

# Strengthening climate-resilient health systems through capacity building: lessons from The Bahamas' climate change and health training initiative

## Abstract

Small Island Developing States (SIDS) are uniquely vulnerable to climate change, facing heightened risks from sea level rise, extreme weather events, and ecosystem disruption. In response, The Ministry of Health & Wellness (MoHW) implemented a capacity-building training for the technical committee on Climate Change and Health (TCCCH). This review summarizes the training's objectives, curriculum, and outcomes, evaluates its success in building technical capacity, and proposes a framework for institutionalizing climate change and health training into professional development programs. Integrating climate-health training into Continuing Professional Development (CPD) credits and seminar series is recommended to strengthen workforce resilience and mainstream climate considerations into health decision-making.

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## Introduction

Climate change represents one of the greatest public health challenges of the 21st century, particularly for SIDS such as The Bahamas, where rising sea levels, intensifying hurricanes, and saltwater intrusion threaten population health and healthcare infrastructure.<sup>1,2</sup> Health systems must adapt to these emerging challenges while contributing to mitigation efforts through sustainable operations.<sup>3</sup> Capacity building for health professionals is a critical enabling factor in developing climate-resilient health systems, as outlined in the WHO Operational Framework for Climate-Resilient Health Systems.<sup>3</sup>

Recognizing this, the Green Climate Fund (GCF) supported project *Developing a Climate Resilient Health System in The Bahamas* prioritized the formation and training of the Technical Committee on Climate Change and Health (TCCCH) as a key deliverable.<sup>4</sup> The following review synthesizes findings from the training report, explores lessons learned, and outlines a forward-looking proposal for integrating such training into a national system of professional development.

## Overview of the climate change and health training

### Purpose and objectives

The TCCCH training was designed to deepen technical knowledge within MoHW and its partners to guide policy, monitor implementation of The Bahamas Health National Adaptation Plan (HNAP), and advice decision-makers on climate-health priorities. The training addressed four strategic goals:

- 1. Capacity building:** Equip participants with knowledge of climate science, vulnerability assessment, and health adaptation planning.
- 2. Policy alignment:** Strengthen understanding of international agreements such as the Paris Agreement, Sendai Framework, and SIDS commitments.<sup>6</sup>
- 3. Systems integration:** Introduce tools for building climate-resilient health systems and assessing facility vulnerability.

- 4. Sustainability:** Promote mainstreaming of climate-health considerations into national health policy and financing discussions.<sup>5</sup>

### Curriculum and delivery

The training consisted of six structured sessions covering:

- I. Developing a Climate-Resilient Health System
- II. Introduction to Climate Change, Health Risks, and Adaptation
- III. Negotiating Climate Change and Health
- IV. Climate Change and Health in The Bahamas
- V. Communicating Climate and Health
- VI. Mainstreaming Climate Change Beyond the Project

A mix of did active presentations, interactive breakout discussions, and multimedia resources (including IPCC reports, UNDP country profiles, and WHO guidance documents) were utilized for the training sessions.<sup>5</sup>

### Participation

Although over 200 invitations were issued, 26 participants attended at least one session, and approximately half attended all six sessions. Participants included representatives from MoHW, disaster management, civil aviation, environmental NGOs, foreign affairs, and professional councils, ensuring a multisectoral perspective.<sup>5</sup>

### Outcomes and impact

#### Knowledge gains

Pre- and post-training assessments demonstrated significant improvement in climate-health literacy, with average scores increasing from **8.4 to 11.5 out of 12**. This knowledge gain supports the training's efficacy as a capacity-building mechanism.<sup>5</sup>

#### Participant feedback

Post-training surveys indicated high satisfaction with content relevance, engagement, and applicability. 84.6% of respondents stated

that they would recommend the training to other professionals. The primary improvement suggestion was for **longer training duration** and more time for discussion-based activities, indicating a desire for deeper engagement.<sup>5</sup>

### Contribution to national climate-health action

The training strengthened the foundation for TCCCH's role in monitoring and advising on climate-health integration. It also validated the National Communications Strategy on Climate Change and Health and contributed to mainstreaming climate considerations in MoHW's work plan.

## Discussion

### Lessons learned

This training exemplifies how focused, evidence-based interventions can strengthen institutional capacity for climate adaptation in health. Three key lessons emerge:

- 1. Multisectoral engagement is crucial:** Involving stakeholders beyond the health sector (e.g., aviation, contractors, and youth affairs) fosters whole-of-society resilience and aligns with a One Health approach.<sup>2,3</sup>
- 2. Assessment and feedback loops improve quality:** Pre/post-testing provided measurable indicators of impact, while anonymous surveys encouraged constructive feedback for future iterations.
- 3. Sustainability requires institutionalization:** One-off training events are valuable, but training content must be embedded within a continuing education framework to ensure long-term capacity retention and staff turnover management.

### Proposal: Integration into professional development framework

#### I. Development of modular climate-health curriculum

Adapt the six-session structure into standalone modules (e.g., 1-hour microlearning units) suitable for hybrid delivery. This modular approach allows flexibility and easier incorporation into busy work schedules.

#### II. Accreditation for Continuing Professional Development (CPD)

Collaborate with the Health Professionals Council to accredit training for CPD credits, encouraging participation from nurses, physicians, and allied health professionals. Similar models have been adopted successfully in Yale's Climate Change and Health Certificate Program (YSH, 2023)<sup>7</sup> and WHO's e-learning modules.

#### III. Integration into annual public health seminars

Introduce climate-health tracks into existing MoHW training events, national health research symposia, and disaster-preparedness

conferences. This mainstreams climate-health dialogue and ensures cross-pollination of ideas.

### IV. Digital learning platform & knowledge hub

Create an online repository of recorded sessions, slide decks, interactive quizzes accessible to all health professionals. This will promote equitable access across Family Islands and reduce cost barriers.

## Conclusion

The Climate Change and Health training initiative represents a significant step toward strengthening The Bahamas' health system resilience. The demonstrated knowledge gains and positive participant feedback highlight the training's value as a foundational capacity-building tool. Moving forward, institutionalizing climate-health training through CPD accreditation and annual seminar integration will sustain momentum, build a climate-literate health workforce, and position The Bahamas as a regional leader in climate-health preparedness.

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## Conflicts of interest

The authors declare there is no conflict of interest.

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## References

- Intergovernmental Panel on Climate Change (IPCC). *Sixth Assessment Report – Regional Fact Sheet: Small Islands*. 2022.
- Pan American Health Organization (PAHO). *Agenda for the Americas on Health, Environment, and Climate Change 2021–2030*. 2021.
- World Health Organization (WHO). *Operational Framework for Building Climate Resilient Health Systems*. 2015.
- Green Climate Fund (GCF). *Developing a Climate Resilient Health System in the Bahamas – Readiness Project Document*. 2020.
- Jennings Environmental, Safety & Security Consultants (JESS). *Climate Change and Health Training Report*. 2022.
- United Nations Office for Disaster Risk Reduction (UNDRR). *Sendai Framework for Disaster Risk Reduction 2015–2030*. 2015.
- Yale School of Public Health. *Online Certificate in Climate Change and Health*. 2023.