



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

Course Brochure:

# **Environmental Health and Disaster Management**

**17-21 June 2013**

**Ruang Sidang Faculty of Medicine**  
Building of Faculty of Medicine, 4th floor  
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**In partnership with the Centers for Disease Control and Prevention (CDC), USA**

# Environmental Health and Disaster Management

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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 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>.

<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>

## About the Course

Environmental health and disaster management professionals from across the world have a critical function in mitigating public health risks during a response to a disaster. To ensure environmental health and disaster management professionals are adequately equipped to prepare for, respond to, recover from, and mitigate the adverse impacts of disasters, the Environmental Health Specialists Association Indonesia (EHSAI), the Asia-Pacific Regional Group of the International Federation of Environmental Health (IFEH), the USA Centers for Disease Control and Prevention (CDC) and the National Environmental Health Association (USA) 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. 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 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 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.

Participants who successfully complete the course will be placed on an IFEH training register. The register will be made available for disaster and humanitarian response organisations<sup>6</sup>.

<sup>6</sup>This does not guarantee deployment and inclusion in disaster response activities.



## Objectives

- Demonstrate how environmental health infrastructure and practices are central to disaster management activities
- Provide an overview of key environmental health infrastructure and how this can be affected by natural disasters
- 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 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 management. This course covers nine core topics (see course content) and concludes with an exercise to demonstrate the relevance of these topics in the disaster setting. A provisional program is at [Attachment A](#).

## Course Content

The course is made up of nine core topics, which are outlined in the following:

1. Disaster Management
  - Discuss plans, systems, guidelines and programs that guide the role of environmental health during the disaster management cycle
  - Identify and discuss disaster preparedness, response, recovery, and mitigation resources for environmental health
  - Outline the structures and parameters in which environmental health may function during a disaster
  - Discuss environmental health disaster preparedness and response systems
2. Drinking Water
  - Water issues faced in disasters
  - 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
  - Practice and demonstrate basic skills related to water issues
  - Common tests, sampling, treatment and assessment
  - Identify key messages for the public and response partners
3. Food Safety
  - Discuss food safety preparedness and response considerations
  - Operational considerations for mass feeding
  - 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

- Discuss how disasters can impact buildings
- 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 response
- 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 has during the preparedness and response phases of disaster management. Participants can be from the local, provisional, state, federal, international and private sectors.

The course is also relevant for other health and disaster professionals who require further knowledge of the role environmental health has in disaster preparedness and response.

### Course Duration

5-days

### Course Cost

IDR 200000 or AUD\$20 for students (valid student ID card required)

IDR 2200000 or AUD\$220 for low income countries (eg Indonesia, Malaysia, Central Africa)

IDR 5000000 or AUD\$500 for medium income countries (eg Singapore, Japan, South Africa)

IDR 7500000 or AUD\$800 for high income countries (eg UK, Australia, Europe and USA)

The International Federation of Environmental Health will decide on the status of income for each member based on the index below:

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

Registration includes morning/afternoon teas, lunches, course materials and Certificate of Completion

### Accommodation Options

Discovery Kartika Plaza Hotel, Jl. Kartika Plaza, PO BOX 1012, South Kuta 80361 Bali  
<http://www.discoverykartikaplaza-bali.com>.

Per night/room	Deluxe Room	Family Suite
Domestic	Rp. 1.550.000	Rp. 3.150.000
Overseas	USD \$170	USD \$330

For this special rate please contact:

Ruriesa Nisma Putri (Icha), Sales Manager  
T: (+62 361) 751067 | M: (+62 812) 3600 3839  
E-mail: [ruriesa@discoverykartikaplaza.com](mailto:ruriesa@discoverykartikaplaza.com)

Participants are advised to stay in this hotel or in Kuta or South Kuta Districts of Bali.

### Registration Information

[http://www.ifeh.org/ehdm/EH\\_and\\_Disaster\\_Management\\_Registration\\_Saveable.pdf](http://www.ifeh.org/ehdm/EH_and_Disaster_Management_Registration_Saveable.pdf)

You need Adobe Acrobat Reader 8 or higher to read this file.  
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### For Further Information

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## Attachement A – Provisional Program

### Day 1 – Monday 17 June

2.00pm Welcome and Introductions  
4.30pm Close

### Day 2 – Tuesday 18 June

9.00am Disaster Management System  
*10.30am Morning Tea*  
10.45am Responder Safety  
*12.00pm Lunch*  
1.00pm Food Safety  
*2.15pm Afternoon Tea*  
2.30pm Shelters  
4.00pm Review of Day  
4.30pm Close

### Day 3 – Wednesday 19 June

9.00am Drinking Water  
*10.30am Morning Tea*  
10.45am Drinking Water (cont)  
*1.00pm Lunch*  
1.30pm Wastewater  
*2.45pm Afternoon Tea*  
3.00pm Wastewater (cont)  
4.00pm Review of Day  
4.30pm Close

### Day 4 – Thursday 20 June

9.00am Solid Waste and Hazardous Materials  
*10.30am Morning Tea*  
10.45am Vector Control  
*1.00pm Lunch*  
1.30pm Site visit  
4.30pm Close

### Day 5 – Friday 21 June

9.00am Building Assessments  
*10.30am Morning Tea*  
10.45am Exercise  
*12.30pm Lunch*  
1:30pm Review and Award Ceremony  
3.00pm Close