

Climate and health systems conceptual framework

Background

At Options, we believe in a world where women and children can access the high-quality health services they need, without financial burden. To make this a reality, health system actors, institutions, populations, and functions need to prepare for and respond to crises, while maintaining core services when a crisis hits.ⁱ

Climate change is now recognised as the “greatest global health threat facing the world in the 21st century.”ⁱⁱ Our conceptual framework outlines how Options approaches working with governments, health providers and communities to respond to this threat. Building resilient health systems that can bring sustained improvements in population health despite an unstable climateⁱⁱⁱ is at the heart of our approach and the centre of our conceptual framework. The framework includes six components, closely aligned to the WHO health systems building blocks:

1. sustainable products, technology and infrastructure
2. robust data systems
3. sustainable financing
4. accountable leadership and governance
5. integrated people-centred services;
6. and a skilled and adaptive workforce

For health systems to be resilient to climate change they must both mitigate actions that contribute to greenhouse gas emissions and adapt to reduce the vulnerability of the system to the actual or expected effects of climate change.^v On the left of the diagram, we detail the ways in which Options can support stakeholders to reduce the causes of climate change. On the right, we detail the ways in which Options can support stakeholders to modify decisions and actions to adjust to a changing climate. Our scope and approaches are aligned to the WHO ten components for building climate resilience.^{vi}

While this framework focuses on the strategies to mitigate and adapt to climate change within the health sector, the strategies are inextricably linked to the sectors that have been recognised as playing a critical role in the solution to climate change: energy, transport, industry, environment, agriculture and food security, urban planning, and education.^{vii} Collaboration across a mix of stakeholders and coordinated multisectoral planning will be critical to achieve success.



Mitigation

Reducing the cause of climate change

Adaptation

Modifying our decisions and actions to adjust to a changing climate



Other sectors we engage with:

Energy | Transport | Industry | Environment | Agriculture and food security | Urban planning | Education

The six components of the framework

1. Sustainable products, technology, and infrastructure

Adopting low-impact technologies or approaches in the packaging and transportation of essential medical products will improve resilience to climate change. For example, use of QR codes reduce the need for printed information, whilst also potentially strengthening data systems, and the use of sustainable materials and minimalistic design reduce unnecessary packaging.^{viii} Essential medicine lists need to be reviewed to ensure that the most context-appropriate products are purchased and distributed: e.g., a recent study found heat-stable carbetocin to be as safe and effective as oxytocin in preventing post-partum haemorrhage. Critically, the drug does not require refrigeration and could be more widely distributed in settings where access to electricity is limited.^{ix}

Health infrastructure planning and design needs to account for current and projected climate health risks while also mitigating the effects of climate change using green energy solutions. As Options has demonstrated in Kenya, the use of solar energy in health facilities that do not have consistent energy supply can play a vital role in the provision of quality maternal and newborn care such as through blood banks, laboratories, vaccine fridges and emergency equipment.

Our support to climate smart infrastructure in Nepal

Nepal faces multiple natural hazards and disaster risks, including earthquakes, floods, and landslides, all of which are exacerbated by climate change. Options' Nepal Health Sector Support Programme (NHSSP) has been at the forefront of designing hospitals and health facilities that integrate energy efficiency and climate resilience into structures that can withstand earthquakes. Our visionary designs and innovative engineering create spaces that deliver good quality health services while considering multiple ways to reduce energy loads in the building:

- Maternity wards are built south facing to take advantage of the natural heat of the sun to provide warmth for newborns.
- Lighting is reduced in favour of daylight, where possible, and air conditioning uses natural ventilation rather than relying on damaging hydrofluorocarbons.



Architectural drawing of one of the retrofitted hospitals in Nepal (NHSSP)

- Old systems are replaced by energy efficient systems and appliances.
- Water, sanitation, and waste systems are upgraded integrating water and waste treatment plants at the hospital level to minimise environmental impact.

2. Robust data systems

Traditionally siloed data systems across sectors have led to incomplete surveillance of potential climate threats. Timely and integrated data systems will allow for easy sharing of data and better coordination and planning across sectors.

The One Health approach brings together environmental, human and animal health for improved disease surveillance. Surveillance systems need to be strengthened to monitor population health and environmental exposure. This might include conducting a vulnerability assessment on the existing, or potential capacity of the health system to respond to climate threats.^x This enables access to readily available data on health and climate change vulnerability for prompt decision making as well as establishment of early warning systems on climate health risks.^{xi}

Engaging in community awareness activities to communicate climate-sensitive health risks to potentially vulnerable populations will also enable individuals to take ownership of their response to climate change challenges and participate in broader community and government driven planning exercises.^{xii,xiii}

3. Sustainable financing

Despite the growing recognition of the increased health risks associated with climate change as well as the important role that the health sector can play in reducing harmful emissions, to date, the health sector has been largely excluded from climate financing^{xiv}. There are, however, considerable opportunities to address mitigation and adaptation needs of health sectors including multilateral and bilateral funding, private finance, and regional and domestic financing. Ministries of Health can actively engage in the development and implementation of National Adaptation Plans (NAPs) as agreed at COP16 (2010)^{xv}. This will help to ensure that the health sector receives a share of the domestic investment in climate adaptation strategies. As of COP21 (2015) the Green Climate Fund has a mandate to expedite support for the preparation and implementation of the NAPs. WHO is also supporting countries to develop National Health Adaptation Plans (NHAPs)^{xvi}.

Options has supported various countries through multisectoral collaboration, support to evidence-informed planning and budgeting and empowering accountability coalitions to conduct budget advocacy to achieve increased public investments for health programmes. Similar approaches can be adopted to support countries to identify domestic and sustainable financing sources for climate and health interventions.

4. Accountable leadership and governance

Political commitment across all sectors is critical to mitigate and adapt to the impact of climate change. Multi-sectoral policies and planning – e.g., through National Climate Adaptation Plans^{xvii} or urban health planning – provide an opportunity for different sectors to agree on adaptation objectives and improve coordination in achieving them. In Bangladesh, Options supported the Urban Health Systems Strengthening Project, with the aim of improving access to maternal, newborn, and reproductive health services for the urban poor. This involved bringing together different government bodies to agree on a shared understanding of urban health and coordinate in the planning, mapping, and delivery of resultant urban health services.^{xviii}

People must be at the heart of all governance efforts to address climate change. Without secure rights and entitlements, people who are marginalised will be affected the most by climate change.^{xix} It is essential that efforts to address climate change consider community dynamics, power structures and fragile livelihoods. Community structures such as accountability coalitions can be strengthened through capacity building to engage in advocacy for inclusive and data-driven decision making.

Efforts to secure land rights and protect those most at risk from unequal or discriminatory social norms, or without access to health services must be prioritised.^{xx} Ensuring participatory feedback loops and informal and formal mechanisms for accountability will be critical to achieving this.^{xxi}

5. Integrated people-centred services

Communities need to be served by high-quality health services that respond to their needs in holistic ways. Rapid and regular facility assessments, using Options' Quality of Institutional Care (QuIC) model, can help facility managers assess their readiness to respond to environmental and public health threats, emerging community needs as well as the facility's overall contribution to carbon emissions and environmental impact. Options worked with WHO and the Geneva Centre for Humanitarian Studies to develop a tool to enable governments and partners to assess the readiness to respond to COVID-19. We have used this tool across a range of programmes to identify gaps in the COVID response.

Facilities can contribute to improved community healthcare in the face of climate change by introducing climate-smart service delivery protocols for management of pharmaceuticals, staff, medical supplies, and equipment to respond to climate-sensitive diseases (e.g., vector-borne diseases), improving medical waste management to improve air quality and engaging in ongoing communication, education, and feedback with local community actors.^{xxii}

6. Skilled and adaptive workforce

Climate change impacts tend to increase the demand for health services which puts pressure on the health workers^{xxiii}. However, the impact of climate on particularly vulnerable regions can make them less attractive as places health workers want to be based in.^{xxiv} Health workforce planning needs to factor staffing location and incentives as well as emergency response training. Contingency plans for workforce response to climate shocks, including how to maintain key essential services, are also critical. In Ethiopia, Options supported the development of an adaptive nutrition and health services approach to strengthen resilience to acute malnutrition and disease outbreaks at the health post.^{xxv}

References

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- ^{iv} FCDO Position Paper: Health Systems Strengthening for Global Health Security and Universal Health Coverage (2021)
- ^v WHO Regional Office for Europe: About Mitigation and Adaptation
Ibid.
- ^{vi} <https://www.unep.org/interactive/six-sector-solution-climate-change/>
- ^{vii} <https://www.oliverhpc.com/news-and-resources/packtalk/the-you-in-sustainability>
- ^{ix} https://www.who.int/news/item/27-06-2018-who-study-shows-drug-could-save-thousands-of-women%E2%80%99s-lives?mc_cid=71f7405a43&mc_eid=0993001b16
- ^x https://pdf.usaid.gov/pdf_docs/PA00KZ84.pdf
- ^{xi} <https://www.adaptation-undp.org/strengthening-climate-information-and-early-warning-systems-climate-resilient-development>
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- ^{xiv} https://www.climatelinks.org/sites/default/files/asset/document/20190520_USAID_ATLAS_Financing-the-Climate-Health-Nexus.pdf
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- ^{xx} Ibid
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- ^{xxii} <https://www.paho.org/disasters/dmdocuments/ModelPolicy.pdf>
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Further information on Options' health systems work related to climate change can be found on our [website](#).

About us

Options is an international development consultancy delivering innovative solutions to some of the world's most complex health challenges. We drive transformational improvements in the health and well-being of the most vulnerable. Our work supports the vision of a world where women and children can access high-quality health services they need, without financial burden.

With over 25 years' experience, Options has a proven track record in building partnerships throughout Africa and Asia and tailoring approaches to the local context.

Options is continuously looking forward, innovating, and co-creating new solutions with our partners and clients. Further investments and partnerships will enable us to transform the problems of today into the solutions of tomorrow.

Contact us

Sarah Fox, Technical Director, s.fox@options.co.uk
Eva Rahman, Assistant Director of New Business and Partnerships, e.rahman@options.co.uk

options.co.uk
[@OptionsinHealth](https://twitter.com/OptionsinHealth)