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INTEGRATING CLIMATE-HEALTH INTELLIGENCE INTO FETP STRUCTURES AND ONE HEALTH GOVERNANCE

Introduction

Climate change is increasingly shaping public health risks, placing greater demands on health systems and the public health workforce to anticipate, detect, and respond to climate-related threats. In this context, strengthening the use of climate-health evidence and integrating it into existing public health structures is essential to support informed decision-making and more resilient health systems.

This issue of EMPHNET's Emergency Bulletin builds on the **56th session of the EMPHNET WEBi Series**, *"From Evidence to Action: Integrating Climate-Health Intelligence into FETP Structures and One Health Governance,"* held on July 21, 2026, in collaboration with the World Bank. The session brought together experts to explore climate-health governance, the integration of climate and environmental epidemiology into Field Epidemiology Training Programs (FETPs), and different country experiences, offering practical insights into strengthening workforce capacity and institutional action through a One Health approach.

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Building Climate-Resilient Public Health Systems: The Role of FETPs and Governance

By Dr. Stephen Dorey, Senior Health Specialist, Health Systems Resilience Program, World Bank

Climate change is no longer only an environmental problem. It is already changing how diseases spread, how health services work, and how much pressure health systems face. Climate change does not create new diseases. Instead, it makes many existing health problems worse. This is called a "risk multiplier effect." It affects some groups more than others, so climate change is also a matter of health equity, not only environmental protection.

For public health institutions, this means that climate information must become part of everyday work. It should be part of risk assessment, disease surveillance, planning, emergency preparedness, and service delivery. Climate should not be treated as an outside risk. It should be treated as a core part of how health systems function.

FETPs are a natural place to start this work. FETPs already teach the skills needed to detect, analyze, and respond to health risks. They work at the intersection of surveillance and public health decision-making, with a strong focus on field investigation, outbreak response, and data-driven action. This makes FETPs a good platform for bringing climate-health intelligence into routine public health practice.

Climate-related health risks go beyond traditional disease surveillance. They also include heat, air quality, water scarcity, food insecurity, and ecosystem damage. Climate change affects not only patients and communities, but also health facilities that provide care and the workers who deliver it.

The real question is not only "how do we add climate change to a training curriculum?" It is "how do we help public health professionals use climate and environmental information to make better operational decisions?" This is where governance becomes important: it turns information into coordinated action.

Governance: The Backbone of Climate-Health Response

Strong scientific evidence does not automatically lead to action. If institutions lack clear mandates, coordination mechanisms are weak, budgets and resources are lacking, and responsibilities are unclear, evidence tends to remain on paper.

Climate-health work sits across many government sectors. Ministries of Health must work with ministries of the environment, climate change bodies, agriculture, energy, and other sectors. They must also work with technical units that often sit outside the health sector, such as meteorological and hydrological services. Coordination becomes central to success, and political commitment and leadership are critical enabling factors.

A Climate Health Unit is a common institutional structure used to support this work. Its role is not to act alone, but to coordinate, connect, and advocate: bringing together health departments and external ministries around shared goals; linking data and early warning systems across environment, meteorology, and health; and championing health considerations in policies on agriculture, energy, transport, and infrastructure.

Coordination at Multiple Levels

Effective coordination happens both horizontally and vertically.

Horizontal coordination means working across ministries and sectors at the same level of government. In Iraq, for example, the World Bank supported the Ministry of Health (MoH) in mapping the links between line ministries, technical agencies, the private sector, and communities.

Vertical coordination means connecting national policy to sub-national and community levels. Governorates and local communities are where national commitments become visible and where real change happens. Sub-national authorities implement many climate-health actions, but they also face growing pressure from interconnected climate risks on essential services. Partnerships are needed to:

- Keep services running during climate-related shocks.
- Help governorates and municipalities strengthen the resilience of health, water, energy, and infrastructure systems under prolonged climate stress.
- Make sure that the people most at risk are prioritized, since climate change deepens existing health and socioeconomic inequalities.

A common challenge is that countries invest heavily in producing a strong national plan, but the plan does not reach sub-national levels or communities. Without this link, even a good plan has limited impact.

A Framework for Institutional Governance

The World Bank, drawing on its Climate Change Institutional Assessment approach and the Joint Learning Network's Country Level Governance Guide, developed an analytical framework to study climate-health units, semi-autonomous agencies, and multi-stakeholder coordination mechanisms across 71 countries.

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The framework uses two pillars. The first is institutional design: mandates, regulatory frameworks, coordination arrangements, technical capacity, and funding. The second is planning and evaluation: long- and short-term strategy, including Health National Adaptation Plans (HNAPs), clear roles and responsibilities, and systems for monitoring, reporting, and verification.

In Iraq, the MoH took a leadership role and created a Climate and Health Unit, reflecting strong political commitment. The World Bank supported the ministry in linking the HNAP directly to capacity-building, institutional strengthening, and workforce development, rather than treating these as separate activities. Training combined self-paced learning with live, applied sessions and practical discussions across government.

Building Competencies and Curricula

From this work, a Climate Health Competency Framework was developed. It describes the skills and outcomes that public health professionals need, organized into five domains supported by related behaviors.

This Competency Framework is implemented through a Climate and Health Curriculum, comprising core modules for everyone working in this field and elective modules for those who want to delve deeper into specific topics such as heat, air pollution, water, infectious disease, or displacement. Both the competency framework and the curriculum can be adapted to different country contexts.

FETPs as a Bridge from Evidence to Action

FETPs can act as a bridge between generating evidence and using it for real decisions. For example, FETP trainees can support the implementation and monitoring of HNAPs, generate new evidence, evaluate interventions, and inform policy. FETPs can also help build specific competencies, such as climate-sensitive disease surveillance, outbreak investigation under difficult environmental conditions, risk prioritization, and communication.

Climate-health capacity should eventually reach the wider public health workforce, not stay limited to epidemiologists. FETPs and related training programs should also connect to national climate-health governance structures, such as Climate Health Units, and to related mechanisms like One Health, emergency preparedness systems, and adaptation planning processes.

In conclusion, strong health intelligence, a capable workforce, and good governance need to be developed together for climate-health systems to become truly resilient. When these elements are aligned, climate-health work becomes less of a one-off project and more of a lasting function of a resilient health system.

Developing Core Climate and Environmental Epidemiology Competencies for FETPs

By Dr. Yousef Khader, Senior Technical Advisor, EMPHNET

In the Eastern Mediterranean Region (EMR), great strides have been made in detecting and responding to infectious disease outbreaks. However, the capacity to investigate climate-related and environmental emergencies remains underdeveloped, given a shortage of competent taskforces and a fragmented surveillance system across sectors, limiting timely information exchange.

Rising temperatures, protracted conflict, environmental degradation, water scarcity, and a myriad of other issues continue to plague the region, requiring urgent action. Addressing these risks requires developing robust systems that recognize the intersectoral complexity of health, beginning with trained individuals in key areas.

Developing a Competency Framework

EMPHNET and the United Kingdom Health Security Agency developed a consensus-based framework to integrate climate and environmental epidemiology into FETPs across the Region. This framework was developed through a three-round modified Delphi study with health experts from 13 countries. Competencies were refined, evaluated across different FETP levels (basic, intermediate, advanced), and integrated into applied learning modalities, such as case studies and structured fieldwork activities.

This framework builds on existing FETP competencies, such as outbreak investigation, disease monitoring, and program evaluation. Its nine competency domains focus on strengthening climate and environmental resilience through areas such as early warning systems, hazard exposure assessments, and multisectoral One Health collaboration. All domains received high mean ratings from experts.

Contextualized to address the needs of the EMR, the framework's applications are immense and can be adapted to local needs and FETP capacity. To ensure its dissemination, the framework will be pitched to public health and medical schools and offered online. The course will equip trainees with the wherewithal to support with and collaborate on future climate and environmental epidemiology efforts.

Beyond FETP Training

As it stands, the lack of sectoral coordination within and between countries remains a systemic weakness that training alone cannot fully compensate for. A system truly grows only after strengthening its weakest links. In isolation, FETP training will not be sufficient in addressing the region's climate and environmental health risks. A broader paradigm shift is necessary, in which environmental and other sectors function as operational partners with clearly defined responsibilities, whether for routine monitoring and sampling and source-control measures, or geospatial mapping of vulnerable areas.

Regional emergencies over the past decade demonstrate the importance of this approach. The 2018 gastrointestinal outbreak in Basra from contaminated water and the 2020 Beirut port explosion both exposed the consequences of inadequate coordination, weak oversight, and fragmented institutional accountability.

By integrating climate and environmental competencies into FETPs, in conjunction with governmental support and intersectoral coordination, the region embarks on a crucial step towards building a workforce capable of responding to increasingly complex health threats and emergencies.

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From Assessment to Action: Climate and Health Experiences from Tunisia and Syria

By. Dr. Mikhael Iglesias Luzardo, Health Specialist, World Bank

Climate change continues to accelerate health risks within societies. Rising temperatures worsen chronic illness; floods disrupt access to care and contaminate water supplies; air pollution causes and aggravates lung disease and cardiovascular problems; and declining agricultural productivity threatens food security. Thus, climate-related emergencies increase demand for health services precisely when the system is most strained.

Climate and Health Vulnerability Assessments (CHVA) provide a foundation to act in three phases: Mapping hazard exposure (landslides, floods, heat) to identify system-level weaknesses, quantifying the epidemiological burden (mortality and morbidity risk factors) to determine the effects on facilities and health capacity, and acting on these findings by determining investment priorities to strengthen surveillance functions and health capacities. Experiences from Tunisia and Syria illustrate the importance of performing vulnerability assessments and subsequent immediate action, rather than merely describing future risk

Tunisia: Rising Temperatures and Floods

Heat is a nationwide concern in Tunisia. Average temperatures are rising, and extreme heat is becoming more frequent, resulting in devastating consequences for millions. Approximately 72% of the total population lives in areas exceeding the heat-index threshold, defined as ≥ 20 nonconsecutive days per year with a heat index ≥ 35°C, and this affects 100% of those living in Kebili and Sfax. Furthermore, the consequences go beyond heat-related diseases like heatstroke, as high temperatures also exacerbate air pollution and reduce crop yields.

Tunisia has a goal of having 100% of the population, as opposed to the current 54%, reachable by emergency services within 30 minutes by the year 2030 (1). Unfortunately, this goal is severely undermined by flooding. While seemingly counterintuitive in a nation experiencing rising average temperatures, Tunisia also faces an elevated risk of flooding, particularly in coastal governorates, which introduces a range of other serious issues. Floodwater may contaminate water sources, overwhelm WASH infrastructure, and increase the risk of diarrheal and waterborne diseases, all of which threaten the 74% of the population that relies on safely-managed drinking-water services. Floods also threaten to damage olive, cereal, and livestock production, resulting in a myriad of environmental hazards that entail a weakening of food security, declining livelihoods, and poorer health outcomes. Given the impediments that floods currently pose, approximately 1.2 million people will lose access to emergency services within a 30-minute travel time (2).

Syria: Floods, Landslides, and Displacement Amidst Conflict

The assessment's operating environment meaningfully changes in Syria. Here, climate hazards interact with protracted conflict, damaged infrastructure, and weakened public services, all of which are compounded by climate change. Here, there seems to be a strong geographical association between flood exposure and internally displaced persons (IDPs). IDPs are disproportionately located in high-risk flood-prone areas. In Darayya district (Rif Dimashq), for example, around 70,000 (9%) of the district's population ware projected to be exposed to 100-year floods by 2030, with 640,000 (83%) being internally displaced, currently.

In total, 161 Syrian health facilities (over 8%) are exposed to precipitation-triggered landslides, over half of which have already been damaged by conflict. While unfortunate and dangerous, this also presents an opportunity to rebuild damaged infrastructure, embedding resilience into reconstruction and incorporating safer site selection, resilient construction standards, and robust emergency preparedness measures.

Lessons Learned: From Assessment to Action

The experiences of both countries emphasize the importance of promptly moving from assessment to action. Utilizing climate and health vulnerability assessments can help countries identify emerging health risks, One Health priorities, health system weaknesses, and public health capacity. However, this knowledge is only valuable if acted upon by competent task forces. In Tunisia, this could take the form of improving access to emergency services, surveillance capacity, and climate-health preparedness measures. In Syria, assessments can clarify where climate, displacement, and conflict-related damage currently intersect, thus guiding rebuilding initiatives. Enacting these measures, in either case, highlights the role that FETPs may play; namely, operationalizing CHVA findings through strengthening disease surveillance systems, investigating environmental exposures, identifying vulnerable populations and areas, and serving as a focal point for intersectoral collaborations.

From National Plans to Institutional Action: Lessons from Iraq's Climate-Health Journey

By Dr. Berq Al-Yasseri, Health Specialist, World Bank Iraq Country Office

Iraq's experience provides a practical example of how a country can move from climate and health plans toward stronger institutions and workforce capacity. The core message is simple: national plans can set a direction, but it is people and institutions that turn that direction into action.

Why Iraq Matters

Iraq is facing climate and environmental risks that are directly relevant to health. Like other countries in the region, it is experiencing extreme heat, water scarcity, dust storms, and pressure on the health system. All of this requires stronger preparedness, planning, and coordination. The point is not only that Iraq is vulnerable. The point is that this vulnerability creates a need for new institutional capacity inside the health sector. This is why capacity building has to go beyond one-off training events.

The Question After National Planning

The challenge was not only the absence of a plan. Iraq was already developing national plans: a Vulnerability and Adaptation Assessment (V&A) and a Health National Adaptation Plan (HNAP). The next challenge was practical. People needed a shared understanding, and institutions needed clearer roles. Both needed a pathway to move from planning to implementation. Plans define priorities, but it is people, institutions, and coordination that make implementation possible.

Iraq's Climate-Health Capacity Journey

Iraq's momentum started at COP28 in Dubai, where a health and climate session was included, and one of the recommendations was to establish a specialized, dedicated Climate and Health Unit (CHU). From that moment, Iraq started to build this unit. World Bank engagement moved in two phases. Phase 1 ran alongside the development of the V&A and HNAP, and focused on foundations and institutional review. Phase 2 came after the plans were completed and endorsed, and shifted attention to governance, competencies, and curriculum as tools to support implementation.

Phase 1: Building Foundations

In this first phase, the support was foundational. The Ministry was preparing the V&A and HNAP documents, and World Bank's support helped build a common understanding. A bilingual, self-paced foundation module created a baseline of knowledge. Deep-dive sessions came later and allowed discussion and reflection on the issues. A review of the new Climate and Health Unit, drawing on international experience, helped link Iraq's new structure to global practice. The goal was to build a shared language and help the new unit engage with the national planning process.

The Turning Point

After the V&A and HNAP were finalized and endorsed, the main question changed. The focus was no longer only on understanding risks or preparing plans. It became about implementation: How will the unit coordinate? What skills do staff need? What learning pathway can be sustained? This shift is the heart of the Iraq lesson: planning is the starting point, not the finish line.

Phase 2: Supporting Implementation

The second phase included three linked pieces. Governance work helped clarify institutional arrangements and coordination. The competency framework defined the capabilities required for action. The curriculum turned these capabilities into teachable, adaptable modules. Together, these components expanded the engagement beyond knowledge-building by providing tools that support institutional development.

How the Pieces Fit Together

This engagement was not only a list of separate activities. It was a pathway: a shared foundation at the start, followed by institutional readiness, workforce capability, and sustainable learning resources. This is a model that may be useful for other countries.

What the Engagement Contributed

The value of this work lies in the practical tools and structural pathway that support implementation. Rather than claiming institutional change on its own, the engagement provided governance, competency, and curriculum resources that Iraq can continue to adapt and use.

Five Lessons for Other Countries:

- Start with the institution: understand its mandate, constraints, and partners before designing training.
- Build shared language early: common concepts help people coordinate and discuss climate-health priorities.
- Link plans to competencies: match national plans with the skills and behaviors needed for implementation.
- Treat governance as part of capacity development: coordination, mandates, financing, and leadership all matter.
- Design for ownership: build tools that government can own, adapt, and sustain.

Points to Watch

There are also cautions to keep in mind. A new unit should not be overloaded, and ownership should stay with the Ministry of Health. Work should move beyond headquarters to the governorates, and the capacity-building pathway should connect to existing platforms, such as FETP, One Health, emergency preparedness, and primary health care systems, rather than creating a parallel structure.

Relevance for FETP and One Health

Iraq's experience connects directly to the wider public health agenda. Climate and environmental epidemiology can be embedded in FETP field investigations, surveillance, risk communication, and training. One Health platforms can also support coordination across human health, animal health, environment, and emergency management. Health systems work can connect epidemiological evidence with planning, service delivery, financing, and governance. The opportunity is to embed climate-health capacity development into existing public health platforms, not to create a parallel system.

Final Takeaway

Iraq's experience is not only about climate and health training. It is about building the institutional bridge between national plans and real implementation. The contribution of World Bank has been to support that journey, by providing practical tools, learning resources, and a pathway that Iraq can continue to build upon.

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In Numbers

In today's turbulent world, crises ranging from natural disasters to conflict-driven emergencies have become a persistent reality across the EMR and beyond, placing immense strain on health systems and vulnerable populations. This section highlights key alarming statistics:

Gaza

73,388
people have been killed, as of August 12, 2026

174,259
people have been injured, as of August 12, 2026

43,000+
people injured since October 2023 are estimated to have potentially life-changing injuries.

7.2%
of pregnant and breastfeeding women are found to be acutely malnourished.

12.2%
of infants and young children under five are affected by stunting, indicating prolonged nutritional deprivation.

31
Emergency Medical Teams (EMTs) are operational, including 104 national and 64 international personnel, as of 12 August 2026.

1.4 million
people (~70% of the population) are estimated to require dignified shelter support, including 850,000 people in need of emergency shelter.

65%
of assessed households reported cases of skin diseases in the 30 days prior to early July.

Sudan

11.3 million
people have been forcibly displaced since the conflict began in April 2023.

33.7 million
people in Sudan need humanitarian assistance, according to the 2026 Humanitarian Needs and Response Plan.

20.4 million
people are targeted for assistance by humanitarian partners in Sudan in 2026.

22
attacks on health care, personnel, and facilities have been reported since January 2026.

37%
of health facilities are non-functional, leaving a large segment of the population without access to essential health care.

10
out of 23 surveys conducted in 2026, indicated very high Global Acute Malnutrition (GAM) prevalence.

5 million
children under 5, and 3.4 million pregnant and breastfeeding women need nutrition assistance at the national level in 2026.

Lebanon

4,346
people have been killed since March 2, 2026, as of August 16, 2026

12,301
people have been injured since March 2, 2026, as of August 16, 2026

352,793
people remain displaced within Lebanon, as of August 6, 2026

135
health care professionals have been killed while on duty and 410 have been injured since March 2, 2026.

1.2 million
people directly reached through the humanitarian response by the end of July, representing a 12 percent increase from the end of June.

Updates from the International Academy of Public Health (IAPH)

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