports research on vector-borne disease surveillance systems in highly vulnerable regions, such as Sub-Saharan Africa and South Asia. These research initiatives aim to provide valuable insights into optimising adaptation investments, enhancing early warning systems, and improving overall preparedness for climate-related health threats.

In addition to significant financing towards addressing climate-sensitive diseases, one of Gavi's key funding innovations is the First Response Fund, a financing mechanism that provides up to US $500 million in rapid-response funding for outbreak containment within the first 50 days of an emergency.[39] This mechanism ensures that countries can respond swiftly to emerging health threats, minimising the spread of infectious diseases and mitigating broader public health crises resulting from climate emergencies.

By combining innovative financing, strategic vaccine stockpiling, programme expansion and learning agendas, Gavi is playing a pivotal role in strengthening health resilience in the face of climate change.

Credit: Adrien Taylor, Unsplash.com

37 Elinore Court, 2020
38 *Introduce and Scale Up Vaccines,* 2024
39 *How Day Zero Financing Could Help Protect the World during the next Pandemic,* 2024

Cross-Institutional Collaborations and Partnerships

Cross-institutional partnerships on CxH take different forms depending on the funder, funding structures and strategic priorities. **These collaborations matter because they enable more coordinated, sustained and context-specific responses to climate-related health challenges, unlocking greater impact than any one actor could achieve alone.** These range from:

- Project-level co-financing between recipient countries and major funders
- Partnerships between local organisations and large multilateral funders
- CxH coalitions in which multilateral funders commit long-term disbursements
- Non-MDB partnerships that fund research, advocacy, and knowledge-building around climate and health

Project-level co-financing partnerships between major funders and local ministries focus on direct investments in climate-resilient health systems and infrastructure. For instance, the Bangladesh Climate and Development Platform (BCDP) brings together the World Bank, ADB, IFC, AIIB, European Union and the Green Climate Fund (GCF), among others, to mobilise US $1.4 billion towards strengthening sustainable energy access and other climate-adaptive projects.[40]

Beyond direct project financing, large funders often form dedicated CxH coalitions, committing long-term financing support to drive systemic change in reducing adverse health impacts of climate change. The Climate and Health Co-Investment Facility, a partnership between GCF, UNDP, and WHO, is a funding mechanism that blends public and private capital to help countries implement health commitments made at COP26.[41]

Similarly, the Global Fund, Gates Foundation, and Foundation S have launched a US $50 million Climate x Health Catalytic Fund, which prioritises immediate and accessible financing for urgent adaptation activities.[42] The Wellcome Trust & WHO Climate Change and Health Partnership commits US $50 million on both catalytic funding and research on climate-related health risks, economic models assessing the financial burden of climate-health impacts and countries' progress in their disaster preparedness programming.[43]

On the other hand, non-MDB partnerships focus on research, advocacy and knowledge building to track CxH trends and improve global responses. The Lancet Countdown on Health and Climate Change, a collaboration between WHO, UCL, Tsinghua University, and more than 50 institutions, publishes an annual independent assessment of how countries are delivering on commitments made under the Paris Agreement, and how climate change is shaping global health across 53 key indicators.[44] Separately, the Global Climate and Health Alliance (GCHA), which includes WHO, Healthcare Without Harm, and the Climate and Clean Air Coalition assesses the extent to which health considerations are integrated into global climate negotiations, such as UNFCCC and COP processes, in addition to advocating for sustainable health sector practices.[45] These diverse partnerships reflect the growing recognition that coordinated efforts are essential to advancing climate and health solutions.

Credit: Adrien Taylor, Unsplash.com

40 Kristalina Georgieva, 2023
41 *GCF, UNDP and WHO Join Forces to Ramp up Climate Health Support for Developing Countries*, 2023
42 *Global Fund Unveils Pioneering Climate and Health Fund to Accelerate Global Action*, 2025
43 *Wellcome Announces US$25mn for Climate and Health as Part of US$50mn Commitment to World Health Organisation*, 2024
44 *Tracking Progress on Health and Climate Change*, n.d.
45 *The Global Climate and Health Alliance*, 2025

Recommendations

Our overall analysis suggests that targeted health investments remain a powerful, yet underused lever for building climate resilience, particularly for countries that are most exposed to increasing risks of vector-borne diseases, natural disasters, and other extreme weather events. Recent announcements by funders indicate a growing focus on climate-health financing and represent a crucial step towards scaling climate-health adaptation investments. Nonetheless, greater consistency of approach is key to sustained, impactful investment in this space.

Proposed Next Steps for Funders/MDBs

Based on our analysis and recommendations, DFIs, MDBs, funders, and global health organisations should consider the following strategic actions:

Expand funding for climate-sensitive health initiatives.
Compared to other sectors like agriculture or infrastructure, health adaptation receives far less climate finance. Funders should increase support (through dedicated financing tools like concessional loans and blended capital) for high-impact areas such as immunisation against climate-sensitive diseases.

Make climate adaptation a clear goal in health investments.
MDBs and health-sector funders should explicitly design future programmes (e.g., Gavi 6.0 and other climate-health efforts) with climate adaptation in mind from the beginning. This includes identifying how investments will help communities adapt to climate impacts, rather than relying on retroactive assessments.

Improve climate-health finance tracking and consider a universal approach.
Funders use different approaches to measure and report the share of health investments that contribute to climate adaptation. The Camber Approach offers a complementary model to current methods and enhances adaptation tracking with a detailed health-specific analytical layer. The approach outlined in this report accounts for investment-data limitations and adapts to evolving evidence on health activities with climate co-benefits.

Strengthen collaboration across funders through strategic partnerships.
Climate-health investments are often fragmented and there is a clear need for greater coordination and partnership among funders. MDBs, Gavi, and others should coordinate their investment strategies, especially in climate-vulnerable countries, through joint investment plans or multi-donor pooled funding mechanisms. Engaging private investors and philanthropic organisations in key areas (such as cold chain resilience, vaccine innovation, and climate-sensitive disease surveillance) can de-risk investments and help scale adaptation efforts.

Increase future-looking climate-health funding.
Currently, few funding mechanisms are designed to provide emergency response support in the event of climate-driven health crises (e.g., exacerbation of vector-borne diseases following flash floods). Expanding such emergency funding pools and ensuring that climate risks are factored into long-term health investment planning will better prepare systems to respond quickly and build lasting resilience.

This report underscores the need for a systematic and complementary approach to strengthen climate-health adaptation investing, through aligning strategies across funders and expanding innovative investment models. While funders have made significant progress, addressing gaps in adaptation tracking, securing sustainable funding, and embedding climate considerations into health policies will be essential. By doing so, health adaptation can become a core pillar of global climate-resilience efforts, and climate adaptation can be integrated into health-system investing.

Country Overviews

The methodology detailed earlier in this report was also applied to six countries, selected based on country context, MDB priorities, and climate vulnerability. As previously detailed, the full methodology was applied to AIIB and Gavi health-related investments in these countries, while World Bank and ADB investments were classified into adaptation categories but the existing adaptation finance share (calculated by the MDB) was used. The following section details the findings from this analysis.

Table 10. Global Investment Summary, from country analysis following methods outlined above

	BANGLADESH	PHILIPPINES	PAKISTAN	MALAWI	ETHIOPIA	NIGERIA	GLOBAL
Total climate-health investment ($M)	1,272.7	2,591.2	1,830.1	181.5	1,214.3	1,449.0	42,228.4
Total Adaptation ($M)	121.2	372.1	51.3	16.2	72.3	177.2	3,777.0
Adaptation share	**9.5%**	**14.4%**	**2.8%**	**9.0%**	**6.0%**	**12.2%**	**8.9%**

Ceedit: Gavi/2023/Nipah Dennis

Bangladesh

Strong efforts towards climate change adaptation and health systems resilience but requires greater integration and coordination of the health sector.

Climate Adaptation Funding

Includes all investments that have been tagged as contributing to climate adaptation from funders analysed

	$M
Total Investments with Adaptation Share ($)	**1,272.7**
Average Investment Size ($)	57.9
Median Investment Size ($)	1.8
Total Adaptation ($)	**121.2**
% of Climate Investments Contributing to Adaptation	**9.5%**

Investment Landscape

Adaptation Investments - Breakdown by Category

	$M	PERCENTAGE
Early warning systems and health surveillance (EWS/HS)	-	0.0%
Immunisation programmes against climate-sensitive diseases (ICS)	18.8	15.5
RRTs for climate-driven health emergencies	-	0.0%
Improving vaccine delivery and cold chain systems (VC/CC)	46.3	38.2%
Strengthening health infrastructure (SHI)	42.4	35.0%
Other	13.6	11.2%

Climate Vulnerability Context

Bangladesh Climate Context – Vulnerability & Health Commitments

INDICATOR	SUMMARY	RATING
Climate Vulnerability Score (ND-GAIN Index, normalised to 10-pt scale)	Measure of a country's exposure, sensitivity and ability to adapt to negative impacts of climate change. ND-GAIN measures this across 6 sectors.	8.58
Health Impacts (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the health impacts of climate change, or includes form of monitoring/ quantification of health impacts	
Health in Adaptation (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the need for health in adaptation, and whether they have adaptation plans	
Economics and Finance (Healthy NDC Ranking)	Extent to which economic costs of climate change/savings due to interventions are mentioned	

*Latest ND-GAIN Vulnerability scores (out of 10, where higher scores indicate greater vulnerability) are as of 2024; Healthy NDC Rankings and Climate Action Tracker scores (out of 3) are as of 2021

Other Key Investments

Investments made by funders that are not ADB, AIIB, WB, and Gavi

INVESTOR	PROJECT	DETAILS
Bangladesh Government	Climate change adaptation budget	US $~1 billion annually (6-7 per cent of annual budget) towards adaptation as part of NDC goals
IMF, ADB, World Bank, IFC, MIGA, AIIB, EIB, GCF, JICA	Bangladesh Climate and Development Platform	US $~1.4 billion collaborative platform for national climate and sustainability funding towards adaptation and mitigation
European Union	Bangladesh Renewable Energy Facility	US $~430.5 million towards support for renewable energy

Ethiopia

Continued investments in health infrastructure drive the country's adaptation investments, with additional investment in early warning systems and immunisations against climate-sensitive diseases.

Climate Adaptation Funding

Includes all investments that have been tagged as contributing to climate adaptation from funders analysed

	$M
Total Investments with Adaptation Share ($)	**1,214.3**
Average Investment Size ($)	7.5
Median Investment Size ($)	0.04
Total Adaptation ($)	**72.34**
% of Climate Investments Contributing to Adaptation	**6.0%**

Investment Landscape

Adaptation Investments - Breakdown by Category

	$M	PERCENTAGE
Early warning systems and health surveillance (EWS/HS)	14.4	20.0%
Immunisation programmes against climate-sensitive diseases (ICS)	16.3	22.6%
RRTs for climate-driven health emergencies	-	0.0%
Improving vaccine delivery and cold chain systems (VC/CC)	8.1	11.2%
Strengthening health infrastructure (SHI)	35.5	46.3%
Other	-	0.0%

Climate Vulnerability Context

Ethiopia Climate Context – Vulnerability & Health Commitments

INDICATOR	SUMMARY	RATING
Climate Vulnerability Score (ND-GAIN Index, normalised to 10-pt scale)	Measure of a country's exposure, sensitivity and ability to adapt to negative impacts of climate change. ND-GAIN measures this across 6 sectors.	8.08
Health Impacts (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the health impacts of climate change, or includes form of monitoring/ quantification of health impacts	
Health in Adaptation (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the need for health in adaptation, and whether they have adaptation plans	
Economics and Finance (Healthy NDC Ranking)	Extent to which economic costs of climate change/savings due to interventions are mentioned	

*Latest ND-GAIN Vulnerability scores (out of 10, where higher scores indicate greater vulnerability) are as of 2024; Healthy NDC Rankings and Climate Action Tracker scores (out of 3) are as of 2021

Other Key Investments

Investments made by funders that are not ADB, AIIB, WB, and Gavi

INVESTOR	PROJECT	DETAILS
Climate Investment Funds	Protect rural communities in Ethiopia from climate-related shocks	US $37 million mobilised for ecosystem restoration (sustainable harvesting/farming, accelerated reforestation, etc.)
GCF	Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities	US $50 million for introducing solar-powered water pumping, rehabilitation of degraded lands around water sources, and improving local capacity

Malawi

Majority of climate adaptation investment driven by investments in immunisations against climate-sensitive diseases.

Climate Adaptation Funding

Includes all investments that have been tagged as contributing to climate adaptation from funders analysed

	$M
Total Investments with Adaptation Share ($)	**181.5**
Average Investment Size ($)	11.3
Median Investment Size ($)	5.0
Total Adaptation ($)	**16.2**
% of Climate Investments Contributing to Adaptation	**8.9%**

Investment Landscape

Adaptation Investments - Breakdown by Category

	$M	PERCENTAGE
Early warning systems and health surveillance (EWS/HS)	-	0.00%
Immunisation programmes against climate-sensitive diseases (ICS)	14.4	88.7%
RRTs for climate-driven health emergencies	1.8	11.1%
Improving vaccine delivery and cold chain systems (VC/CC)	0.03	0.2%
Strengthening health infrastructure (SHI)	-	0.0%
Other	-	0.0%

Climate Vulnerability Context

Malawi Climate Context – Vulnerability & Health Commitments

INDICATOR	SUMMARY	RATING
Climate Vulnerability Score (ND-GAIN Index, normalised to 10-pt scale)	Measure of a country's exposure, sensitivity and ability to adapt to negative impacts of climate change. ND-GAIN measures this across 6 sectors.	8.52
Health Impacts (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the health impacts of climate change, or includes form of monitoring/ quantification of health impacts	
Health in Adaptation (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the need for health in adaptation, and whether they have adaptation plans	
Economics and Finance (Healthy NDC Ranking)	Extent to which economic costs of climate change/savings due to interventions are mentioned	

*Latest ND-GAIN Vulnerability scores (out of 10, where higher scores indicate greater vulnerability) are as of 2024; Healthy NDC Rankings and Climate Action Tracker scores (out of 3) are as of 2021

Other Key Investments

Investments made by funders that are not ADB, AIIB, WB, and Gavi

INVESTOR	PROJECT	DETAILS
GCF	Scaling up the use of Modernised Climate information and Early Warning Systems in Malawi	US $16 million towards modernised early warning systems and climate information modalities (via expanded meteorological networks, improved flood modelling for riverine systems, etc.)
GCF, Government of Malawi, Save the Children	Climate-resilient health and wellbeing for rural communities in Southern Malawi	US $37 million towards vulnerable groups most affected by cyclones, floods and droughts

Nigeria

Investment in climate adaptation is primarily driven by immunisation programmes against climate-sensitive diseases.

Climate Adaptation Funding

Includes all investments that have been tagged as contributing to climate adaptation from funders analysed

	$M
Total Investments with Adaptation Share ($)	**1,449.0**
Average Investment Size ($)	15.8
Median Investment Size ($)	0.2
Total Adaptation ($)	**177.2**
% of Climate Investments Contributing to Adaptation	**12.2%**

Investment Landscape

Adaptation Investments - Breakdown by Category

	$M	PERCENTAGE
Early warning systems and health surveillance (EWS/HS)	0.05	0.03%
Immunisation programmes against climate-sensitive diseases (ICS)	158.1	89.2%
RRTs for climate-driven health emergencies	-	0.0%
Improving vaccine delivery and cold chain systems (VC/CC)	7.0	3.9%
Strengthening health infrastructure (SHI)	-	0.0%
Other	12.1	6.8%

Climate Vulnerability Context

Nigeria Climate Context – Vulnerability & Health Commitments

INDICATOR	SUMMARY	RATING
Climate Vulnerability Score (ND-GAIN Index, normalised to 10-pt scale)	Measure of a country's exposure, sensitivity and ability to adapt to negative impacts of climate change. ND-GAIN measures this across 6 sectors.	7.16
Health Impacts (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the health impacts of climate change, or includes form of monitoring/ quantification of health impacts	
Health in Adaptation (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the need for health in adaptation, and whether they have adaptation plans	
Economics and Finance (Healthy NDC Ranking)	Extent to which economic costs of climate change/savings due to interventions are mentioned	

*Latest ND-GAIN Vulnerability scores (out of 10, where higher scores indicate greater vulnerability) are as of 2024; Healthy NDC Rankings and Climate Action Tracker scores (out of 3) are as of 2021

Other Key Investments

Investments made by funders that are not ADB, AIIB, WB, and Gavi

INVESTOR	PROJECT	DETAILS
European Union and Enugu State Government	Solar for Health Project	Approximately US $2.8 million to power 25 health facilities with solar energy

Pakistan

Relatively large set of climate investments with some adaptation component driven primarily by RRTs for climate-driven health emergencies and those strengthening health infrastructure..

Climate Adaptation Funding

Includes all investments that have been tagged as contributing to climate adaptation from funders analysed

	$M
Total Investments with Adaptation Share ($)	**1,830.1**
Average Investment Size ($)	14.8
Median Investment Size ($)	0.2
Total Adaptation ($)	**51.3**
% of Climate Investments Contributing to Adaptation	**2.8%**

Investment Landscape

Adaptation Investments - Breakdown by Category

	$M	PERCENTAGE
Early warning systems and health surveillance (EWS/HS)	1.4	2.7%
Immunisation programmes against climate-sensitive diseases (ICS)	6.6	12.9%
RRTs for climate-driven health emergencies	14.1	27.5%
Improving vaccine delivery and cold chain systems (VC/CC)	8.9	17.4%
Strengthening health infrastructure (SHI)	14.0	27.3%
Other	6.3	12.2%

Climate Vulnerability Context

Pakistan Climate Context – Vulnerability & Health Commitments

INDICATOR	SUMMARY	RATING
Climate Vulnerability Score (ND-GAIN Index, normalised to 10-pt scale)	Measure of a country's exposure, sensitivity and ability to adapt to negative impacts of climate change. ND-GAIN measures this across 6 sectors.	7.76
Health Impacts (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the health impacts of climate change, or includes form of monitoring/ quantification of health impacts	
Health in Adaptation (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the need for health in adaptation, and whether they have adaptation plans	
Economics and Finance (Healthy NDC Ranking)	Extent to which economic costs of climate change/savings due to interventions are mentioned	

*Latest ND-GAIN Vulnerability scores (out of 10, where higher scores indicate greater vulnerability) are as of 2024; Healthy NDC Rankings and Climate Action Tracker scores (out of 3) are as of 2021

Other Key Investments

Investments made by funders that are not ADB, AIIB, WB, and Gavi

INVESTOR	PROJECT	DETAILS
Gates Foundation, Agence Française de Développement (AFD)	Climate-resilient Health Systems & Polio Eradication in Pakistan	~US $57 million to support Pakistan's national health institutions to recover following 2022 floods
GCF, World Food Programme, Government of Pakistan	Strengthening resilience to extreme climate in flood-prone districts	US $9.8 million risk resilience-building project that will improve climate information services and enhance flood forecasting

The Philippines

Strongest investment in adaptation, driven by spending to strengthen health infrastructure and national vulnerability to climate change.

Climate Adaptation Funding

Includes all investments that have been tagged as contributing to climate adaptation from funders analysed

	$M
Total Investments with Adaptation Share ($)	**2,591.2**
Average Investment Size ($)	370.2
Median Investment Size ($)	450.0
Total Adaptation ($)	**372.1**
% of Climate Investments Contributing to Adaptation	**14.4%**

Investment Landscape

Adaptation Investments - Breakdown by Category

	$M	PERCENTAGE
Early warning systems and health surveillance (EWS/HS)	4.8	1.3%
Immunisation programmes against climate-sensitive diseases (ICS)	-	0.0%
RRTs for climate-driven health emergencies	39.8	10.7%
Improving vaccine delivery and cold chain systems (VC/CC)	-	0.0%
Strengthening health infrastructure (SHI)	290.5	78.1%
Other	37.0	9.9%

Climate Vulnerability Context

The Philippines Climate Context – Vulnerability & Health Commitments

INDICATOR	SUMMARY	RATING
Climate Vulnerability Score (ND-GAIN Index, normalised to 10-pt scale)	Measure of a country's exposure, sensitivity and ability to adapt to negative impacts of climate change. ND-GAIN measures this across 6 sectors.	6.87
Health Impacts (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the health impacts of climate change, or includes form of monitoring/ quantification of health impacts	
Health in Adaptation (Healthy NDC Ranking)	Extent to which a country's NDC acknowledges the need for health in adaptation, and whether they have adaptation plans	
Economics and Finance (Healthy NDC Ranking)	Extent to which economic costs of climate change/savings due to interventions are mentioned	

*Latest ND-GAIN Vulnerability scores (out of 10, where higher scores indicate greater vulnerability) are as of 2024; Healthy NDC Rankings and Climate Action Tracker scores (out of 3) are as of 2021

Other Key Investments

Investments made by funders that are not ADB, AIIB, WB, and Gavi

INVESTOR	PROJECT	DETAILS
The Philippines Government	Climate adaptation and mitigation budget	US $~8.1 billion in 2023 (approximately 10 per cent of the national budget)
IBRD	National climate adaptation and mitigation efforts	US $~2.7 billion (of which approximately US $4.7 million was towards climate-health financing)
USAID	Climate-resilient Cities project	US $15 million towards building climate resilience at the city level and helping cities access climate funding

Conclusion

The intersection of climate and health has risen in priority among funders, countries, and global initiatives alike. As climate-related risks intensify, targeted investments in health adaptation are critical to protecting communities, strengthening health systems, and ensuring long-term resilience. To date, these investments represent only a relatively small fraction of overall climate financing.

Existing methodologies for tracking climate adaptation investments have either lacked a sector-specific adaptation focus or recognised only investments intentionally designed for climate resilience from the outset. While this approach helps prevent greenwashing, it does not fully account for evolving scientific evidence in the climate-health space.

To address this gap, this report applied a structured approach for assessing the climate adaptation relevance of health sector and immunisation investments (referred to in this report as the Camber Approach). This work was built on existing analysis and adaptation finance tracking methodologies and incorporates emerging evidence on climate-health linkages to assess adaptation contributions where climate-health relevance exists but may not have been explicitly captured at the outset of investment. This approach is therefore designed to be complementary to existing approaches rather than to replace or refine them.

This analysis and the methodology underlying it provides funders with a clear framework to assess their investments' adaptation contributions. The findings underscore the complementary roles of funders in delivering investments where they will drive the most impact, and emphasise the potential for greater coordination among funders, governments, and implementing partners to scale up these efforts.

As the climate crisis accelerates, the case for increased investment in health adaptation is clear. All organisations assessed in this report have set out targets to increase financing going into climate-health investments, in some cases up to 10x more. By taking decisive action now, the global community can build more resilient, prepared, and equitable health systems.

Future Directions: Towards Impact-Based Adaptation Assessment

While this report focuses on estimating the adaptation share of health and immunisation investments from a financial perspective, there is growing interest in exploring how vaccine and health systems investments contribute to adaptation from an impact lens. Future research could examine the extent to which Gavi's and MDBs' investments in climate-sensitive diseases lead to measurable adaptation outcomes—such as reductions in disease burden, improved outbreak response capacity, and enhanced community-level health resilience in climate-vulnerable regions. An impact-based assessment, conducted alongside financial attribution, would allow for a more comprehensive understanding of how health interventions contribute to climate adaptation goals. This could help inform the strategic direction of future investments and strengthen the case for increased funding from climate, health, and development financing partners.

Ultimately, immunisation should be recognised not only as a core health priority, but also as a highly cost-effect climate adaptation strategy as well.

Credit: Gavi/2023/Ashraful Arefin

Ceedit: Gavi/2015/Sam Phillips

Appendices

Appendix A: Country Case Studies

BANGLADESH

Country Risk Profile

Bangladesh, with a growing population of 171 million people, is one of the most vulnerable countries to climate change impact due to geographical location and topography as a low-lying country.[46] Bangladesh is ranked number 156 in the climate vulnerability index, out of 187 countries, and number 129 in the human development index ranking, out of 194 countries.[47]

Bangladesh has long been prone to extreme weather events. Between 1980 and 2008, Bangladesh experienced 219 natural disasters, suffering from floods, cyclones, storm surge, riverbank erosion, earthquakes, drought, salinity intrusion, fires, and tsunamis.[48] These disasters pose a threat to the country's population, where about 80 per cent of the population lives in low-lying areas.[49]

Climate change is resulting in increasing frequency of natural disasters in Bangladesh. Temperature changes and rising sea levels in the Bay of Bengal enhance extreme weather events, increasing frequency of flooding, tropical cyclones and droughts.[50] Experts project that the area vulnerable to cyclones could increase from 14 per cent to 69 per cent by 2050, creating further strain on emergency systems.[51]

By 2050, the temperatures are predicted to rise by 1.4°C, resulting in rising sea levels. Along its coast over the past 25 years, Bangladesh has experienced a 26 cm mean sea level shift at an average rate of 11.6 mm per year.[52]

Climate and Health Intersection Risk Factors

Bangladesh's increasing climate vulnerability negatively impacts human health through greater resource scarcity, stress and destruction of health infrastructure, and spread of diseases.

Extreme climate events and drought lead to greater food insecurity,[53] particularly challenging in a country where about one third of infants and young children are moderately malnourished.[54] Extreme weather variability makes Bangladesh's coastal cities more vulnerable to food scarcity. This resource scarcity is also associated with higher frequency of respiratory diseases, dysentery, and diarrhoea, partly due to scarcity of safe water.[55]

In addition to the nutrition-related health impacts of climate change, many people in Bangladesh are at high-risk for health concerns due to migration and mobility. Frequent climate-related disasters contribute to ongoing internal displacement, further stressing health systems and creating vulnerable populations. From 2014 to 2023, natural disasters and sea-level rise led to the displacement of people 14.7 million times.[56] In 2023 alone, there were about 1.8 million internally displaced persons (IDPs) due to natural disasters.[57] The World Bank predicts that by 2050, 19.9 million people will become IDPs due to climate change.[58]

Lastly, climate change can lead to more cases and higher rates of communicable diseases, largely due to extreme weather events. The World Bank projects that there will be higher incidents and greater intensity of both flooding and drought in Bangladesh, exacerbating other health issues.[59]

There are three main vector-borne diseases that are of particular concern when it comes to climate-related health concerns in Bangladesh: dengue, malaria, and chikungunya. Dengue continues to grow as a concern because increasing rainfall and flooding is favourable for the Aedes mosquito vector that carries the dengue virus. In 2023, there were 119,133 significant cases of dengue in Bangladesh,[60] a surge of 317 per cent as compared to 2019. Furthermore, there has been a 607 per cent increase in dengue mortality compared to 2022.[61]

For malaria, increased temperature variability and rainfall has a strong association with increased occurrence, particularly among vulnerable populations.[62] Women,

46 Bangladesh - Country Climate and Development Report, n.d.
47 *Bangladesh | Climate Promise,* n.d.
48 *Asian Disaster Reduction Center ADRC* , n.d.
49 Hasib & Chathoth, 2016
50 *Climate Afflictions,* 2021
51 *Health Consequences of Climate Change in Bangladesh: An Overview of the Evidence, Knowledge Gaps and Challenges - Rahman - 2019 - WIREs Climate Change - Wiley Online Library,* n.d.
52 Shariot-Ullah, 2024
53 Hasib & Chathoth, 2016
54 Hasib & Chathoth, 2016
55 *Health Consequences of Climate Change in Bangladesh: An Overview of the Evidence, Knowledge Gaps and Challenges - Rahman - 2019 - WIREs Climate Change - Wiley Online Library,* n.d.
56 Migration Policy Institute, 2024.
57 Dove et al., 2024
58 Migration Policy Institute, 2024.
59 *Bangladesh - Country Climate and Development Report,* n.d.
60 Siddique et al., 2024
61 Jibon et al., 2024
62 Emeto et al., 2020

especially pregnant women, were at a much higher risk of developing malaria at increased temperatures, while people over the age of 50 and children under 15 were more susceptible to malaria at increased rainfall.[63]

Similarly to dengue, chikungunya is mosquito borne, has seasonal outbreaks, especially in urban areas where there may be more poor water, sanitation, and hygienic conditions and practices due to inadequate access to waste.[64] The disease peaks during monsoon season, suggesting increased extreme weather events and unpredictability could increase Bangladesh's vulnerability to this disease.

Moreover, the healthcare infrastructure in Bangladesh is already limited in ability to address the country's needs. The healthcare workforce has only 7.4 skilled health workers (nurses, midwives, physicians) per 100,000 people, where compared to the WHO recommendation of 345 skilled health workers.[65] The health information system is imperfect, access to healthcare equipment and essential medicines is limited, and patients face large out of pocket expenses.[66] Healthcare resources are already sparse, resulting in even more constrained ability to respond during climate crises.

National Health Sector Priorities

In 2011, Bangladesh published its second National Health Policy, which outlined guiding healthcare and resource priorities for the country.[67] The policy established healthcare as a right for all citizens, and set goals to expand the availability of primary healthcare and emergency medical services nationwide, promote preventive measures to reduce the incidence of communicable and non-communicable diseases, and reduce maternal and child mortality rates across the country.[68] The Government of Bangladesh aims to establish community clinics to deliver primary healthcare services at the grassroots level, aiming for one clinic per 6,000 residents,[69] and foster effective coordination between public and private sectors to enhance service delivery.[70]

In addition to this policy, the Government of Bangladesh also released a Health-National Adaptation Plan (HNAP) in 2018, which is a comprehensive strategy designed to build resilience against climate change impacts on health in the country. The HNAP's priority areas of interest include vector-borne diseases including dengue and malaria, water-borne diseases including cholera and diarrhoea, and other hygiene issues.[71] The strategy provides research funding, standardising emergency health supplies, and stockpiling supplies in readiness for climate-induced health emergencies.[72]

In 2022, the government released the National Adaptation Plan (NAP) for 2023-2050, which includes six adaptation goals, emphasising protection against climate-induced disasters and integrating health considerations into broader adaptation strategies.[73] While improving healthcare facilities and technologies is among Bangladesh's adaptation goals, there is not a distinct section within this report on health sector adaptation.[74] One national expert therefore suggested that health could be a more explicit and distinct focus within government adaptation strategies.[75]

Climate Sector and Funding Landscape

The 1970 Cyclone Bhola in the Bay of Bengal was one of the deadliest storms ever recorded, resulting in the death of half a million people.[76] This prompted the Bangladesh Red Crescent Society (BDRCS) and the Government of Bangladesh's Ministry of Food and Disaster Management to establish the Cyclone Preparedness Programme in 1973, which formed a network for cyclone warning and evacuation.[77]

Today, Bangladesh is seen as a global leader in climate change adaptation and disaster preparedness, with several documents outlining national strategies to confront adaptation, including the Climate Change Strategy and Action Plan, Nationally Determined Contributions (NDCs), and National Adaptation Plan (NAP). Bangladesh became one of the first countries to develop a plan to tackle climate change with the National Adaptation Programme of Action 2005-2009 (NAPA) and Climate Change Strategy and Action Plan 2009.[78] This plan established the Bangladesh Climate Change Trust Fund (BCCTF), which has funded 851 projects, with an

63 Emeto et al., 2020
64 *Bangladesh - Country Climate and Development Report,* n.d.
65 *A Risk Exchange: Health and Mobility in the Context of Climate and Environmental Change in Bangladesh—A Qualitative Study,* n.d.
66 *A Risk Exchange: Health and Mobility in the Context of Climate and Environmental Change in Bangladesh—A Qualitative Study,* n.d.
67 Murshid & Haque, 2020
68 Murshid & Haque, 2020
69 *Bangladesh National Health Policy-2011 | PDF | Healthcare | Health Policy,* n.d.
70 *Bangladesh National Health Policy-2011 | PDF | Healthcare | Health Policy,* n.d.
71 Sabrina Flora et al., 2018
72 Sabrina Flora et al., 2018
73 *National Adaptation Plan of Bangladesh (2023 2050),* n.d.
74 *National Adaptation Plan of Bangladesh (2023 2050),* n.d.
75 Tapash Roy (IRD), personal communication, January 22, 2025
76 Ferdous, 2017
77 Ferdous, 2017
78 Bangladesh - Country Climate and Development Report, n.d

investment of around US $490 million, which has focused on adaptation, mitigation, and climate change research.[79]

As Bangladesh continues to update their NDCs to make them more ambitious and broader in scope, the primary focus is on three sectors: power, industry, and transport.[80] The NAP (2023-2050) identifies 113 major interventions to be implemented in the most climate-stressed regions in the country, for a total investment of US $230 billion over the 27-year implementation period.[81] The Government of Bangladesh has committed approximately US $1 billion a year (6-7 per cent of annual budget) on climate change adaptation, in alignment with its commitment to the NDC goals.[82]

However, as previously discussed, health is not explicitly called out as a focus or cross-cutting priority among these government plans – with most strategies focusing on poverty, displacement, and infrastructure. Experts highlighted that international development partners play a significant role in increasing climate-health focus and funding in Bangladesh, including bilateral, multilateral, and private funding.[83] Private sector entities, including banks and financial institutions, and public-private partnerships also play a role in financing low-carbon climate-resilience projects and programmes through the Green Bank window.[84]

In 2023, the International Monetary Fund (IMF) Executive Board approved US $1.4 billion for climate and sustainability funding in Bangladesh.[85] This culminated in a first of its kind partnership in Asia, called the Bangladesh Climate and Development Platform (BCDP), among the ADB, World Bank, International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA), AIIB, Agence Française de Développement (AFD), the European Union and the European Investment Bank (EIB), the Green Climate Fund (GCF), the Government of the Republic of Korea, Japan International Cooperation Agency (JICA), and the United Kingdom.[86]

Through the BCDP, the World Bank invests US $1 billion in Green and Climate-resilient Development Policy Credit series to finance transition to green and climate-resilient development.[87] The European Union has committed US $430.5 million towards Bangladesh's Renewable Energy Facility, and the AFD is processing a US $320 million climate policy-based loan programme.[88]

Moreover, Bangladesh is also receiving funding for nine private-sector climate projects, totalling US $610 million that are funded by the GCF and Standard Chartered Bank (SCB). The GCF has allocated US $441 million to Bangladesh for climate mitigation and adaptation.[89] In addition to the GCF, the SCB is the largest and longest-standing multinational bank in Bangladesh has been supporting new products for climate ambitions and reports commitment to supporting climate adaptation.[90]

While Bangladesh is a leader in many ways in climate adaptation financing, there are some challenges in this space. As noted, the health sector could be a more distinct and explicit focus within government adaptation planning. Experts also identified a greater scope for coordination between climate-health investors, observing some duplication of efforts and a need for greater government coordination to ensure sustainability.[91] In addition, some reports cited a lack of basic data collection on a regular basis for industries, transport, agriculture, forestry, and waste.[92]

79 Bangladesh Climate Change Strategy and Action Plan 2009, 20094
80 Nationally Determined Contributions (NDCs) 2021 Bangladesh (Updated), 2021
81 *National Adaptation Plan of Bangladesh (2023 2050)*, n.d.
82 Nationally Determined Contributions (NDCs) 2021 Bangladesh (Updated), 2021
83 Tapash Roy (IRD), personal communication, January 22, 2025
84 Nationally Determined Contributions (NDCs) 2021 Bangladesh (Updated), 2021
85 International financial institutions et al., n.d.
86 International financial institutions et al., n.d.
87 International financial institutions et al., n.d.
88 International financial institutions et al., n.d.
89 Fund, 2024
90 International financial institutions et al., n.d.
91 Tapash Roy (IRD), personal communication, January 22, 2025
92 Bangladesh - Country Climate and Development Report, n.d.

BANGLADESH DATA DASHBOARDS

Tables 1.1 and 1.2 display climate-health investment flows into Bangladesh from investments analysed, made by Gavi, World Bank, AIIB, and ADB. Nearly 10 per cent of climate-health investments in the country go towards adaptation, and the country's largest investments focus on COVID-19 response and resilience.

Table 1.1 Country CxH Investments and Adaptation Summary (US $M)

Bangladesh CxH Investments Summary

Total Investment ($M)	1,272.7	Average Investment Size ($M)	57.9
Total Adaptation ($M)	121.2	Median Investment Size ($M)	1.8
Adaptation Share	**9.5%**	Number of investments	22

Table 1.2 Top 5 Largest CxH Adaptation-Related Investments in Bangladesh among those analysed (US $M)

Top 5 Largest Adaptation-Related Investment Amounts in Bangladesh among those analysed

#	INSTITUTION	PROJECT NAME	PROJECT DESCRIPTION	INVESTMENT AMOUNT ($M)	ADAPTATION CATEGORY
1	World Bank (self-reported)	Additional Financing for and Restructuring of the COVID-19 Emergency Response and Pandemic Preparedness Project	Support the government of BD to prevent, detect and respond to COVID-19, and strengthen natl. systems for public health preparedness.	500.0	SHI
2	ADB (self-reported)	Vaccines, Therapeutics, and Diagnostics Manufacturing and Regulatory Strengthening Project	Multi-phase project to increase safe and effective vaccine manufacturing of select diseases to increase pandemic preparedness and reduce disease burden of selected vaccine-preventable diseases.	168.3	VD/CC
3	ADB (self-reported)	Vaccines, Therapeutics, and Diagnostics Manufacturing and Regulatory Strengthening Project	See above.	168.2	VD/CC
4	World Bank (self-reported)	Health and Gender Support Project for Cox's Bazar district	Improve the access to and utilisation of HNP and GBV response services among the host and the displaced Rohingya population in Cox's Bazar district	150.0	Other
5	AIIB (Camber Approach)	Bangladesh COVID-19 Emergency Response and Pandemic Preparedness Project	The objective of the Project is to support the GoB to prevent, detect, and respond to the threat posed by COVID-19 and to strengthen its national systems for public health preparedness in Bangladesh.	100.0	SHI

Table 1.3 shows that, of the five main adaptation categories, most adaptation funding has gone towards improving vaccine delivery and cold chain systems and strengthening health infrastructure.

Table 1.3 Breakdown of MDB/Gavi CxH Adaptation Funding by Adaptation Category

Adaptation Funding - Breakdown by Category

CATEGORY	INVESTMENT AMOUNT ($M)	PROPORTION OF TOTAL INVESTMENTS
Early warning systems and health surveillance	0.0	0.0%
Immunisation programmes against climate-sensitive diseases	18.8	15.5%
RRTs for climate-driven health emergencies	$-	0.0%
Improving vaccine delivery and cold chain systems	46.4	38.2%
Strengthening health infrastructure	42.4	35.0%
Other	13.6	11.2%

Table 1.4 Breakdown of CxH Adaptation Funding by MDB Institution

Adaptation Funding Breakdown by Institution

INSTITUTION	ADAPTATION FUNDING AMOUNT ($M)	PROPORTION OF TOTAL ADAPTATION INVESTMENTS
Gavi (Camber Approach)	19.9	16.5
AIIB (Camber Approach)	25.7	21.2
ADB (self-reported)	45.2	37.3
World Bank (self-reported)	30.3	25.0

Table 1.5 Adaptation Share by MDB/Gavi (Total adaptation as a proportion of total Climate x Health investment by that MDB)

Adaptation Share by Institution

INSTITUTION	TOTAL INVESTMENT ($M)	TOTAL ADAPTATION ($M)	ADAPTATION SHARE
Gavi (Camber Approach)	86.2	19.9	**23.1%**
AIIB (Camber Approach)	100.0	25.7	**25.7%**
ADB (self-reported)	336.5	45.2	**13.4%**
World Bank (self-reported)	750.0	30.3	**4.0%**

THE PHILIPPINES

Country Risk Profile

As a nation of 7,600 islands, the Philippines ranks number 121 out of 187 on the climate vulnerability index, and number 116 out of 194 on the human development index. This makes it one of the most vulnerable countries to climate change and highlights an urgent need for adaptation and mitigation efforts, despite the country only contributing to roughly 0.5 per cent of global greenhouse gas emissions. Emissions are primarily driven by the energy sector, followed by agriculture and industrial processes.[93] Furthermore, greenhouse gas emissions have been steadily increasing over the past two decades at about 6 per cent from 2000 to 2020.[94]

This highly vulnerable archipelago faces frequent exposure to extreme weather events, especially typhoons, storm surges, and rising sea levels, and experts project that the Philippines will see an increased frequency of all of these conditions with climate change.[95] Extreme weather events particularly affect the coastlines, where about 60 per cent of its population lives.[96] The Philippines experiences on average 20 tropical cyclones every year.[97] Typhoons can cause significant flooding, erosion, and infrastructure damage, especially along the eastern coast.[98] Storm surges are projected to affect about 14 per cent of the total population and 42 per cent of coastal populations.[99] Sea level rise risks safety in 60 per cent of local government units, across 64 provinces and 822 coastal municipalities, and 13.6 million people.[100]

Over the past 65 years, the Philippines experienced a 0.68°C temperature increase, and the average temperature is expected to continue rising by as much as 0.9°C to 1.9°C by 2050.[101] In addition, rising temperatures cause sea levels to rise at an alarming rate, especially in the Philippines where the sea levels increase 5 to 7 mm per year, which is about twice the global average.[102] In Manila, there has been a sea level rise of up to one whole meter over the past five decades.[103] Future sea level rise in the country is also expected to be slightly greater than the global average, and is exacerbated by storm surges.[104] Rising sea levels in the Philippines create safety risks in 60 per cent of local government units, across 64 provinces and 822 coastal municipalities, and 13.6 million people.[105]

Climate and Health Intersection Risk Factors

The Philippines' climate risks impact health systems and increase transmission of communicable diseases. Increasing frequency and intensity of natural disasters burden health systems and create increasingly at-risk populations. For instance, 2013's Typhoon Haiyan destroyed local health infrastructure including hospitals and left four million people homeless.[106] A study on the typhoon's impact on two hospitals in Eastern Visayas found that there was a drop in admissions in both hospitals after Haiyan because they were not prepared to treat large numbers of patients after disaster or remove debris in the direct vicinity of the hospitals.[107]

Moreover, rising temperatures, increased rainfall, and extreme weather events trigger the surge of vector-borne and waterborne diseases such as dengue, malaria, cholera, and typhoid. In 1998, when the Philippines experienced the strongest El Niño to-date, almost 40,000 dengue cases, 1,200 cholera cases, and 1,000 typhoid fever cases were recorded in the country.[108] The 1998 dengue epidemic was the highest recorded incidence rate (60.9 cases per 100,000) and case fatality rate (~3 per cent) for dengue in the Philippines.[109]

Dengue, exacerbated by climate-related factors such as warmer temperatures and increased precipitation, poses a significant public health concern.[110] The country's weather and climate are ripe for the breeding, growth, and development of Aedes aegypti, the mosquito responsible for transmitting the disease.[111] Studies in the Philippines have found that dengue risk increases linearly with rising mean temperatures, peaking at 27.5 degrees Celsius, before declining.[112] Surveillance data from 2010 to 2014 estimate an annual average of

93 *Philippines | Climate Promise*, 2023
94 *Total Greenhouse Gas Emissions Excluding LULUCF (Mt CO2e)*, n.d.
95 Climate Change Risk Profile Philippines, 2024
96 Climate Change Risk Profile Philippines, 2024
97 Cordero, 2023
98 Climate Change Risk Profile Philippines, 2024
99 Climate Change Risk Profile Philippines, 2024
100 Climate Change Risk Profile Philippines, 2024
101 Climate Change Risk Profile Philippines, 2024
102 Kahana et al., 2016
103 Kahana et al., 2016
104 Kahana et al., 2016
105 *NICCDIES | Climate Change Impacts*, n.d.
106 Climate Change Risk Profile Philippines, 2024
107 Van Loenhout et al., 2018
108 *NICCDIES | Climate Change Impacts*, n.d.
109 Bravo et al., 2014
110 Undurraga et al., 2017
111 Undurraga et al., 2017
112 Undurraga et al., 2017

794,255 dengue episodes and a disease burden rising to 997 disability adjusted life years (DALYs) per million.[113]

Furthermore, the Philippines experiences malaria outbreaks that are associated with climate change. Although the number of malaria cases have decreased over the past two decades, there was an uptick between 3,150 cases in 2022 and 6,189 cases in 2023.[114] Based on research of malaria in the region, changing temperatures, precipitation, humidity, and windspeed were statistically considered to be correlated with malaria.[115]

The Philippines has also experienced increasing reports of cholera over the past few decades, which has been linked to the increased frequency and intensity of storms and floods that damage sanitation infrastructure.[116] Being one of only 30 countries that experienced cholera or acute water related diseases in 2023, the Philippines is at a relatively high risk for the disease.[117] There was a record number of recurrent cholera outbreaks reported in 2022, with a cumulative number of cases three times higher than the previous year.[118] Many cases of cholera go unreported for fear of trade and travel sanctions from other countries, meaning the true number of cases is likely to be significantly higher.[119]

National Health Sector Priorities

In 2023, the Philippines released the Philippines Health Agenda and the Philippine Development Plan (PDP), both for 2023 to 2028. The Philippines Health Agenda is outlined in an 8-Point Action Agenda for the medium term, which aligns with the PDP. The Health Agenda focuses on community health, healthcare institutions, and healthcare worker welfare, while the PDP emphasises the importance of health in achieving developmental goals.[120]

The Philippines has also been an early mover on planning for the climate-health intersection, creating an administrative group on the topic in 2009.[121] However, experts indicated that other urgent climate priorities curbed progress in this sector until a recent reprioritisation.[122] The Philippines National Adaptation Plan (NAP) has a standalone chapter on health,[123] while the Philippines Department of Health is currently developing a climate-health policy to mainstream climate within their work.[124] Activities in the PDP also suggest adaptation-related planning through health systems strengthening, emergency response optimisation, and anticipatory delivery mechanisms for natural disasters.[125] For instance, the Philippine Roadmap on Adaptive Shock-Responsive Social Protection enhances the country's social protection system against crises, including natural disasters, by enhancing information management systems, capacity building, and coordination.[126]

Climate Sector and Funding Landscape

These findings highlight the urgency for policymakers to address public health concerns exacerbated by climate, which has been a key focus on the Filipino government as previously mentioned. The Philippines has committed to a 75 per cent greenhouse gas emissions reduction target by 2030.[127] In 2009, the Philippines enacted the Philippine Climate Change Act, mainstreaming climate considerations into policy and establishing the Climate Change Commission.[128] The National Climate Change Action Plan (NCCAP) 2011-2028 serves as the detailed implementation plan for the Climate Change Act.[129] It established the Climate Change Adaptation and Mitigation Programme and seven thematic areas of government action to address climate change, with components of health mentioned in areas of food security, water sufficiency, and human security.[130] In 2017, the Philippines ratified the Paris Agreement and in 2021 submitted the NDC, emphasising equitable adaptation strategies with mitigation co-benefits across areas like biodiversity, energy, and health.[131]

The Philippines has made significant strides in mobilising resources towards climate adaptation. In 2023, the Philippines Department of Budget and Management allocated a record-high US $8.1 billion for climate change adaptation and mitigation, which is 56 per cent higher than in the previous year and accounts for just under 10

113 Undurraga et al., 2017
114 Kinoshita et al., 2024
115 Rahmani et al., 2023
116 *Epidemiology of Cholera in the Philippines | PLOS Neglected Tropical Diseases,* n.d
117 Lopez et al., 2015
118 *Cholera – Global Situation,* n.d
119 *Cholera – Global Situation,* n.d
120 *8 Point Agenda,* n.d.
121 Renzo Guinto, personal communication, January 15, 2025
122 Renzo Guinto, personal communication, January 15, 2025
123 National Adaptation Plan of The Philippines (2023-2050), 2024
124 Renzo Guinto, personal communication, January 15, 2025
125 *Philippine Development Plan 2023-2028,* 2023
126 *Philippine Development Plan 2023-2028,* 2023
127 *Philippines | Climate Promise,* 2023
128 *Philippines | Climate Promise,* 2023
129 *National Climate Change Action Plan,* n.d.
130 *National Climate Change Action Plan,* n.d.
131 *Philippines | Climate Promise,* 2023

per cent of the country's total budget.[132] In 2023, about 73 per cent of the budget went to adaptation and 27 per cent went to mitigation activities.[133]

In addition to the Philippines government, bilateral partners and MDBs also provide funding for national climate-related efforts. From 2001 to 2021, it is estimated that MDBs and bilateral partners committed US $8.3 billion to climate finance, representing about 12 per cent of the Philippines' total development finance in that period.[134] About 43 per cent of total funding went to mitigation efforts, 57 per cent went to adaptation efforts, and 0.8 per cent targeted both simultaneously.[135]

The largest contributors include the International Bank for Reconstruction and Development at US $2.7 billion, Japan at US $650 million, France at US $475 million, and ADB at US $350 million.[136] The sectors receiving the largest investments were Transport and Storage (28 per cent) and Disaster Prevention and Preparedness (21 per cent).[137] About 2 per cent of all development finance to the Philippines targeting climate change went towards issues related to health.[138] Of the 24 investors, there are only four that invest at the intersection of climate and health: ADB at US $105 million, International Bank for Reconstruction and Development US $4.7 million, the United States at US $3.1 million, and Spain at US $1.9 million.[139] ADB in particular is seen as playing a critical role in health investments in the country, and has begun increasingly integrating climate into these investments.[140]

USAID has been a notable contributor, securing about US $73 million in 2023 for the purpose of climate adaptation programmes.[141] However, this is likely to reduce under the Trump administration, potentially creating a funding gap. The Australian Embassy funded the Strengthening Institutions and Empowering Localities Against Disasters and Climate Change in the Philippines (SHIELD Programme), another notable six-year initiative (2022-2027) supporting community resilience to climate change that is being implemented by the UNDP, the Department of the Interior and Local Government.[142]

The Philippines also receives investment from climate funds. From 2001 to 2021, the Philippines received US $201 million from the Climate Investment Funds, US $93 million from EU institutions, and US $34 million from the Global Environment Facility – the largest funders aside from countries.[143] However, these major funders have only invested in mitigation activities in the Philippines rather than adaptation.[144]

While government and funder focus has increased on climate and health in recent years, experts highlighted that funding still consolidates around siloed efforts in emergency preparedness and infrastructure.[145] For transformational impact, there is a greater need to consider the ways in which climate affects all aspects of health systems, particularly in achieving the central health policy agenda of universal healthcare.

132 Climate Change Expenditures by Department and Special Purpose Fund, 2023
133 Climate Change Expenditures by Department and Special Purpose Fund, 2023
134 Climate Change Risk Profile Philippines, 2024
135 Climate Change Risk Profile Philippines, 2024
136 Atteridge, A. et al., 2019
137 Climate Change Risk Profile Philippines, 2024
138 Atteridge, A. et al., 2019
139 Atteridge, A. et al., 2019
140 Renzo Guinto, personal communication, January 15, 2025
141 *Philippines Climate Change Country Profile | Fact Sheet | Asia,* 2024
142 SHIELD Programme – National Resilience Council, n.d.
143 Atteridge, A. et al., 2019
144 Atteridge, A. et al., 2019
145 Renzo Guinto, personal communication, January 15, 2025

THE PHILIPPINES DATA DASHBOARDS

Table 2.1 and 2.2 display climate-health investment flows into the Philippines from the World Bank, AIIB, and ADB. The Philippines has received no Gavi-core programmatic funding as it is not a Gav-eligible country, though they have previously received COVID delivery support and cold chain equipment funding which is not reflected in these data Within these CxH investments, 14.4 per cent (or slightly over US $372 million) has been focused on climate adaptation.

Table 2.1 Country CxH Investments and Adaptation Summary (US $M)

The Philippines CxH Investments Summary

Total Investment ($M)	2,591.2	Average Investment Size ($M)	370.2
Total Adaptation ($M)	372.1	Median Investment Size ($M)	450.0
Adaptation Share	**14.4%**	Number of investments	7

Several investments are related to the implementation of health financing, service delivery, and performance monitoring needs as it relates to the country's Universal Healthcare Act, which was also flagged as the key health sector priority by experts.

Table 2.2 Top 5 Largest CxH Adaptation-Related Investment Amounts in the Philippines among those analysed (US $M)

Top 5 Largest Adaptation-Related Investment Amounts in the Philippines among those analysed

#	INSTITUTION	PROJECT NAME	PROJECT DESCRIPTION	INVESTMENT AMOUNT ($M)	ADAPTATION CATEGORY
1	ADB (self-reported)	Build Universal Healthcare Program (Subprogram 1)	Implementation of health financing, service delivery and performance monitoring reforms needed to achieve the Universal Healthcare Act.	$600.0	SHI
2	World Bank (self-reported)	Philippines COVID-19 Emergency Response Project Additional Financing	Strengthen the Philippines' capacity to prevent, detect and respond to COVID-19 and strengthen national systems for public health preparedness.	$500.0	EWS/HS
3	ADB (self-reported)	Build Universal Healthcare Program (Subprogram 2)	See #1.	$463.1	SHI
4	AIIB (Camber Approach)	Build Universal Healthcare Program (Subprogram 2)	See #1.	$450.0	SHI
5	World Bank (self-reported)	Philippines COVID-19 Emergency Response Project - Additional Financing 2	See #2.	$300.0	SHI

Table 2.3 categorises adaptation funding in climate-health investments by adaptation categories. As highlighted by experts, a significant majority of investments in the country go towards strengthening health infrastructure (78 per cent) and for climate-driven health emergency response (a little over 10 per cent).

Table 2.3 Breakdown of MDB/Gavi CxH Adaptation Funding by Adaptation Category

Adaptation Funding - Breakdown by Category

CATEGORY	INVESTMENT AMOUNT ($M)	PROPORTION OF TOTAL INVESTMENTS
Early warning systems and health surveillance	4.8	1.3%
Immunisation programmes against climate-sensitive diseases	-	-
RRTs for climate-driven health emergencies	39.8	10.7%
Improving vaccine delivery and cold chain systems	-	-
Strengthening health infrastructure	290.5	78.1%
Other	37.0	9.9%

Of the US $372 million of climate adaptation investments going into the Philippines, investments predominantly come from AIIB (50 per cent, based on adaptation figures derived from the Camber Approach) and ADB (39 per cent, based on self-reported adaptation figures), reflecting a potential role for AIIB in coordination of climate-health adaptation investments. Table 2.5 provides a more complete picture of investment and adaptation by all institutions

Table 2.4 Breakdown of CxH Adaptation Funding by MDB Institution

Adaptation Funding Breakdown by Institution

INSTITUTION	ADAPTATION FUNDING AMOUNT ($M)	PROPORTION OF TOTAL ADAPTATION INVESTMENTS
Gavi (Camber Approach)	-	-
AIIB (Camber Approach)	185.5	49.9%
ADB (self-reported)	144.8	38.9%
World Bank (self-reported)	41.8	11.2%

Table 2.5 Adaptation Share by MDB/Gavi (Total adaptation as a proportion of total Climate x Health investment by that MDB)

Adaptation Share by Institution

INSTITUTION	TOTAL INVESTMENT ($M)	TOTAL ADAPTATION ($M)	ADAPTATION SHARE
Gavi (Camber Approach)	-	-	**-**
AIIB (Camber Approach)	450.0	185.5	**41.2%**
ADB (self-reported)	1,063.1	144.8	**13.6%**
World Bank (self-reported)	1,078.1	41.8	**3.9%**

ETHIOPIA

Country Risk Profile

Ethiopia is the second most populous country in Africa, with a population of roughly 127 million people. The country's location spans a range of climate conditions including a tropical savannah in the west to desert and semi-arid regions in north and east.[146] These ecological zones are already experiencing a number of climate stressors, including drought, flooding and landslides.[147]

The country also boasts one of the fastest-growing economies in sub-Saharan Africa, with many areas seeing rapid urbanisation. Still, agriculture remains the largest economic sector, accounting for roughly 40 per cent of the country's GDP and employing almost 70 per cent of the workforce.[148] Agriculture is threatened by increasing floods and droughts and the resulting loss of land and degradation of natural resources. As the primary driver of the economy, threats to this sector have wide-reaching implications on the country's security and stability.

Currently, the country ranks 155 out of 187 on the ND-GAIN Index, indicating that it is highly vulnerable and largely unready to address the effects of climate change.[149] Historical climate trends have shown that annual average mean temperatures increased by 1.7°C from 1960-2020, while climate projections predict increases in temperature of 1.21-1.44°C in the next 30 years, in addition to more frequent and severe drought events and greater unpredictability of seasonal rains.[150]

Climate and Health Intersection Risk Factors

Ethiopia currently grapples with a range of health risks tied to climate change, stemming primarily from prolonged droughts, floods and heatwaves. These extreme weather events carry with them the risk of water and food insecurity, higher exposure to heat stress, and changes in water- and vector-borne diseases transmission patterns. Droughts and desertification are the most destructive climate stressor in Ethiopia currently. The intensity of dry weather spells and high-heat scenarios have severely affected nearly 7 million people in southern and eastern regions. Three quarters of Ethiopia's workforce relies on rainfed agriculture, notwithstanding the even greater portion of the country that relies on it for sustenance.

The effects of climate change have become more pronounced in Ethiopia over the past decade, exacerbated by armed conflict and economic shocks that happen concurrently. In January 2024, the Southern and Southwest regions of the country, in addition to Tigray, Afar, and Amhara faced a severe drought, with roughly 4 million people requiring urgent response.[151] The communities in those regions had been facing the lingering effects of severe droughts of 2021 to 2023, which at the time affected nearly 28 million people.[152] A United Nations team reported that a nutrition screening conducted in hard to reach areas found that 42 per cent of children were identified with Moderate Acute Malnutrition, while over 44,000 screened pregnant and lactating women were also identified with acute malnutrition.[153] Simultaneously, the country has had periodic flash flooding, with the 2022 floods displacing 75,000 people and damaging countless health infrastructure.[154] These events have compounded the strain on healthcare systems, with increased reports of cholera, skin infections, and respiratory diseases in areas impacted by both drought and flooding.

Climate change has been closely linked to the increasing spread of vector-borne diseases in Ethiopia. Malaria remains endemic to Ethiopia, where the rising temperatures have expanded the geographic distribution of mosquito habitats from lower altitudes to higher altitudes (e.g. Tigray and Amhara regions) that were previously too cold for mosquitoes.[155] Flash flooding and earlier onset of the rainy season carries with it the risk of increased density of mosquito vectors that would exacerbate vector-borne disease in the area, such as Yellow Fever and Chikungunya.[156] Meanwhile, communicable disease outbreaks—primarily the result of displacement—are an urgent concern. Unpredictable climate patterns such as dust winds and cold nights increase the risk of meningitis outbreak beyond the regions in the "Meningitis belt."[157] Diarrheal diseases such as cholera, caused by poor sanitation and limited access to clean water, continue to pose a significant threat. While Ethiopia has seen some success in reducing the case-fatality ratio of cholera to roughly 3 per cent, the increasing frequency and scale of outbreaks highlight the ongoing challenges of climate-induced health risks.[158]

146 Ethiopia Climate Change Risk Profile, n.d.
147 Ethiopia Climate Change Risk Profile, n.d.
148 *Ethiopia - Agriculture and Food Security,* n.d.
149 *Notre Dame Global Adaptation Initiative (2022),* 2022
150 Ethiopia Climate Change Risk Profile, n.d.
151 *Ethiopia - Situation Report, 10 Jan 2024,* 2024
152 *Crisis in Ethiopia,* 2023
153 *Ethiopia - Situation Report, 10 Jan 2024,* 2024
154 *Ethiopia: Floods - Jul 2022,* 2022
155 Tilly Alcayna, 2021
156 Tilly Alcayna, 2021
157 Tilly Alcayna, 2021
158 Hussen et al., 2024

National Health Sector Priorities

Ethiopia's healthcare governance and delivery systems is decentralised by design, whereby primary decision-making authority is passed from national to sub-national/provincial levels. The country's health sector has been guided by two national health policy implementation plans – the Health Sector Development Plan (HSDP) (1995-2015) and the Health Sector Transformation Plan (HSTP) (post-2015). The HSDP focused primarily on creating better access to primary healthcare services and has resulted in improved health outcomes of the country. Ethiopia has seen significant reductions in maternal and child mortality, which have declined by 50 per cent and 66 per cent respectively since 1990, in addition to declines in other infectious and communicable diseases, like malaria, TB, and HIV/AIDS. Despite this progress, it is important to note that Ethiopia still has significant disease burdens across all of these diseases.

The current iteration of the HSTP (HSTP II for 2020-2025), outlines 14 strategic directions that are aligned with Sustainable Development Goals for health to achieve universal healthcare by 2030. These strategic directions and the resulting 'transformation agendas' all speak to expanding access to quality health services, improving health information, developing a skilled workforce, and fostering better governance and financing.[159] Though these are ambitious goals, early evidence suggests that the fragmentation across health system structures and funding presents challenges towards achieving optimal care and progress towards UHC goals.[160, 161]

Climate Sector and Funding Landscape

Ethiopia has established many plans and institutional frameworks to mainstream climate planning into national development plans. This is evidenced by their endorsement of the Climate-resilient Green Economy strategy in 2011 (the first national climate policy document), their ambitious emissions reduction targets in their National Determined Contributions (NDC) submissions, and their commitment to implementing gender-responsive climate action through the UNFCCC Gender Action Plan. These actions have opened greater opportunities for funding climate within the region.

Latest climate finance data (as of 2020) from the Climate Policy Initiative shows that the country received US $1.7 billion from both public and private actors.[162] As a total, this figure is only about 7 per cent of its estimated yearly needs of US $25.3 billion, as outlined in Ethiopia's Nationally Determined Contributions (NDC).[163] Of this total, only 38 per cent (US $646 million) contributed to mitigation activities, while 56 per cent (US $944 million) went towards adaptation.[164] That more finance was tracked towards adaptation breaks away from the global average, where 7 per cent and 9 per cent of climate finance is tracked towards adaptation and mitigation, respectively. This is largely in line with Ethiopia's goals to mainstream adaptation planning across all its sectors and to bolster resiliency within the country.[165]

Of any single sector receiving the greatest share of climate finance, the AFOLU (agriculture, forestry, or other land use) took the lead at 29 per cent, while other sectors received notably less funding; water and wastewater (29 per cent), energy systems (10 per cent), transport (6 per cent), and buildings and infrastructure (3.5 per cent).[166] Cross-sectoral financing flows made up the largest portion, at 35 per cent.[167] Funders in this space primarily consist of international public finance, which makes up 92 per cent of all tracked finance. These include multilateral funds (contributing 46 per cent) such as GCF and GEF, and bilateral funds (contributing 33 per cent) from countries, including the UK, US, Germany, France and Japan.[168]

159 Ethiopia Health Sector Transformation Plan, 2023
160 Amare et al., 2024
161 Tadesse et al., 2021
162 Rajashree Padmanabhi & Chavi Meattle, 2022
163 Updated Nationally Determined Contribution - Federal Democratic Republic of Ethiopia, 2021
164 Rajashree Padmanabhi & Chavi Meattle, 2022
165 Ethiopia's Climate-resilient Green Economy - National Adaptation Plan, 2019
166 Rajashree Padmanabhi & Chavi Meattle, 2022
167 Rajashree Padmanabhi & Chavi Meattle, 2022
168 Rajashree Padmanabhi & Chavi Meattle, 2022

ETHIOPIA DATA DASHBOARDS

Table 3.1 Country CxH Investments and Adaptation Summary (US $M)

Ethiopia Investments Summary

Total Investment ($M)	**1,214.3**	Average Investment Size ($M)	7.5
Total Adaptation ($M)	72.3	Median Investment Size ($M)	0.04
Adaptation Share	**6.0%**	Number of investments	**163**

Several investments are related to the implementation of health financing, service delivery, and performance monitoring needs as it relates to the country's Universal Healthcare Act, which was also flagged as the key health sector priority by experts.

Table 3.2 Top 5 Largest CxH Adaptation-Related Investment Amounts in Ethiopia among those analysed (US $M)

Top 5 Largest Adaptation-Related Investment Amounts in Ethiopia among those analysed

#	INSTITUTION	PROJECT NAME	PROJECT DESCRIPTION	INVESTMENT AMOUNT ($M)	ADAPTATION CATEGORY
1	World Bank (self-reported)	Ethiopia Programme for Results (Hybrid) for Strengthening Primary Healthcare Services.	To improve access to and equitable provision of high-quality PHC services, with a focus on RMNCAH+N, while strengthening health systems	$400.0	SHI
2	World Bank (self-reported)	Additional Financing for Ethiopia COVID-19 Emergency Response Project	To prevent, detect and respond to the threat posed by COVID-19 and strengthen national systems for public health preparedness in Ethiopia	$207.0	EWS/HS
3	World Bank (self-reported)	Second AF for the Ethiopia COVID-19 Emergency Response Project	See #2.	$206.0	SHI
4	World Bank (self-reported)	Third Additional Financing for the Ethiopia COVID-19 Emergency Response Project	See #2.	$195.0	SHI
5	World Bank (self-reported)	Ethiopia COVID-19 Emergency Response	See #2.	$82.6	SHI

Table 3.3 Breakdown of MDB/Gavi CxH Adaptation Funding by Adaptation Category

Adaptation Funding - Breakdown by Category

CATEGORY	INVESTMENT AMOUNT ($M)	PROPORTION OF TOTAL INVESTMENTS
Early warning systems and health surveillance	14.4	20.0%
Immunisation programmes against climate-sensitive diseases	16.3	22.6%
RRTs for climate-driven health emergencies	-	0.0%
Improving vaccine delivery and cold chain systems	8.1	11.2%
Strengthening health infrastructure	33.5	46.3%
Other	-	0.0%

Table 3.4 Breakdown of CxH Adaptation Funding by MDB Institution

Adaptation Funding Breakdown by Institution

INSTITUTION	ADAPTATION FUNDING AMOUNT ($M)	PROPORTION OF TOTAL ADAPTATION INVESTMENTS
Gavi (Camber Approach)	24.5	33.9%
AIIB (Camber Approach)	-	0.0%
ADB (self-reported)	-	0.0%
World Bank (self-reported)	47.8	66.1%

Table 3.5 Adaptation Share by MDB/Gavi (Total adaptation as a proportion of total Climate x Health investment by that MDB)

Adaptation Share by Institution

INSTITUTION	TOTAL INVESTMENT ($M)	TOTAL ADAPTATION ($M)	ADAPTATION SHARE
Gavi (Camber Approach)	123.7	24.5	**19.8%**
AIIB (Camber Approach)	-	-	**-**
ADB (self-reported)	-	-	**-**
World Bank (self-reported)	1,090,6	47,8	**4.4%**

MALAWI

Country Risk Profile

Malawi is a country of approximately 19 million people located in the Great Rift Valley in southeastern Africa.[169] The United Nations Development Programme's second Malawi Multidimensional Poverty Index (MPI), which measures the wealth of a geographic area across several categories, reports that 58.8 per cent of the country's population is multidimensionally poor. The country's four most populous cities (combined population of about 2.4 million) each have MPI ratings below 22 per cent, indicating that Malawi's most intense poverty levels are dispersed across its less urban areas.[170] Although the country has seen modest improvements in development relative to its earlier conditions, its Human Development Index rating remains low, placing the country at 170th out of 188 countries.

Over 80 per cent of Malawi's population works in agriculture, an industry which is susceptible to intra and inter-year variability in rainfall caused in part by its location in the Great Rift Valley.[171] Given the high percentage of the population that works in agriculture and the frequency with which floods and droughts occur, Malawi's climate has affected both its economic and physical health. In addition to the profound damage caused to the country's GDP, the UN reports that over 2500 people died due to climate disasters between 1979 and 2008.[172]

Because the country's precipitation patterns continue to vary so greatly between years and even within a given year, it is difficult to project long-term precipitation trends and to plan accordingly. This difficulty is exacerbated by worldwide changes in El Niño and La Niña patterns. In contrast, trends in temperature are clear. Malawi's mean annual temperature has increased by 0.9°C between 1960 and 2006, an average rate of 0.21°C per decade.[173] This increase is expected to continue and become more intense in coming years as the mean annual temperature is expected to increase by 1.1-3.0°C by the 2060s, and 1.5-5.0°C by the 2090s.[174] As of 2015, forestry is the country's leading cause of greenhouse gas (GHG) emissions, accounting for 78 per cent of GHG emissions, followed by agriculture at 16 per cent and energy at 4 per cent.[175]

Climate and Health Intersection Risk Factors

Malawi is acutely vulnerable to the impacts of climate change, the most pressing climate-related hazards posed from floods, droughts, cyclones and landslides. While the impacts of these events are most directly a result of climate change, they are compounded by other factors such as inadequate housing and infrastructure, deforestation and urbanisation.[176]

Flooding in Malawi is especially prevalent in the low-lying areas along the Lake Malawi lakeshore in central and southern regions. From 1991 to 2020, extreme rainfall affected over 3.5 million people, with close to 935 dead over a 30-year period.[177] In 2015, Malawi faced record breaking floods, some of the most devastating in the country's history. With 230,000 people displaced, a state of emergency was declared in 17 out of 28 districts, and losses and damage totalled approximately US $335 million.[178] Flooding has also been especially pronounced in recent years. Cyclone Freddy in 2023 displaced close to 500,000 people and severely disrupting health services, with at least 83 health facilities damaged or destroyed.[179] The cyclone contributed to one of the worst cholera outbreaks in Malawi's history; the outbreak was first reported a few months before the cyclone, and escalated exponentially following the cyclone onset. While the outbreak was initially limited to southern regions of the country, it had soon spread to all 29 districts of Malawi, including those that had been cholera-free for over a decade.[180] In addition to flooding, increases in mean annual temperatures has been predicted to result in more heat-related deaths. These climate-related health risks are intensified by limited healthcare infrastructure and emergency response systems.

National Health Sector Priorities

Health outcomes in Malawi have improved significantly in recent years, but the country remains behind where it should be according to international standards. From 2000 to 2016, the maternal mortality rate declined from 984 to 439 per 100,000 live births.[181] In that same span, the infant mortality rate also decreased from 104 deaths per 1,000 live births to 42 deaths per 1,000. Despite these indications of improvement, healthcare spending

169 Irish Aid, 2018
170 Irish Aid, 2018
171 Irish Aid, 2018
172 Feasibility Study on Climate Risk Insurance in Malawi, 2023
173 Irish Aid, 2018
174 Katharine Vincent, 2017
175 Irish Aid, 2018
176 *Climate and Health Vulnerability Assessment - Malawi,* 2023
177 *Climate and Health Vulnerability Assessment - Malawi,* 2023
178 *Identifying Risks and Guiding Recovery Efforts in Malawi,* n.d.
179 Focus Adriano et al., 2023
180 *Malawi Cholera & Floods Flash Appeal 2023,* 2023
181 "Malawi National Health Financing Strategy 2023-2030," 2024

and availability remain low. Approximately 3 million Malawians are estimated to be living outside an 8km radius of a public health facility or a CHAM (Christian Health Association of Malawi, an NGO that provides a large portion of the country's healthcare services via church-owned health facilities).[182] Additionally, the country's per capita health sector expenditure was at US $39.2 in 2015, which was less than half of what the WHO recommended for countries like Malawi at that time.[183]

To address gaps like these, Malawi adopted its National Health Policy (2018–2030), which is aligned with Sustainable Development Goals.[184] This policy aims to achieve universal health coverage, strengthen health systems to address emerging challenges, and expand access to high-quality essential health services. Key objectives include improving maternal and child health, combating infectious and non-communicable diseases (NCDs), and developing a skilled health workforce, among others. The Malawi Health Sector Strategic Plan III (2023–2030) serves as the implementation framework.[185] A cornerstone of this plan is the free Essential Health Package (EHP), which includes interventions for reproductive, maternal, neonatal, and child health (RMNCH), HIV/AIDS, tuberculosis, malaria, nutrition, NCDs, and neglected tropical diseases (NTDs). The plan integrates health and climate resilience under Objective 2.6, which includes assessing climate-related health risks, developing mitigation plans, and enacting policies like anti-deforestation measures to protect health systems.

Climate Sector and Funding Landscape

Resource mobilisation towards climate change in Malawi has increased steadily with the rising frequency and intensity of adverse climate events. The move to prioritising climate change in national budgetary discussions is evident in Malawi's published strategies and national development plans.[186] Notably, Malawi has in recent years strengthened efforts to create an enabling environment for climate disaster and risk management while also improving national institutions' access to climate finance. This is reflected in the National Climate Change Management Policy, which lays out the approach and strategic direction for Malawi to manage climate risks and mainstream adaptation and mitigation planning across all levels of government. The Policy itself provides the institutional framework, while a complementary plan (the Implementation, Monitoring and Evaluation Strategy) details how to operationalise strategies mentioned in the Policy.[187] From there, the National Steering Committee and Expert Working Groups (on adaptation, mitigation, and climate finance) work to delegate stakeholders responsible for implementation.

This highly coordinated effort represents a critical step towards a robust climate funding landscape, though there are challenges towards accessing needed finance. Currently, the processes to access climate finance are quite rigorous, requiring national entities to be accredited under various financing mechanisms and technical awareness of how to put forth bankable project proposals. Typically, these proposals require robust evidence bases to support the rationale for climate finance; though Malawi has made strides in climate change education that would better create informed policies and climate change interventions (as seen through their National Climate Change Learning Strategy), knowledge gaps remain.[188]

Despite these challenges, Malawi's government, bilateral partners and MDBs have contributed to the climate-related funding efforts. Some estimates show that from 2002 to 2021, US $2.03 billion went towards climate change, representing just under 10 per cent of all development finance going to Malawi in the same time period.[189] It is important to note that the disbursement ratio (i.e. the amount of finance disbursed as a percentage of total amount committed in the same period) of these financing commitments was 44.3 per cent (compared to 83.2 per cent for all development finance globally). This ratio may indicate challenges with implementation or a redirection of funds after approval. Despite this, national experts identified several notable climate funders: GCF, WHO, UNICEF, UNDP, World Bank, The Rockefeller Foundation, CARE International, Oxfam, and ActionAid.[190]

182 "Malawi National Health Financing Strategy 2023-2030," 2024
183 "Malawi National Health Financing Strategy 2023-2030," 2024
184 "Malawi National Health Policy," 2020
185 Malawi Health Sector Strategic Plan III, 2023-2030, 2024
186 Malawi Growth and Development Strategy (2017-2022), Malawi's Strategy on Climate Change Learning (2021), 2019 Post Disaster Needs Assessment Report, Malawi Nationally Determined Contribution (NDC) (2015-2040).
187 *National Climate Change Management Policy,* 2016
188 *Malawi Has Updated Its National Climate Change Learning Strategy, Confirming the Country's Role as Leader in Climate Change Education.,* 2021
189 *All Donors to Malawi for Climate Change (Total) during 2002–2021,* 2019
190 SEED Global Health, personal communication, January 20, 2025

MALAWI DATA DASHBOARDS

Table 4.1 Country CxH Investments and Adaptation Summary (US $M)

Malawi Investments Summary

Total Investment ($M)	**181.5**	Average Investment Size ($M)	11.3
Total Adaptation ($M)	16.2	Median Investment Size ($M)	5.0
Adaptation Share	**8.9%**	Number of investments	**16**

Table 4.2 Top 5 Largest CxH Adaptation-Related Investment Amounts in Malawi among those analysed (US $M)

Top 5 Largest Adaptation-Related Investment Amounts in Malawi among those analysed

#	INSTITUTION	PROJECT NAME	PROJECT DESCRIPTION	INVESTMENT AMOUNT ($M)	ADAPTATION CATEGORY
1	World Bank (self-reported)	Investing in Early Years for Growth and Productivity in Malawi	The project development objective is to improve coverage and utilisation of early childhood development services with focus on nutrition, stimulation and early learning from conception to 59 months in selected districts of Malawi	$50.0	Other
2	World Bank (self-reported)	Second Additional Financing for Malawi COVID-19 Emergency Response and Health Systems Preparedness Project	To prevent, detect and respond to the threat posed by COVID-19 and strengthen national systems for public health preparedness and provide immediate and effective response to an eligible crisis or emergency	$49.9	RRT
3	World Bank (self-reported)	Additional Financing for Malawi COVID-19 Emergency Response and Health Systems Preparedness Project	See #2.	$30.0	RRT
4	Gavi (Camber Approach)	Investments in Typhoid Vaccine	As described.	$15.3	ICS
5	Gavi (Camber Approach)	Investments in Malaria Vaccine	As described.	$11.9	ICS

Table 4.3 Breakdown of MDB/Gavi CxH Adaptation Funding by Adaptation Category

Adaptation Funding - Breakdown by Category

CATEGORY	INVESTMENT AMOUNT ($M)	PROPORTION OF TOTAL INVESTMENTS
Early warning systems and health surveillance	-	0.0%
Immunisation programmes against climate-sensitive diseases	14.4	88.7%
RRTs for climate-driven health emergencies	1.8	11.1%
Improving vaccine delivery and cold chain systems	0.03	0.2%
Strengthening health infrastructure	-	0.0%
Other	-	0.0%

Table 4.4 Breakdown of CxH Adaptation Funding by MDB Institution

Adaptation Funding Breakdown by Institution

INSTITUTION	ADAPTATION FUNDING AMOUNT ($M)	PROPORTION OF TOTAL ADAPTATION INVESTMENTS
Gavi (Camber Approach)	14.4	88.9%
AIIB (Camber Approach)	-	0.0%
ADB (self-reported)	-	0.0%
World Bank (self-reported)	1.8	11.1%

Table 4.5 Adaptation Share by MDB/Gavi (Total adaptation as a proportion of total Climate x Health investment by that MDB)

Adaptation Share by Institution

INSTITUTION	TOTAL INVESTMENT ($M)	TOTAL ADAPTATION ($M)	ADAPTATION SHARE
Gavi (Camber Approach)	44.6	14.4	**32.4%**
AIIB (Camber Approach)	-	-	**-**
ADB (self-reported)	-	-	**-**
World Bank (self-reported)	136.9	1.8	**1.3%**

NIGERIA

Country Risk Profile

Nigeria, located just north of the equator in Western Africa, is home to a variety of ecological zones, all highly vulnerable to the impacts of climate change. Nigeria is considered at 'extremely high risk' to the impacts of climate change, ranking 152 out of 187 in the 2022 ND-GAIN Index.[191]

Cities along the coast such as Lagos, the most populated city in the country, and in the south are at heightened risk of flooding and erosion due to sea-level rise.[192] In the north and Sahel regions (semi-arid zones bordering the Sahara Desert), increased rainfall variability exacerbates flood risk, while prolonged droughts contribute to desertification and water scarcity.[193] These impacts threaten food security, human health, and livelihoods.

Efforts to improve climate adaptation are underway, though the need for greater progress is evident. Between 1960 and 2006, Nigeria experienced a 0.8°C increase in its average annual temperature, with climate projections predicting even greater rises in average temperatures (1.1 to 2.5°C by 2060) and sea levels (0.4 to 1.0m by 2100).[194] Experts have predicted continued increases in rainfall variation, and high risk of submersion of coastal lands.[195]

Climate and Health Intersection Risk Factors

Nigeria faces both direct and indirect health effects from climate change. Direct health effects come from extreme weather events such as heat waves, floods, droughts, windstorms and wildfires, which have resulted in mass casualties.[196] Indirect health effects of climate change have come from the spread of vector- and water-borne illnesses triggered by increased rainfall and high temperatures, greater rates of heat stress from drought, and infection outbreak from contaminated sea water.

In 2022, Nigeria was hit with record-breaking amounts of flooding, affecting 34 out of 36 states in the country, and displacing 1.3 million people. At the time, UNICEF reported an uptick in cases of diarrhoea, water-borne disease, respiratory infections and skin diseases following the disaster.[197] Despite Nigeria regularly experiencing seasonal flooding, many reported it was the worst flooding disaster Nigeria had seen since 2012.[198] Reports out of Nigeria indicate that these extreme flooding events are not likely to subside any time soon.[199] As recently as August 2024, record-breaking floods displaced upwards of 200,000 citizens across 28 states. The National Emergency Management Agency was suddenly tasked with evacuating residents and constructing makeshift shelters, while other government officials expressed concerns about further disruptions to food supplies and the risk of starvation.[200] The increasing frequency and intensity of these floods underscore the growing threat climate change poses to Nigeria's infrastructure, public health, and food security.

Extreme weather events have hindered Nigeria's agriculture sector, a cornerstone of Nigeria's economy. 80 per cent of Nigeria's rural poor rely on the agriculture sector for their primary source of income, and 20 per cent of Nigeria's GDP comes from this sector alone.[201] Rising temperatures have been shown to result in reduced yields for key crops,[202] while unpredictable rainfall patterns have led to crop-failure and reduced livestock productivity. Nigeria is Africa's most populous country, and the risk of food insecurity is only exacerbated by dwindling resources, including loss of arable land caused by coastal erosion and the rapid shrinkage of Lake Chad.

Climate-related health risks are particularly evident in the outbreak of vector- and water-borne diseases in the region. Malaria is currently the number one cause of death for children under 5 in Nigeria and constitutes 27 per cent of the global malaria burden.[203] Despite sustained efforts to eradicate the disease and lower the country's steep morbidity and mortality rates through various strategic plans, malaria continues to remain a major public health concern, particularly as transmission rate increases are correlated with temperature increases.[204] Cholera poses a similar public health threat, particularly in areas lacking water, sanitation and hygiene (WASH) infrastructure and sanitation.[205] The water-borne disease has been endemic in Nigeria since the 1970s and historical data show major outbreaks as recent as 2024. Cholera's case-fatality ratio decreased from 12.9 per cent in the 90s to just 3.5 per cent in

191 *Notre Dame Global Adaptation Initiative (2022),* 2022
192 Nigeria Climate Change Country Profile Fact Sheet, n.d.
193 Haider, 2019
194 Nigeria Climate Change Country Profile Fact Sheet, n.d.
195 Akande et al., 2017
196 Haider, 2019
197 *More than 1.5 Million Children at Risk as Devastating Floods Hit Nigeria,* 2022
198 *Nigeria Battles Worst Floods in Years; 300 Killed in 2022,* 2028
199 Chinedu Asadu, 2024
200 Chinedu Asadu, 2024
201 Nigeria Climate Change Country Profile Fact Sheet, n.d.
202 *Climate Risk Profile: Nigeria,* n.d.
203 World Health Organisation (WHO), 2021
204 Omojuyigbe et al., 2023
205 Eneh et al., 2024

2024, a promising update that experts have attributed to improved sanitation measures in the country.[206] However, given that the rural poor are especially susceptible to cholera and that there is a strong correlation between increasing temperatures/rainfall and the prevalence of cholera, the case-fatality ratio remains an area of concern and highlights the need for urgent measures.

National Health Sector Priorities

Nigeria has made encouraging strides in reducing the knowledge gaps around the impacts of climate change on health and increasing efforts to prioritise this across government leadership within the health sector. At the 2024 COP29 convening, Nigeria unveiled its Climate Change and Health Vulnerability and Adaptation (V&A) Assessment Report, a comprehensive strategy to build an adaptive and resilient health system able to withstand climate-based threats.[207] Nigeria's Coordinating Minister of Health & Social Welfare Muhammad Pate pledged that this was the first step to making informed, data-driven decisions and paving the way for a "healthier, more sustainable future."[208] The country has demonstrated progress towards V&A plan milestones, at least through public commitments. Current initiatives aim to address systemic challenges in healthcare delivery, boost local health product manufacturing, and unlocking greater financed aimed at strengthening primary healthcare.[209]

Despite greater published commitments and policy awareness, Nigeria continues to have one of the highest burdens of diseases in Africa and still faces significant challenges with regard to quality and availability of primary healthcare services. This disparity (i.e. many published commitments towards CxH, but lack of adaptive measures) can be attributed to several factors: weak partnership and lack of coordination amongst government Ministries, a tendency to react to climate emergencies instead of anticipatory emergency planning,[210] and low levels of healthcare financing & un-timely release of funds during emergencies.[211]

Climate Sector and Funding Landscape

Climate finance in Nigeria has seen steady increases over the past few years, as global communities have started to recognise the importance of decisive and timely funding. Latest figures (as of 2022) from the Climate Policy Initiative show that US $2.5 billion of public and private capital (from both domestic and international sources) went to climate action in Nigeria, up 32 per cent from 2020.[212] Despite funding growth in tracked climate finance, many experts claim that these figures remain well below estimated needs, with an annual climate finance gap of US $27.2 billion.

Public actors, including multilateral, bilateral and national development financial institutions, government, and multilateral climate funds were the largest funders, making up 70 per cent or US $1.8 billion. Private actors, including corporations, foundations, and institutional investors, made up the remaining 30 per cent, or US $760 million.

Climate finance was primarily dedicated to mitigation measures (48 per cent, or US $1.2 billion), in large part due to significant investments in solar PV[213] while adaptation accounted for 29 per cent or US $735 million. Nigeria's NDC outlined planned adaptation activities the country would undertake, revolving primarily around agriculture, food security, floods, droughts and sea-level rise.[214] As such, half of the country's adaptation finance was concentrated in the agriculture, forestry and land use sector, the bulk of which was backed by the World Bank's Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL) project. Notably, there was little adaptation finance dedicated to creating climate-resilient infrastructure in energy, buildings, transport, and industry. As the country's climate risks intensify and infrastructure damage becomes more pronounced, investments in these sectors are increasingly recognised as critical.

206 Eneh et al., 2024
207 *National Vulnerability and Adaptation Assessment Report,* 2024
208 Muhammad Pate, 2024
209 *President Tinubu Approves Establishment of Programme Management Unit for Health Sector Renewal Investment Initiative,* 2024
210 Prince Friday (CHAI), personal communication, January 9, 2025
211 *First Biennial Update Report of the Federal Republic of Nigeria under the UNFCCC,* 2018
212 Sean Stout et al., 2024
213 Solar PV, or solar photovoltaic, refers to the process by which thermal energy is converted to electricity. This process reduces the need for fossil fuels, lowering GHG emissions.
214 *Nigeria First NDC (Updated Submission),* 2022

NIGERIA DATA DASHBOARDS

Table 5.1 Country CxH Investments and Adaptation Summary (US $M)

Nigeria Investments Summary

Total Investment ($M)	**1,449.0**	Average Investment Size ($M)	15.8
Total Adaptation ($M)	177.2	Median Investment Size ($M)	0.2
Adaptation Share	**12.2%**	Number of investments	**92**

Table 5.2 Top 5 Largest CxH Adaptation-Related Investment Amounts in Nigeria among those analysed (US $M)

Top 5 Largest Adaptation-Related Investment Amounts in Nigeria among those analysed

#	INSTITUTION	PROJECT NAME	PROJECT DESCRIPTION	INVESTMENT AMOUNT ($M)	ADAPTATION CATEGORY
1	World Bank (self-reported)	Nigeria Improved Child Survival Programme for Human Capital MPA	The project development objective (PDO) of the first phase (IMPACT) is to improve the utilisation and quality of immunisation plus and malaria services in selected states	$650.0	ICS
2	World Bank (self-reported)	Nigeria COVID-19 Preparedness and Response Project Additional Financing	The Project Development Objective (PDO) is to prevent, detect, and respond to the threat posed by COVID-19 at state level in Nigeria	$400.0	Other
3	World Bank (self-reported)	Nigeria COVID-19 Preparedness and Response Project	See #2.	$100.0	Other
4	Gavi (Camber Approach)	Investments in Yellow Fever Vaccine	As described.	$39.2	ICS
5	Gavi (Camber Approach)	Investments in Yellow Fever Vaccine	As described.	$32.9	ICS

Table 5.3 Breakdown of MDB/Gavi CxH Adaptation Funding by Adaptation Category

Adaptation Funding - Breakdown by Category

CATEGORY	INVESTMENT AMOUNT ($M)	PROPORTION OF TOTAL INVESTMENTS
Early warning systems and health surveillance	0.1	0.03%
Immunisation programmes against climate-sensitive diseases	158.1	89.2%
RRTs for climate-driven health emergencies	-	0.0%
Improving vaccine delivery and cold chain systems	7.0	3.9%
Strengthening health infrastructure	-	0.0%
Other	12.1	6.8%

Table 5.4 Breakdown of CxH Adaptation Funding by MDB Institution

Adaptation Funding Breakdown by Institution

INSTITUTION	ADAPTATION FUNDING AMOUNT ($M)	PROPORTION OF TOTAL ADAPTATION INVESTMENTS
Gavi (Camber Approach)	66.3	37.4%
AIIB (Camber Approach)	-	0.0%
ADB (self-reported)	-	0.0%
World Bank (self-reported)	110.9	62.6%

Table 5.5 Adaptation Share by MDB/Gavi (Total adaptation as a proportion of total Climate x Health investment by that MDB)

Adaptation Share by Institution

INSTITUTION	TOTAL INVESTMENT ($M)	TOTAL ADAPTATION ($M)	ADAPTATION SHARE
Gavi (Camber Approach)	299.0	66.3	**22.2%**
AIIB (Camber Approach)	-	-	**-**
ADB (self-reported)	-	-	**-**
World Bank (self-reported)	1,150.0	110.9	**9.6%**

PAKISTAN

Country Risk Profile

As a whole, Pakistan's climate varies with its topography – areas along the coast and the lowland plains of the Indus River tend to be dry and hot, while areas in the north and towards the Himalayas are cooler.[215] The majority of Pakistan's population (257 million people as of 2023)[216] border the Indus River, which is prone to severe flooding during Pakistan's summer rainy season.[217] This contrasts with the winter and spring seasons, which generally receive very little rainfall. The country is considered extremely vulnerable to climate change and ranks 149 out of 187 on the ND-GAIN Index.[218]

Many areas in Pakistan currently see temperatures of 38°C or greater on a regular basis. Estimates show that Pakistan experienced around 7 prolonged heat waves per year since 1997, and predict that this figure could increase with gradual warming.[219] Karachi and Lahore, two of Pakistan's most populous cities, are most vulnerable to extreme heat waves and see the greatest mortality risk.[220] Climate projections show that this problem is not likely to subside; data predict an increase of 1.3°C in average daily temperature by 2099 under the lowest emissions conditions and 5.4°C under the highest emissions conditions.[221] These scenarios are higher than the IPCC's predictions of global average temperature increase in the same timeframe, indicating both that Pakistan could benefit from preparing for these above-average increases and that the country as a whole is currently highly vulnerable to these changes.[222] Indeed, the country is currently ranked 149 out of 187 on the ND-GAIN Index, signifying it's status amongst the most climate vulnerable countries.

Climate and Health Intersection Risk Factors

The most common climate-related health hazards are from extreme heat, erratic rainfall patterns, landslides and droughts.[223] Many of these extreme weather events have escalated in intensity and frequency in recent years. For instance, mean temperatures increasing in Pakistan have contributed to heat-related injuries and deaths. In 2015, Karachi endured one of Pakistan's deadliest heat waves—the fifth deadliest ever recorded in global history—claiming over 1180 lives[224] and hospitalising over 65,000 with heat stroke (according to some estimates).[225] While deadly heat waves tend to be more infrequent, many regions in the country regularly experience temperatures of 38°C and above. This poses significant concern given the threshold of 'survivability' has an upper limit of 35°C, which itself can still be a major threat to human health.[226] Extreme heat events often converge with periods of drought in the country, particularly in arid and semi-arid regions. Evidence from the consecutive droughts of 1999 and 2000 have shown that crop failure and mass famine are to be expected with periods of prolonged drought.[227] Experts report that additional research is needed to fully predict and maintain drought risk in Pakistan.[228]

Flooding also presents major risks, given large rainfall and erratic precipitation during monsoon seasons. The 2010 monsoon in Pakistan caused the most catastrophic flooding in the country's history, with a fifth of the country flooded and over 2,000 casualties. This event highlighted the need for targeted disaster relief efforts, remedial efforts to improve governance, and improved early warning systems.[229] The risk of water-borne diseases following flooding or increased precipitation are especially prevalent in Pakistan. Communities along the Indus River are most susceptible to diseases like cholera and malaria, given proximity to flooding events. Water-borne diseases are also exacerbated by intense droughts, given insufficient water and sanitation infrastructure and inability to adequately practice necessary hygiene measures.

National Health Sector Priorities

In 2010, Pakistan passed the 18th Constitutional Amendment, significantly altering the structure of governance by transferring health decision-making and resource distribution powers from the federal government to the four provincial governments—Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan.[230] Devolution has shown promise in several aspects. Each province has developed its own context-specific

215 *Climate Risk Country Profile: Pakistan (2021),* 2021
216 *Pakistan Demographic Data,* 2025
217 *Climate Risk Country Profile: Pakistan (2021),* 2021
218 *Notre Dame Global Adaptation Initiative (2022),* 2022
219 Nasim et al., 2018
220 Matthews et al., 2017
221 *Pakistan > Mean Projections,* n.d.
222 *Climate Risk Country Profile: Pakistan (2021),* 2021
223 *Pakistan Climate and Health Vulnerability Assessment,* 2024
224 Adam Abdullah & Soha Macktoom, n.d.
225 *Climate Risk Country Profile: Pakistan (2021),* 2021
226 Im et al., 2017
227 *Special Report: Pakistan,* 2001
228 *Climate Risk Country Profile: Pakistan (2021),* 2021
229 Noah Tesch, n.d.
230 Nishtar et al., 2013

health policy and action plan, allowing for more targeted interventions.[231] It has also facilitated direct engagement with international donor agencies in alignment with provincial priorities and enabled essential service delivery reforms at the district level.[232] As a result, Pakistan's health indicators have improved in the post-devolution period, with significant reductions in both infant and under-five mortality rates.[233]

The Punjab Health Sector Strategy 2019-2028 prioritises several key objectives, including maternal and child health, patient safety and quality of care, health management and surveillance, and environmental health.[234] While the strategy does not explicitly reference climate change, several of its goals contribute to climate adaptation, such as strengthening health infrastructure to anticipate zoonotic disease outbreaks and developing emergency preparedness plans.[235] Similarly, the Sindh Health Sector Strategy 2012-2020,[236] Khyber Pakhtunkhwa Health Sector Strategy 2010-2017[237] and Balochistan Health Sector Strategy 2018-2025[238] outline comparable goals and priorities related to maternal and child health, patient safety, and healthcare infrastructure improvements. Though these do not mention climate, they do defer to Pakistan's National Health Vision (NHV) 2016-2025.[239] Due to devolution, the NHV is non-binding, but does list as a strategic goal that healthcare systems be made resilient to climate disasters.[240]

Growing exposure to extreme climate events like floods, droughts and heatwaves have led to an increase in climate finance in Pakistan. Estimates place the total amount of development finance in Pakistan targeting climate change from 2019 to 2021 at US $5.4 billion.[241] In this three-year period, the majority (74 per cent) targeted mitigation activities and while a quarter (US $1.37 billion) targeted adaptation activities.[242] As a whole, Pakistan has little climate finance provision given that other priorities such as poverty eradication take over long-term domestic investments.[243] According to one report, the country's total climate-related expenditures made up only 6 per cent in the total federal development budget in 2014.[244]

Despite this, Pakistan has made headway in recognising the need for greater climate mainstreaming across all levels of governance. For instance, the National Climate Change Policy provides a framework for addressing climate issues that Pakistan faces and setting out short- and long-term indicators for progress.[245] Several of these mention greater tracking of climate indicators to better assess vulnerabilities and measure the effectiveness of adaptation and mitigation efforts. The framework also emphasises the need for improved monitoring of financial flows dedicated to climate projects, ensuring that resources are efficiently allocated and utilised.[246]

Climate Sector and Funding Landscape

231 Mahmood et al., 2024
232 Mahmood et al., 2024
233 Mahmood et al., 2024
234 *Punjab Health Sector Strategy 2019-2028,* n.d.
235 *Punjab Health Sector Strategy 2019-2028,* n.d.
236 *Sindh Health Sector Strategy (2012-2020),* 2023
237 *Khyber Pakhtunkhwa Health Sector Strategy 2017-2020,* 2010
238 *Balochistan Health Sector Strategy 2018-2025,* n.d.
239 *Pakistan National Health Vision 2016-2025,* n.d.
240 *Pakistan National Health Vision 2016-2025,* n.d.
241 *All Donors to Pakistan for Climate Change (Total) during 2019-2021,* 2019
242 *All Donors to Pakistan for Climate Change (Total) during 2019-2021,* 2019
243 Abedullah Anjum & Zahid Majeed, 2020
244 Asian Development Bank, 2017
245 *National Climate Change Policy - Framework for Implementation,* 2013
246 *National Climate Change Policy - Framework for Implementation,* 2013

PAKISTAN DATA DASHBOARDS

Table 6.1 Country CxH Investments and Adaptation Summary (US $M)

Pakistan Investments Summary

Total Investment ($M)	**1,830.1**	Average Investment Size ($M)	14.8
Total Adaptation ($M)	51.3	Median Investment Size ($M)	0.2
Adaptation Share	**2.8%**	Number of investments	**124**

Table 6.2 Top 5 Largest CxH Adaptation-Related Investment Amounts in Pakistan among those analysed (US $M)

Top 5 Largest Adaptation-Related Investment Amounts in Pakistan among those analysed

#	INSTITUTION	PROJECT NAME	PROJECT DESCRIPTION	INVESTMENT AMOUNT ($M)	ADAPTATION CATEGORY
1	ADB (self-reported)	Integrated Social Protection Development Programme	The proposed RBL programme will support the Government of Pakistan's efforts to implement high priorities from its Ehsaas Programme (social protection and poverty reduction) in a coordinated, cohesive and systematic manner	$600.0	Other
2	ADB (self-reported)	Emergency Assistance for Fighting the COVID-19 Pandemic	The project will provide (i) immediate financing to help the government deal with the crisis quickly and flexibly by strengthening its public health preparedness and responsiveness; and (ii) a social protection component for quick financial support to help meet the basic needs of vulnerable and poor segments of society and to stimulate the domestic economy.	$300.0	SHI
3	World Bank (self-reported)	National Health Support Programme	To strengthen equitable delivery and quality of essential health services at the primary healthcare level in support of Universal Health Coverage	$258.0	SHI
4	World Bank (self-reported)	Pandemic Response Effectiveness in Pakistan	The project development objective is to prepare and respond to the COVID-19 pandemic in Pakistan and strengthen national systems for public health preparedness.	$200.0	EWS/HS
5	World Bank (self-reported)	Sindh Integrated Health and Population Project	To improve utilisation and quality of basic RMNCAH+N, for poor and vulnerable populations, especially women and children, in targeted areas of Sindh	$200.0	RRT

Table 6.3 Breakdown of MDB/Gavi CxH Adaptation Funding by Adaptation Category

Adaptation Funding - Breakdown by Category

CATEGORY	INVESTMENT AMOUNT ($M)	PROPORTION OF TOTAL INVESTMENTS
Early warning systems and health surveillance	1.3	2.7%
Immunisation programmes against climate-sensitive diseases	6.6	12.9%
RRTs for climate-driven health emergencies	14.1	27.5%
Improving vaccine delivery and cold chain systems	8.9	17.4%
Strengthening health infrastructure	14.0	27.3%
Other	6.3	12.2%

Table 6.4 Breakdown of CxH Adaptation Funding by MDB Institution

Adaptation Funding Breakdown by Institution

INSTITUTION	ADAPTATION FUNDING AMOUNT ($M)	PROPORTION OF TOTAL ADAPTATION INVESTMENTS
Gavi (Camber Approach)	16.9	33.0%
AIIB (Camber Approach)	-	0.0%
ADB (self-reported)	12.6	24.5%
World Bank (self-reported)	21.8	42.5%

Table 6.5 Adaptation Share by MDB/Gavi (Total adaptation as a proportion of total Climate x Health investment by that MDB)

Adaptation Share by Institution

INSTITUTION	TOTAL INVESTMENT ($M)	TOTAL ADAPTATION ($M)	ADAPTATION SHARE
Gavi (Camber Approach)	136.1	16.9	**12.4%**
AIIB (Camber Approach)	-	-	**-**
ADB (self-reported)	1,000.0	12.6	**1.3%**
World Bank (self-reported)	694.0	21.8	**3.1%**

Appendix B: Acronyms

ADB = Asian Development Bank

AIIB = Asian Infrastructure Investment Bank

BAU = business-as-usual

CCC = Climate Change Commission

CFN = Climate Finance Network

DALY = Disability Adjusted Life Years

BCCSAP = Bangladesh Climate Change Strategy and Action Plan

BCCTF = Bangladesh Climate Change Trust Fund

BCDP = Bangladesh Climate and Development Platform

GCF = Green Climate Fund

GEF = Global Environment Facility

HNAP = Health-National Adaptation Plan

IDP = Internally Displaced Persons

MDB = multilateral development bank

NAP = National Adaptation Plan

NAPA = National Adaptation Programme of Action

NCCAP = National Climate Change Action Plan

NDRRMP = National Disaster Risk Reduction and Management Plan

NDC = Nationally Determined Contributions

PPCR = Climate Investment Funds' Pilot Programme for Climate Resilience

RMNCAH+N = Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition

RSF = Resilience and Sustainability Facility

SHIELD = Strengthening Institutions and Empowering Localities Against Disasters and Climate Change

UNDP = United Nations Development Programme

VAA = Vulnerability Analysis and Assessment

WB = World Bank

WMO = World Meteorological Organization

Appendix C: Methodology

METHODOLOGICAL STEPS

Step 0: Collect and prepare data

For each funder in the analysis, the most recently available data from 2019-2025 was collected. Prioritisation was given to publicly available datasets, as well as data aggregated by climate-focus (though this information was not always available, as in the case for Gavi).

Investment data was retrieved for the following funders:

FUNDER	DATA SOURCE	YEARS INCLUDED
World Bank	Yearly Climate Finance Reports	2019–2023
ADB	Yearly Climate Finance Reports	2019–2023
AIIB	Selected projects tagged under the following Sectors: Health Infrastructure, CRF-Public Health, and CRF-Economic Resilience/PBF	2020–2024
Gavi	Country Vaccine Expenditures	2019–2025

1.1.2 Step 1: Identify projects with a climate-health focus

Data was isolated to include only those investments that had a climate-health focus. Where information on this disaggregation was not publicly available (i.e. in Gavi and AIIB datasets), representatives from these funders provided insight into which investments and datasets had climate-health intersections.

FUNDER	CLIMATE-HEALTH FOCUS ISOLATION
World Bank	Investments tagged as both Climate and Health or 'Health' as a primary or secondary sector (from the Climate Finance list)
ADB	Investments tagged as 'Health' in a primary or other sector (from the Climate Finance list)
AIIB	Projects were individually assessed to isolate investments that strengthen health systems and support overall climate resilience and preparedness for future health emergencies. Investments focused solely on immediate COVID-19 response were excluded.
Gavi	HSS Allocations by Funding Window (4.0 & 5.0): Only datasets with health investments were provided, so all were included in the analysis. The dataset was mapped by objectives for climate adaptation relevance. Country Vaccine Expenditures: Investments that were double counted in HSS datasets and non-climate-sensitive vaccines were excluded (see Table 2 for excluded vaccines).

Table 1. Gavi Dataset Inclusion Criteria and Adaptation Category Classification

CATEGORY		ADAPTATION CATEGORY CLASSIFICATION	AC BASE CLASSIFICATION
HSS5	HSS (Health Systems Strengthening)	Investments mapped to each category and type based on objectives	
	CCEOP (Cold Chain Equipment Optimisation Platform)	All investments included under vaccine delivery/cold chain	All investments considered Low, as they manage physical climate risk but do not directly reduce climate risk
	CDS (COVID-19)	Only cold chain investments included, under Adaptation Category (AC4) (vaccine delivery/cold chain)	All COVID-19 investments considered Low, as they manage physical climate risks
	SFA (Strategic Focus Area)	Zero Dose investments included under AC4; Demand Generation classified based on project description	Zero dose investments considered Low; Demand Generation classified based on project description
	EAF (Equity Accelerator Funding)	Investments under relevant objectives mapped to vaccine delivery/cold chain	Zero dose investments considered Low, as they manage physical climate risks
HSS4	All	Data from 2019 onward included based on cost grouping (health products, cold chain, infrastructure included) and objective mapping to categories and types	
Country Vaccine Expenditures		Classified into adaptation categories based on original fund	Climate-sensitive diseases included as High, zero dose as Low

Table 2. Gavi Vaccine Expenditures Dataset Inclusion Criteria

EXCLUDED FIELDS FROM ANALYSIS	INCLUDED IN ANALYSIS*
PCV, IPV, Rota, Penta, HPV, Measles, COVID-19, TD, HEPB, Rabies PEP, MPOX, Ebola, Hexa	Yellow Fever, Cholera, Typhoid, Meningitis A, Malaria, Japanese Encephalitis, Vaccines – Zero Dose, Big Catch-Up

***Note:** Climate-sensitive diseases include Dengue, Meningitis A, Japanese Encephalitis, Yellow Fever, Cholera, Malaria, Typhoid, Chikungunya, and Shigella. These shortlisted antigens were assessed to be the most climate-sensitive through a study conducted by Dalberg, which included an extensive literature search, global and regional forecast estimates of climate and health literature, and expert consultation of subject matter experts.*[247]

Datasets had varying levels of granularity, and the methodology outlined in later steps accounted for this variation. The next section provides an overview of the process used to categorise climate-health data and quantify their climate adaptation contribution (see Steps 2 and 3).

1.1.3 Step 2: Assign investments into climate adaptation categories

Once all health investments with climate relevance were identified, they were assigned to into one of five adaptation categories (seen in Table 3). Both the adaptation categories and the framework to mapping investments (seen in Table 5) were validated with climate and global health experts. This mapping was based off a review of the most granular data available in each dataset.

- For datasets where project descriptions were available (i.e., World Bank, AIIB, ADB), projects were assigned based on a keyword search (details on keywords for each category found in Table 3).
- Where data was not granular (i.e. Gavi), a successive mapping strategy was adopted, starting by removing all clerical and logistical investments lines (for example, human resources expenses, event budgets, and consultancy costs). The next level of detail was reviewed to further isolate investments contributing to adaptation until only relevant investments remained (for example, removed demand generation activities for initiatives unrelated to climate). These remaining investments were grouped based on the most granular level of data available, which often varied between the Objective and Activity Description.

247 Quantifying the Impact of Climate Change, 2023

Each investment was assigned to a single adaptation category based on its primary contribution, even if it supported multiple categories. Where a project was not identified as addressing one of the adaptation categories, but the funder assigned an adaptation contribution (i.e. as seen with World Bank and ADB), projects were assigned to an 'Other' category.

Table 3. Definitions and Key Words of Adaptation Categories

ADAPTATION CATEGORY	DEFINITION	KEY WORDS
Early warning systems and health surveillance	Strengthen capacities to detect, monitor, and respond to climate-sensitive diseases through research, diagnostic tools, data integration, and cross-sector collaboration.	Detection; Forecasting; Predictive Models; Outbreak Monitoring; Real-Time Reporting; Diagnostic Procurement Support; Climate Data Integration; Surveillance Systems; Climate Monitoring; Disease Surveillance; Research on Climate Impact; Diagnosis and Response; Climate-Sensitive Disease Incidence; Early Warning Systems; Community-Based Surveillance; Risk Mapping; and One Health.
Immunisation programmes against climate-sensitive diseases	Focus on routine immunisation and preventative campaigns, while enhancing vaccine development and community engagement to address emerging health threats exacerbated by climate change.	Routine Immunisation; Immunisation Campaigns; Big Catch Up; Community Sensitisation for Immunisation; Vaccination Participation and Awareness; Vaccine Development; Vaccine Introduction; Vaccine Scale Up; Vaccination Research; Zero Dose; Demand Generation; Malaria Vaccine; Dengue Vaccine; Typhoid Vaccine; Yellow-Fever Vaccine; and Japanese Encephalitis Vaccine; Cholera Vaccine; Meningitis A Vaccine.
RRTs for climate-driven health emergencies	Strengthen health systems' capacity to prepare for and manage climate-related disaster risks ensuring rapid and coordinated responses.	Crisis Response; Vaccine Stockpiles; Health Crisis Management; Outbreak Response; Risk Communication; Supply Chain Resilience; Crisis Response Protocols; Community-Led Preparedness; Cross-Country Learning for Health Crises; Emergency Response Protocols; Health Worker Training for Emergency Response; Emergency Risk Communication; Crisis Response Coordination; Health Emergency Response; Crisis Leadership Models; Community Engagement in Crisis; and Climate-Related Crisis Training.
Improving vaccine delivery and cold chain systems	Increase both the reach and resilience of vaccination programmes, particularly in underserved areas via improvements in delivery and/or cold chain systems	Localised Immunisation Access; Access for Vulnerable Communities; Improved Vaccine Logistics; Cold Chain Systems; Solar-Powered Cold Chain; Energy Efficient Vaccine Storage; Thermostable Vaccines; Microarray Patches for Vaccines; Reducing Cold Chain Dependency; Vaccine Delivery Through Mobile Clinics; Local Vaccine Manufacturing; Regional Vaccine Production; Community-Based Vaccine Delivery; Temperature-Sensitive Vaccines; Climate-Resilient Vaccine Distribution; and Supply Chain Innovations.
Strengthening health infrastructure	Enhance the resilience, accessibility, and efficiency of healthcare systems and services to better withstand the impacts of climate change.	Solar-Powered Infrastructure; Climate-Resilient Infrastructure; Climate Adaptation in Health Infrastructure; Health System Disaster Preparedness; Service Delivery Resiliency; Health System Responsiveness; Upgrading Facilities; Back-Up Power for Healthcare Delivery; Improving Ventilation in Facilities; Health System Capacity Assessments; Energy-Efficient Medical Equipment; Robust Sanitation Systems; Water and Sanitation System Resilience; and Community Health Workers.

1.1.4 Step 3: Assign each adaptation-contributing investment a Component Adaptation Classification (*AC base*) number

Once assigned to an adaptation category, each investment's contribution to adaptation was based on its climate relevance and classified into one of three groups, detailed below:

- **Low Relevance (1 ≤ *AC base* ≤ 3):** Activities that integrate measures to manage physical climate risks and ensure that the project's intended objectives are realised despite these risks. These activities include adjustments or improvements required to ensure that the project performs well against experienced and anticipated impacts of climate change. Adaptation is not the primary objective of the activity.
- **Moderate Relevance (4 ≤ *AC base* ≤ 7):** Activities that directly reduce physical climate risk and build the adaptive capacity of the system within which the activity takes place. These activities are typically identified based on a robust understanding of physical climate risks faced by the system within which the project takes place. These activities themselves adjusted to cope with experienced and anticipated impacts of climate change. Adaptation is one of the objectives of the activity.
- **High Relevance (8 ≤ *AC base* ≤ 10):** Activities that contribute to reducing the underlying causes of vulnerability to climate change at the systemic level and/or removing knowledge, capacity, technological and other barriers to adaptation. This type of activity supports adaptation beyond its immediate scope by creating enabling conditions for policy and regulatory environment developments, physical or natural asset enhancements, capacity strengthening, technology developments or knowledge enhancements. These activities are themselves adjusted to cope with he experienced and anticipated impacts of climate change. Adaptation is the primary objective of the activity.

Where data was not granular enough to sufficiently assign a number, the investment was assigned the lowest value in the relevance range to avoid overestimating the adaptation share (i.e., low relevance investment was assigned a 1, medium relevance a 4, high relevance an 8). In cases where granular investment data was available to inform AC base assignments, the following guidelines were used. Activities are listed to reflect sample levels of climate adaptation intentionality and are not intended to conclusively define all activities at each score.

Table 4. Guidance for AC base Assignments

RELEVANCE	*AC BASE* VALUE	*AC BASE* VALUE DESCRIPTION	SAMPLE ACTIVITY
High	10	**Completely fulfils climate adaptation requirements.** *Investments are explicitly and entirely designed for climate adaptation with no ambiguity.*	**Renewable energy cold chain systems:** Solar-powered vaccine storage systems designed to function in high-temperature regions **Climate-resistant and renewable health infrastructure:** Constructing flood-proof hospitals with integrated renewable energy systems to withstand extreme climate events
	9	**Strong but slightly less comprehensive adaptation focus.** *Investments fulfil most climate adaptation goals but lack full integration.*	**Early climate disease warning systems:** Systems specifically tailored for disease outbreaks linked to climate change, such as malaria or dengue in tropical regions **Building response teams for climate disasters:** Teams fully equipped to handle emergencies related to climate-driven disasters, including disease containment and infrastructure restoration
	8	**Substantial adaptation relevance but with some indirect contributions.** *Investments make significant contributions without being wholly dedicated to adaptation.*	**Increasing resilience of health infrastructure:** Retrofitting existing hospitals to improve resilience to moderate flooding but without renewable energy integration **Climate-sensitive immunisation programmes:** Focused vaccination campaigns targeting diseases that become more prevalent due to rising temperatures or flooding

RELEVANCE	*AC BASE* VALUE	*AC BASE* VALUE DESCRIPTION	SAMPLE ACTIVITY
Medium	7	**Partially fulfils adaptation requirements.** *Investments target specific adaptation needs but lack scope or consistency.*	**Community-based preparedness programmes:** Educational programmes on managing climate-sensitive diseases but without infrastructure upgrades **Improved temperature resilience:** Deployment of temperature-controlled storage units that are efficient but not specifically designed for extreme climates.
	6	**Moderate relevance to adaptation with notable limitations.** *Investments contribute indirectly or focus on co-benefits.*	**Broad disease monitoring systems (including climate):** Broader public health surveillance systems that include some climate-related diseases but are not exclusively focused on them. **Health infrastructure climate de-risking:** Upgrades to reduce climate risks (like better drainage systems to reduce flooding risks), but without other climate-specific features
	5	**Balanced contributions to adaptation and other objectives.** *Investment components are equally relevant to both adaptation/nonadaptation improvements.*	**Vaccine storage upgrades:** Enhancing storage capacity to increase resilience, but without specific adaptations for extreme climate events. **Cold chain logistics support:** Investments in general logistics that improve vaccine distribution but lack climate-specific resilience
	4	**Indirect adaptation contributions.** *Investments contribute marginally to adaptation goals.*	**Health worker climate-inclusive training:** General training programmes that include minor components addressing climate-related risks but are not comprehensive
Low	3	**Marginal relevance to climate adaptation.** *Investments incidentally contribute to adaptation but are not designed for it.*	**Operational efficiency projects:** Health system management improvements with incidental benefits for climate resilience **Routine maintenance programmes:** Maintenance of existing health infrastructure without specific adaptation goals
	2	**Minimal relevance with negligible adaptation focus.** *Investments with a minor or peripheral role in adaptation.*	**Improving vaccine delivery for underserved areas:** Improving technical capacity of CHWs to deliver immunisations to zero-dose communities
	1	**No significant relevance to adaptation.** *Investments with little measurable adaptation benefits.*	**Non-climate specific health interventions:** Health system upgrades and investments without a targeted adaptation strategy, such as zero dose immunisation efforts

The following framework was used to determine how commonly seen activities were assigned an AC base value.

Table 5. Approach to Assessing AC base/Adaptation Contribution of Investments

ACTIVITY CATEGORY	ADAPTATION CATEGORY	RELEVANCE	NOTES/COMMENTS/RATIONALE
Immunisation service delivery for zero-dose	Vaccine delivery/Cold chain	Low	Based on Dalberg analysis, zero dose is a cross-cutting theme within probable climate change outcomes of significant concern, so these activities help manage physical climate risks
Immunisation service delivery for climate-sensitive diseases	Immunisation against climate-sensitive diseases	Varies*	Directly related to reducing underlying vulnerability to climate change
Other climate-relevant health service delivery	Other	Medium	Activities generally reduce physical climate risk and build adaptive capacity of healthcare systems
Supporting health services workers (e.g., capacity-building, inclusion)	Strengthening health infrastructure	Low	Training and supporting health workers that can help prepare them for climate change-related challenges and build adaptive capacity of healthcare systems (e.g., delivery of zero dose), but this only counts as Type 2 if specific climate-specific training or resilience is mentioned
Supply chain capacity and planning	Vaccine delivery/Cold chain	Medium	Supply chain would need to be relevant for climate-related aspects (e.g., cold chain, climate-affected diseases), otherwise would be excluded/considered Type 1
Supply chain capacity and planning (not for vaccines)	Strengthening health infrastructure	Low	Will depend on the type of supply chain investment, but likely to be Type 1 since they manage climate risks without necessarily increasing climate-specific adaptive capacity of health systems
Disease outbreak response	Rapid response teams	Medium	Considered Type 2 when included in response for climate-sensitive diseases, but otherwise not included within climate adaptation activities unless helps strengthen other adaptation capacity (e.g., building health system capacity as part of COVID-19 response would count as Type 1)
Healthcare monitoring systems/ surveillance	Early warning systems and health surveillance	Low	Unless investments specifically reference increased monitoring of climate-related risks, this should be classified as Type 1
Community and partner engagement/ demand generation	Strengthening health infrastructure	Low	Included as long as there is some climate relevance to the interventions
Health infrastructure and maintenance (e.g., hospitals)	Strengthening health infrastructure	Low	Unless the investment specifically references making infrastructure more resilient for climate effects (e.g., temperature or extreme events), this does not necessarily increase adaptive capacity and therefore only counts towards managing physical climate risks

***Note:** Climate-sensitive diseases include Dengue, Meningitis A, Japanese Encephalitis, Yellow Fever, Cholera, Malaria, Typhoid, Chikungunya, and Shigella (as defined in both the Dalberg Report and the Gavi Investment Opportunity 2026-2030[248]). The contribution of these diseases to adaptation was determined based off the diseases' unique level of climate-related exacerbation, according to current research (see Table 6 below).*

248 Quantifying the Impact of Climate Change, 2023

Table 6. Contribution of Climate-Sensitive Diseases to Adaptation

DISEASE/ANTIGEN	RELEVANCE	*AC BASE* VALUE
Yellow Fever	High	8
Dengue	High	8
Chikungunya	High	8
Meningitis A	Medium	4
Japanese Encephalitis	Medium	4
Cholera	High	8
Malaria	High	8
Typhoid	Medium	4
Shigella	Medium	4

1.1.5 Step 4: Calculate the Adaptation Weight (AW) of each investment

Where there was no breakdown of adaptation dollars (i.e. as in the Gavi and AIIB datasets), an approach was needed to identify the adaptation relevance of the investment component, adjusted for regional vulnerability. The Adaptation Weight does this; it is the proportion of the investment that is explicitly or implicitly contributing to climate adaptation. It is based on several factors, including the AC base, a Sectoral Benchmark (SB), and a Climate Vulnerability Index (CV).

- **Climate Vulnerability Index (CV):** The CV reflects the degree of climate risk in the region where a project is implemented, as well as the adaptive capacity to address those impacts. Projects located in areas with high climate vulnerability inherently require greater adaptation efforts to build resilience and withstand these conditions. To ensure a robust and data-driven approach, the CV values are derived from the Notre Dame Global Adaptation Initiative (ND-GAIN) Index, a globally recognised measure of climate vulnerability. The scores are normalised to a scale of 1–10, with higher values indicating greater vulnerability. For investments spanning regions (instead of a single country), the CV was an average of the countries in the region (for example, Gavi investments that listed 'Global' as the region had a CV average of all countries that Gavi currently operates in). Incorporating CV into the Adaptation Weight ensures that adaptation funding is prioritised for regions where the impacts of climate change are most severe. For example, regions prone to recurrent floods or prolonged droughts will typically require higher adaptation allocations than those with more stable climates.
- **Sectoral Benchmark (SB):** The SB represents the typical proportion of investment within a sector that is dedicated to climate adaptation. This benchmark is a crucial anchor to the calculation of the Adaptation Weight; it ensures that adaptation shares are aligned with observed sector behaviour, grounding estimates in established patterns from similar projects and preventing overestimations that could arise from arbitrary allocations. Analysis of World Bank and ADB data indicates that approximately 7.9 per cent of health-related investments are typically allocated to climate adaptation initiatives.

The formula for calculating the Adaptation Weight depends on the granularity of the investments. Where less granular data was available, the AC base had less weight in determining the adaptation share.

DATA GRANULARITY	ADAPTATION WEIGHT FORMULA	RATIONALE
Lack of granular investment data [1]	$AW = \frac{CV * 0.1 * (SB + AC_{base} * 0.1)}{2}$	Including the Sectoral Benchmark (SB) increases sensitivity to broader sectoral trends and regional climate risks. This formula avoids the over-reliance on AC base assessment of adaptation relevance components, which is particularly important when investment data is limited in detail.
Detailed, granular investment data [2]	$AW = CV * AC_{base} * 0.01$	Sectoral Benchmark (SB) is less relevant when a more comprehensive assessment can be made of AC base based on project detail available. In this case, the Adaptation Weight (AW) can be calculated by weighting the AC base depending on the country's climate vulnerability.

The mapping of Adaptation Weight formula to dataset can be seen below.

INSTITUTION	DATASET/GRANT	LEVEL OF DETAIL	METHODOLOGY FORMULA
World Bank	Climate Finance Reports 2019 – 2023	Project documents are sufficiently detailed to assign adaptation categories; adaptation and mitigation values already assigned by MDB	N/A
ADB			
AIIB	List of projects tagged under certain Health sectors	Project documents are sufficiently detailed	2
Gavi	Country Vaccine Expenditures Dataset 2021 - 2025	Data only provides detail on fund name, no investment descriptions/ documents available	1
Gavi	HSS 4.0	Both grant tags included (HSS, EAF) were individually categorised by objectives	2
Gavi	HSS 5.0* > Grant > CCEOP (Cold Chain Equipment Optimisation Platform)	No description of project objectives or activity descriptions	1
Gavi	HSS 5.0* > Grant > SFA-ZD (Strategic Focus Area – Zero Dose)	Classified based on activity descriptions, except for Zero Dose investments	1

***Note:** All other Grants included in Gavi 5.0 data (HSS, EAF, CDS, SFA-Demand) have more granular data and used formula 2*

1.1.5 Step 3: Calculate the Adaptation Share (AS) of each investment

Once Adaptation Weights have been assigned, they can be multiplied by the investment amount and divided by the total project budget according to the following formula:

$$(AS) = \frac{Investment\ Component * Adaptation\ Weight}{Total\ Investment}$$

Other Assumptions and Constraints

This methodology was developed to enable a proportional and conservative estimation of adaptation relevance in the health sector. It assumes that certain investments—such as immunisation against climate-sensitive diseases, cold chain improvements, and surveillance systems—contribute meaningfully to climate adaptation, even if not explicitly framed that way in project documentation. The Sectoral Benchmark (SB) is drawn from historic MDB adaptation financing data in the health sector, while Climate Vulnerability (CV) is based on the ND-GAIN index, normalised to a 1–10 scale. The methodology adapts to available data using a two-tier approach to adjust weighting based on the level of granularity in investment documentation.

While this approach allows flexibility across funders and contexts, it also introduces limitations in precision, particularly for bundled investments or those without detailed breakdowns. One area of methodological complexity lies in the scoring of the Component Adaptation Classification ACbase, which is ranked on a 1–10 scale within three broader adaptation tiers (low, medium, high). Although the tiering reflects global climate finance tracking norms, the numeric scoring within each tier introduces a degree of subjectivity that may affect reproducibility or comparability across reviewers. Future refinement of the methodology may consider ways to simplify or standardise the scoring within tiers to reduce potential bias and improve consistency.

This framework is intended to be transparent and scalable but should be interpreted as indicative rather than definitive—especially when used for cross-institutional comparisons.

Appendix D: Expert Interviews

ORGANISATION	CONTACT	ROLE	FOCUS AREAS	KEY TAKEAWAYS
World Bank	Tamer Rabie, Stephen Dorey, Jessica Werner Flannery	World Bank, Global Programme Lead for Climate and Health	Global	• Good Buys for Development: most cost effective interventions to improve global health and education, what are the good buys for immunisation? • Climate Change Group at World Bank does adaptation investment tracking • Sectoral Benchmark has various calculations, ranging from 16 per cent to 52 per cent
Modelling Consortium (VIMC)	Neil Ferguson	Deputy Director	Epidemiology	• AC base classification should also depend on (1) Climate vulnerability of a disease to that specific country, where disease increase is attributable to climate change (2) Intentionality to invest in climate adaptation through disease focus • Future recommendation for MDBs to sign contracts indicating the degree to which their investment is intended for climate adaptation on a scale from 0 to 100 per cent
Seed Global Health	Tom Fairchild, Anda Nindi-Nyondo, and Gaspar Joseph Mbita	Director of Advocacy and Media	Global, Malawi	• Health workers are a critical adaptation on the frontline for climate change • Working on Vulnerability Analysis Assessment (VAA) in Uganda and Malawi: want to include social determinants of health in the health national adaptation plan and sector strategy • Malawi CxH investments: GCF and Save the Children to invest in healthcare worker training and response activities, amounting to US $38 million • Key players: GCF, WHO, UNICEF, UNDP, World Bank, The Rockefeller Foundation, CARE International Oxfam, ActionAid • Malawi Goals: focus more on training, cholera preparedness, vaccine emergency response storage • Diseases of concern: cholera is top priority, malaria on the radar and increases during rainy seasons

ORGANISATION	CONTACT	ROLE	FOCUS AREAS	KEY TAKEAWAYS
Bill & Melinda Gates Foundation	James Birch	Global Advisory and Policy, Agricultural Development	Global	• Gates invested in Sub-Saharan Africa, Southeast Asia, Ethiopia, Senegal, and Kenya • Gates teams involved in CxH include Agricultural Development (AgDev), Maternal, Newborn, and Childhood Health (MNCH), and Malaria • CxH investment leaders: WHO, World Bank, Wellcome, The Rockefeller Foundation, AMREF, CGlobal • FCDO Nigeria is bringing together many funders working with the Minister of Health and Social Welfare in Nigeria
Duke-NUS Global Health Institute	Renzo Guinto	Associate Professor & Member of the Board	Global (Asia)	• Urgent transformational leadership is necessary to address the existential threat posed by climate change to health systems • Challenges include inefficiencies in governance and vaccine hesitancy among the Philippines population. • Addressing vaccine-related climate-sensitive diseases requires restoring public trust, improving vaccine delivery systems, and combating misinformation, particularly via social media platforms like Facebook
Clinton Health Access Initiative	Prince Friday	CHAI	Nigeria	• There is a lack of collaboration between ministries (e.g., Health and Environment), hindering integrated approaches to addressing climate-health (CxH) issues. • Most immunisation efforts are reactive rather than proactive, with limited foresight in planning for climate-related health impacts. • Developing an integrated framework for resource harmonisation and inter-ministerial communication is critical
Sanofi	Obinna Chukwudebe	Sanofi Immunisations Access	Global	• Climate and immunisation conversations are still in infancy in Africa, a bit more mature in Europe. There's a need for advocacy • To get Sanofi to have a greater climate focus would probably have to be via forecasting reflecting increased burden and migrating populations. • Gavi is in a unique ecosystem position to bring other partners into the immunisation X climate agenda.

ORGANISATION	CONTACT	ROLE	FOCUS AREAS	KEY TAKEAWAYS
Federal Foreign Office Germany	Bernhard Schwartländer	Global Health Envoy	Global	• Multilateral funders like WB and ADB are active • AIIB is starting to invest in CxH, board approved health strategy a few weeks ago • New strategy to centre health for investment decisions • Government of Germany focuses on climate mitigation, but not as focused on CxH
Gavi Nigeria	Jessica Crawford	Senior Country Manager	Nigeria expert	• FCDO working with World Bank and GFF on implementation of climate adaptation in Nigeria, at COP29 pulled together NAP • "One Plan Approach" – plan to pool investments into one place • Gavi should consider where it has an advantage in investing over others, including trends for where Gavi is influential
World Bank	Jessica Werner Flannery	Health Specialist	Global	• Key component of the World Bank methodology is intentionality, because it ensures that the programme will continue for climate reasons • Cold chain is a good example of CxH adaptation
University of Twente	Peter Schuur	Professor	Global	• Provided insights and input towards validating this report's methodology
Vrije Universiteit Brussels	Sebastian Sterl	Directorate-General for Energy of the European Commission in Brussels	Global	• Provided insights and input towards validating this report's methodology
Interactive Research & Development (IRD) Global	Tapash Roy	Country Director	Bangladesh	• Bangladeshi government awareness of climate challenges is growing, supported by plans like the 2023-2050 strategy. However, health is not explicitly prioritised as a cross-cutting issue in climate policies, despite its critical role in addressing poverty and vulnerabilities • Coordination gaps between ministries and donor organisations hinder integrated approaches to health-related climate adaptation. Efforts remain fragmented, with donor-led initiatives often operating parallel to government systems, limiting sustainable impact

ORGANISATION	CONTACT	ROLE	FOCUS AREAS	KEY TAKEAWAYS
Bill & Melinda Gates Foundation	Obinna Onyekwena	Deputy Director of Infectious Diseases	Global	• CxH has been elevated given recent political attention • Consider the level of detail around climate-sensitive diseases when linking the health effects to climate • Another important angle of this work is how non-polluting countries are bearing the brunt of climate change
SEEK Development	Prashant Poondla, Qi Liu	Climate Change Adaptation, Agriculture and Water Resources Team	Global	• Provided insights and input towards validating this report's methodology
Wellcome	Arthy Hartwell	Policy Lead	Global	• CxH field is still developing, and Wellcome focuses on field and ecosystem building. As a whole, it's clear that the global dialogues on CxH are becoming more prominent, specifically the ways to generate evidence around it and understand where investment needs to be made
Lancet Countdown	Maria Walawender	Research Fellow	Global	• Measuring and standardising adaptation funding remains a challenge, with different funders using varying approaches. A clear methodology for quantifying adaptation shares would be valuable. • There is a strong need to assess the effectiveness of adaptation investments, as evaluation remains limited despite growing prioritisation.

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