



**International Federation of Environmental Health**  
Asia-Pacific Regional Group

Course Brochure:

# **Managing Environmental Health in Disaster and Humanitarian Settings**

**21-25 September 2015**

***Where:***

***Coimbra Health School  
Rua 5 de Outubro - São Martinho do Bispo  
Apartado 7006  
3046-854 Coimbra***

Delivered and facilitated by...

**IFEH, Griffith University, Australia and Centers for Disease Control and  
Prevention (CDC), USA**

**the link of THE HOST University:** <http://www.estescoimbra.pt/>

**the link of the IFEH event:** <http://gehff2015.pt/>



**ESTeSC  
COIMBRA  
HEALTH SCHOOL**



# Environmental Health in Disaster and Humanitarian Settings

Course developed by:

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## Introduction

During the last quarter century, more than 3.4 million lives have been lost due to disasters, with billions more affected, and tens of billions of dollars spent on repairing damage and reconstructing lives<sup>1</sup>. Between 1980 and 2005, 90 per cent of the natural disasters, 72.5 per cent of casualties and 75 per cent of economic losses were caused by weather, climate and water related hazards such as droughts, floods, windstorms, tropical cyclones, storm surges, extreme temperatures, landslides and wild fires, or by health epidemics and insect infestations<sup>2</sup>.

Good environmental health disaster and humanitarian management has a significant role in addressing the impact of disasters on environmental health infrastructure and consequently the public. This includes protecting and mitigating risks to systems required for general health and wellbeing, such as water supply, food safety, sewerage, waste management and stormwater<sup>3</sup>.

The preparedness and response actions to the environmental health aspects of disasters are vital in influencing the amount of human suffering, loss of life and ill-health. For example, over two years after the 2004 Indian Ocean tsunami caused massive devastation, people were living in temporary shelters and reconstruction projects were struggling to ensure that new housing had clean water supplies and good sanitation. At this time, diarrhoea was prevalent and there were a large number of vector-borne disease cases (dengue and malaria) in Indonesia's capital Aceh.<sup>4</sup>

As the world's population and density continues to increase, the risk disasters pose to environmental infrastructure and conditions will continue to rise. Furthermore, increased urbanisation and industrialisation place a greater proportion of the world community at risk with the majority of the population migrating to urban, disaster-prone areas that are often without an adequate level of environmental health protective infrastructure<sup>5</sup>.

## About the Course

Environmental health, humanitarian and disaster professionals from across the world have a critical function in mitigating public health risks during a response to a disaster and humanitarian crisis. To address this need the Griffith University Humanitarian and Disaster Initiative, Environmental Health Specialists Association Indonesia (EHSAI), the Asia-Pacific Regional Group of the International Federation of Environmental Health (IFEH), USA Centers for Disease Control and Prevention (CDC), National Environmental Health Association (USA) and Aspen Medical have worked together to develop this course.

This course will identify the critical role you may have in mitigating environmental health risks from a disaster or during a humanitarian crisis. This includes the need to conduct assessments to identify and address key risks such as those relating to drinking water, shelters, overcrowding, food safety, wastewater, disease-causing vectors, solid waste and hazardous materials. Many of these risks are within the existing roles of environmental health professionals, however, a disaster response and humanitarian crisis has unique challenges and a specific skill set is required from a range of professions and all levels of government.

The course recognises that environmental health professionals are in the best position to assess and address the impact of disasters and humanitarian crisis due to their skill set and population-based focus. The content is guided by the successful Environmental Health Training in Emergency Response (EHTER) course run by CDC. It will provide training on how to apply environmental health skills and information in a disaster setting.

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<sup>1</sup> Hogan D, Burstein J (2007). Basic Perspectives on Disaster. Lippincott Williams and Wilkins, Philadelphia.

<sup>2</sup> World Meteorological Organization. WMO Disaster Risk Reduction Programme. Accessed 23 February 2012; Available from: <http://www.wmo.int/pages/prog/drr/>

<sup>3</sup> Commonwealth of Australia (2008). Report of the 6th National Conference - Sustaining Environmental Health in Indigenous Communities.

<sup>4</sup> Chang, M. (2007) . Health and housing after the Indian Ocean tsunami. *Lancet*, 369(9579):2066–2068.

<sup>5</sup> World Health Organization. Statistical Information System Page. Accessed 30 May 2011. Available at <http://www.who.int/whosis>

## Objectives

- Demonstrate how environmental health infrastructure and practices are central to disease and disaster management and humanitarian activities
- Provide an overview of key environmental health infrastructure and how this can be affected after a disaster and during a humanitarian crisis
- Understand what should be considered to mitigate the environmental health risks
- Provide guidance on assessing, addressing and responding to environmental health impacts of a disaster and humanitarian crisis using a population focus

## Course Structure

The course addresses the need for environmental health and other professionals to increase their education and training in disaster and humanitarian settings. This course contains exercises to apply the skills and knowledge attained during the course. A provisional program is at [Attachment A](#).

## Course Content

The course includes the following topics:

1. Disaster Control and Humanitarian Crisis Management
  - Discuss plans, systems, guidelines and programs that guide the role of environmental health during the disaster management cycle and a humanitarian crisis including disease outbreaks
  - Identify and discuss preparedness, response, recovery, and mitigation resources for environmental health
  - Outline the structures and parameters in which environmental health may function during a disaster or humanitarian crisis
  - Discuss environmental health preparedness and response systems
2. Drinking Water
  - Water issues faced in disasters and humanitarian crisis
  - The role of environmental health practitioners in addressing water issues
  - Identification of key response partners
  - Increase understanding of the basic components of drinking water systems
  - Common tests, sampling, treatment and assessment
3. Food Safety
  - Discuss food safety preparedness and response considerations
  - Operations for mass feedings
  - Methods that may be used for assessing and mitigating food safety risks
  - Considerations for reopening food establishments
  - Actions that environmental health professionals can take to promote food protection
4. Wastewater
  - Environmental health role in wastewater issues
  - Describe onsite (septic) and public sewer wastewater systems
  - Discuss system vulnerabilities, failures and recovery considerations
  - Identify alternative means of treating wastewater
  - Assessment and response to wastewater spills
  - Identify areas to improve wastewater preparedness
5. Solid Waste and Hazardous Materials
  - Discuss solid and hazardous waste issues
  - Identify key response partners
  - Increase understanding of solid and hazardous waste planning, collection and disposal
6. Vector Control
  - The impact of vectors disaster events
  - Control measures needed in disaster events
  - The role of environmental health in addressing vector control issues
  - Identification of key response partners
7. Shelters
  - Shelter types and their operations
  - The role of environmental health within shelters
  - Planning and operational considerations for shelters
  - Considerations and processes for conducting an environmental health shelter assessment
  - Identify key environmental health preparedness, response and recovery actions for shelters and interim housing
8. Building Assessments
  - Identify exterior and interior building components
  - Explain assessment preparation and process for buildings
  - Identify building-related health hazards

- Exercise recovery and reoccupancy evaluations
- Identify preventative actions to improve building resiliency

#### 9. Responder Safety

- Identify common hazards that may be encountered during a disaster or humanitarian crisis.
- How disaster related hazards can affect your health
- Health and safety precautions that should be taken during a response

#### Target Audience

Environmental health specialists, professionals and students who plan to broaden their understanding of the role environmental health in disaster and humanitarian settings. Participants can be from the local, provisional, state, federal, international and private sectors.

The course is also relevant for health and disaster professionals who require further knowledge of environmental health in disaster management and humanitarian planning and response.

#### Course Duration

4-days

#### Course Cost

Euro 75 for students (valid student ID card required)

Euro 150 for low income countries (eg Portugal, Spain, South Africa)

Euro 200 for medium income countries (eg Singapore, Malaysia)

Euro 300 for high income countries (eg UK, Australia, Europe and USA)

Status of income for each member registration see the index below:

[http://en.wikipedia.org/wiki/Human\\_Development\\_Index](http://en.wikipedia.org/wiki/Human_Development_Index)

Registration includes Course Materials and Award Certificate of Completion.

#### Accommodation Options

To be advised on registration.

#### Registration Information

Local participants please contact

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See websites

<http://ifeh.org>

<http://www.estescoimbra.pt/>

Link of the event:

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#### Where:

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#### For Further Information

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## **Attachement A – Provisional Program**

### **Day 1 – Monday 21 September 2015**

- 9.00am Welcome and Introductions  
*Participant Pre-test*  
Communicable disease and risk management  
Case Study Ebola Disease Outbreak
- 1.00pm Break
- 2.00pm Local Disaster Arrangements (Guest Lecturer)
- 3.00pm Environmental health in disaster and humanitarian settings
- 5.00pm Close

### **Day 2 – Tuesday 22 September 2015**

- 9.00am Humanitarian Standards  
Non-communicable diseases in disaster and humanitarian settings  
Drinking Water
- 1.00pm Break
- 2.00pm Wastewater
- 3.00pm Food safety
- 4.00pm Review of Day
- 5.00pm Close

### **Day 3 – Wednesday 23 September 2015**

- 1.00pm Solid Waste and Hazardous Materials  
Vector Control  
**Exercise 1 - Evacuation Centres and Shelters**
- 5.00pm Close

### **Day 4 – Thursday 24 September 2015**

- 1.00am **Exercise 2 Field Visit/Trip (TBA)**  
**Visit to Disaster Control Centre**
- 5.00pm Close

### **Day 4 – Friday 25 September 2015**

- 1.00am Building Assessments  
**Exercise 2 – Floods and EH  
Planning and Response**
- 4.30pm *Participant Post-test*  
Award Ceremony
- 5.00pm Close