

# WHO Frameworks and strategies for comprehensive disaster risk management for health security threats

*13<sup>th</sup> ASEAN & Japan High Level Officials Meeting on Caring Societies*

*20 – 22 October 2015, Kobe, Japan*

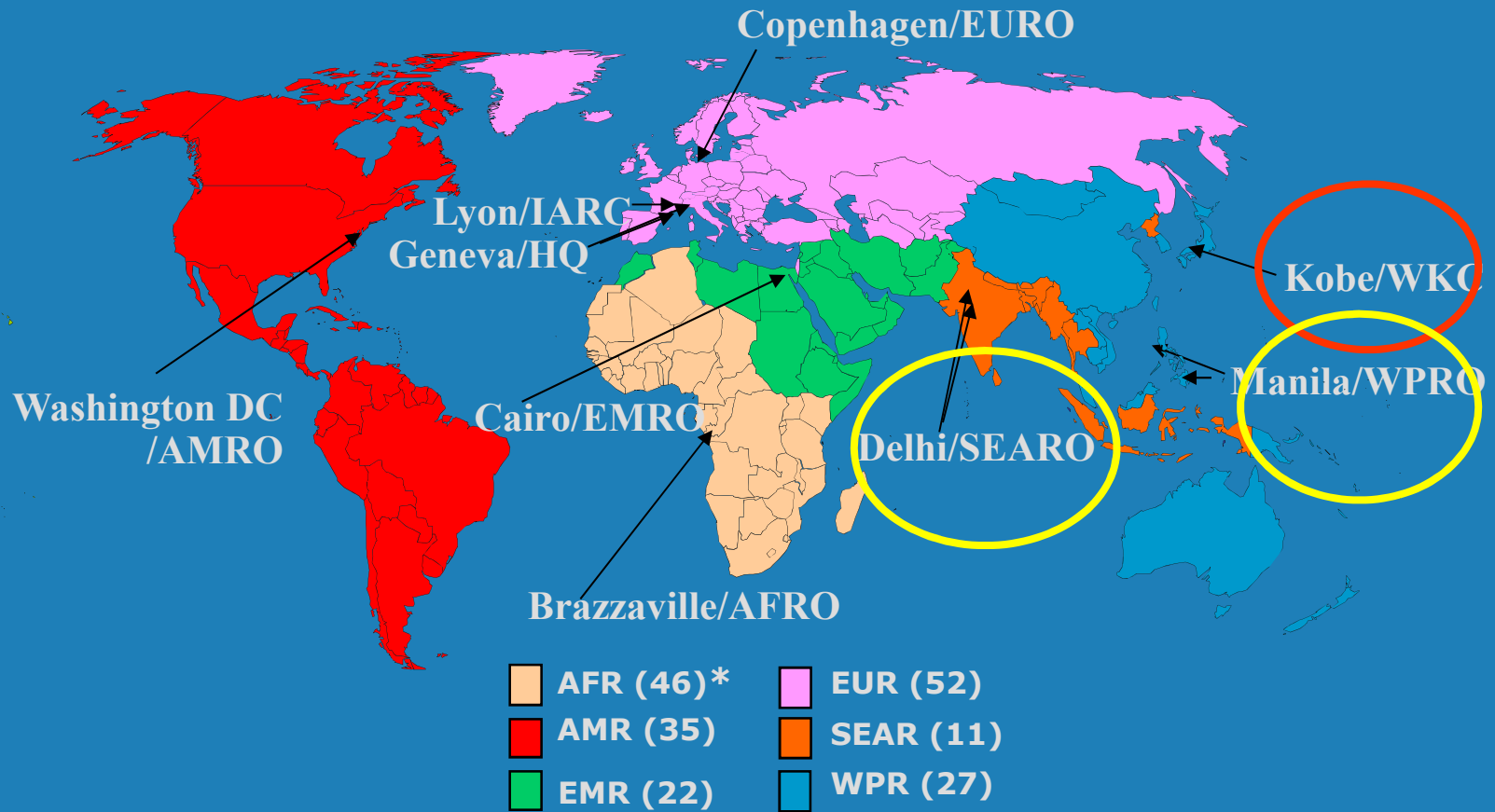


**Alex Ross, Director,  
WHO Centre for Health  
Development (Kobe)**

---

# INTRODUCTION

# Locations of WHO HQ, Regional Offices & Research Centres



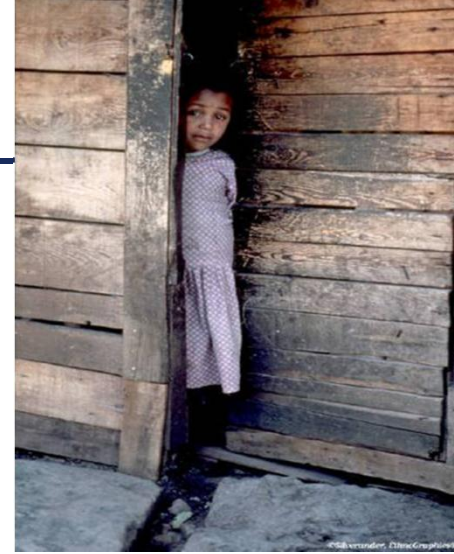
\* Number of countries

The boundaries shown in this map do not imply official endorsement or acceptance by WHO.

***“Prevention and preparedness  
is the heart of public health.  
Risk management is our bread  
and butter.”***







“Our greatest concern must always rest with disadvantaged and vulnerable groups.”

**Dr Margaret Chan**  
**WHO Director-General**





# Nature of health security & health emergency events...

- **All hazards**: communicable disease outbreaks; natural disasters
- Vulnerability is *universal*
- *Frequency* of events increasing
- **Impacts** are far beyond “cases & deaths” (*often huge economic, social and political consequences*)
- Emerging disease *travels faster* than ever before
- Fear *spreads quicker* than disease itself
- *Long term* psycho-social impacts





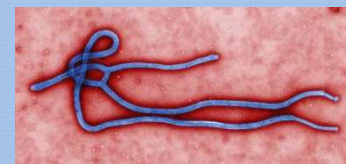
# Similarity of disease and disaster



**Vulnerability & Capacity**



**Hazards**



**Disaster**

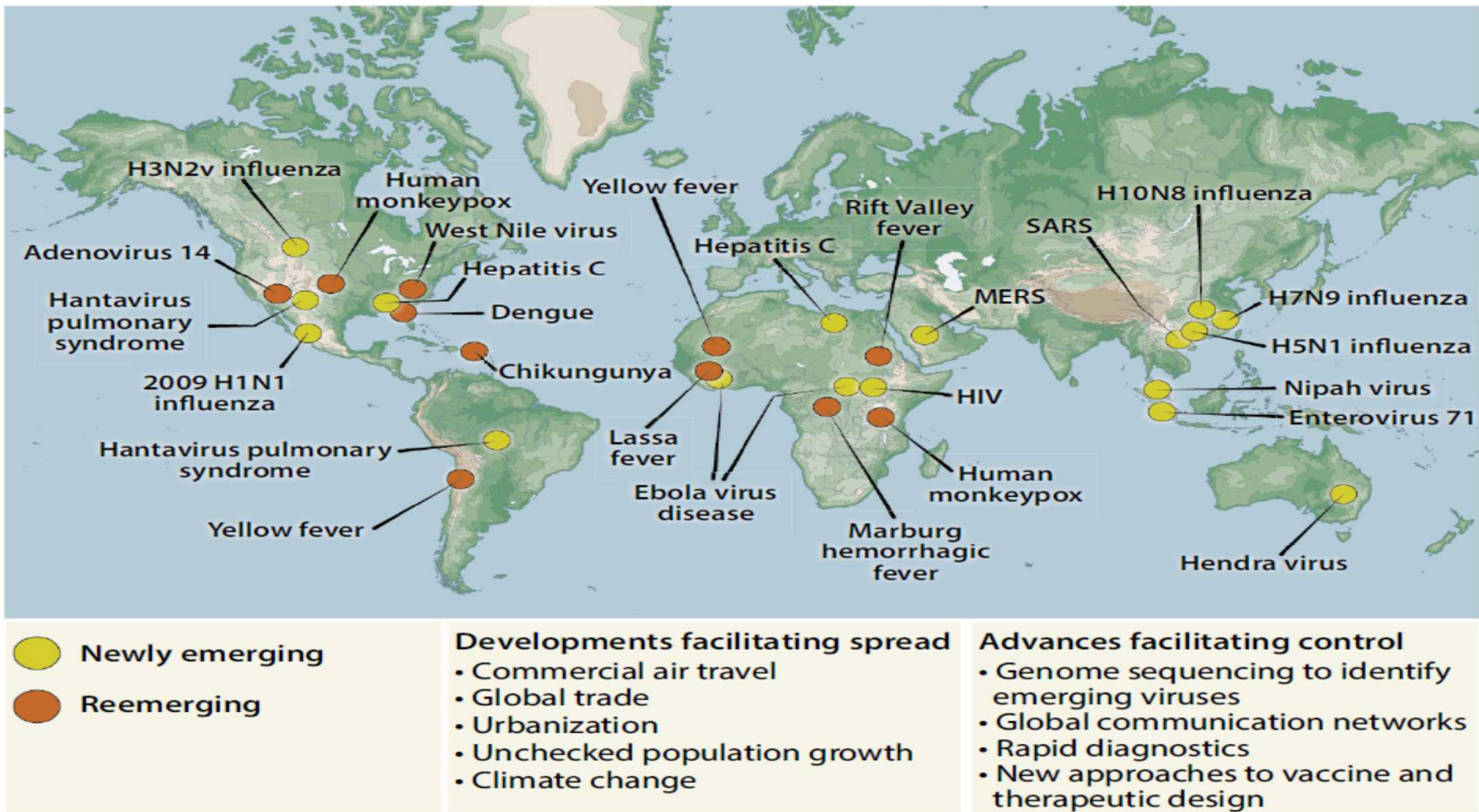
- Life, Health
- Property
- Family
- Community



Courtesy of  
Prof. Masayuki Yamamoto  
Tohoku Medical Megabank Organization

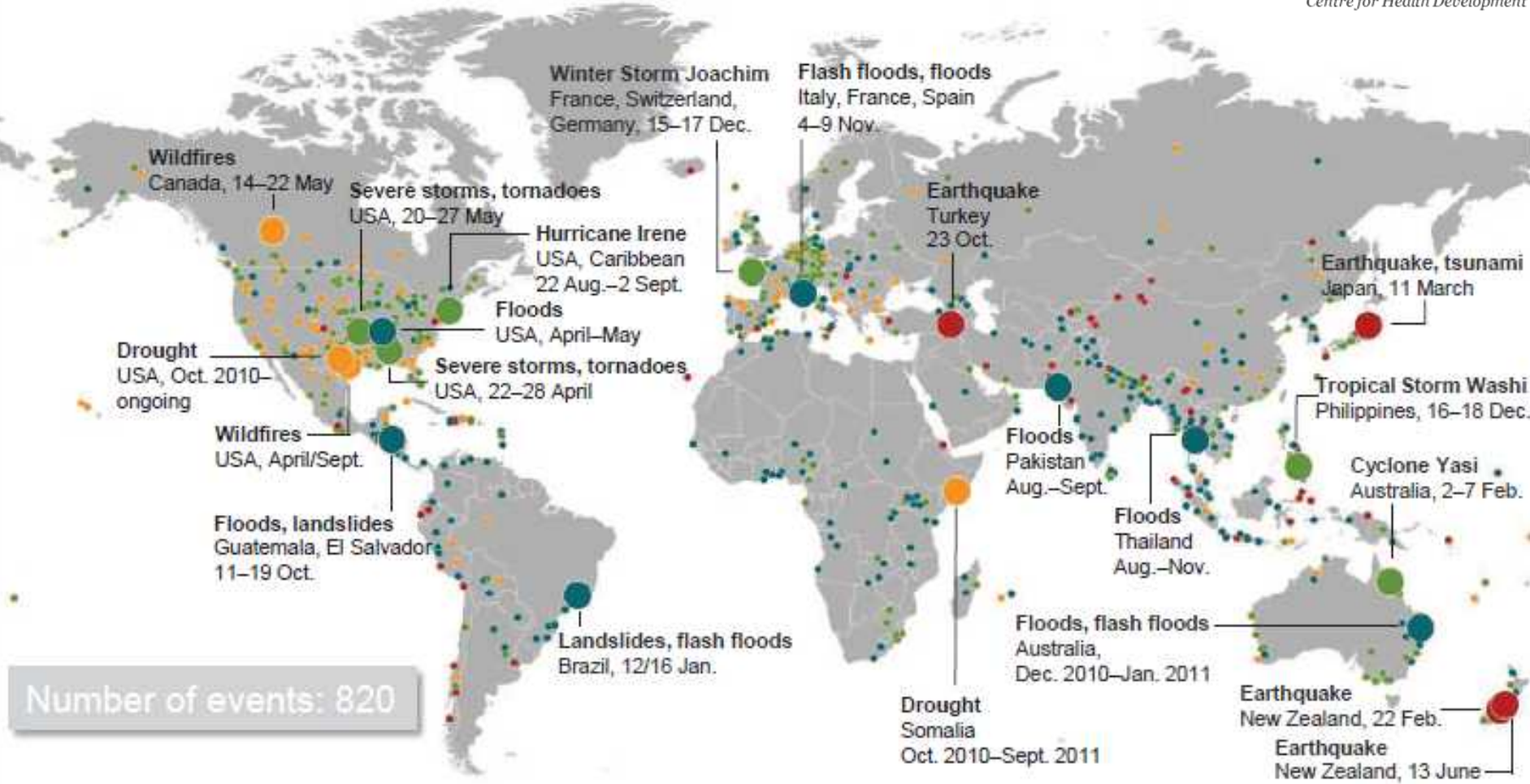


# Global Emerging Viral Diseases



Source: Marston: Emerging Viral Diseases: Confronting Threats with New Technologies. Sci Transl Med. 2014 Sep 10;6(253)

# In 2011...



○ <b>Natural catastrophes</b>	● <b>Geophysical events</b> (earthquake, tsunami, volcanic activity)	● <b>Hydrological events</b> (flood, mass movement)
○ <b>Selection of significant loss events</b>	● <b>Meteorological events</b> (storm)	● <b>Climatological events</b> (extreme temperature, drought, wildfire)



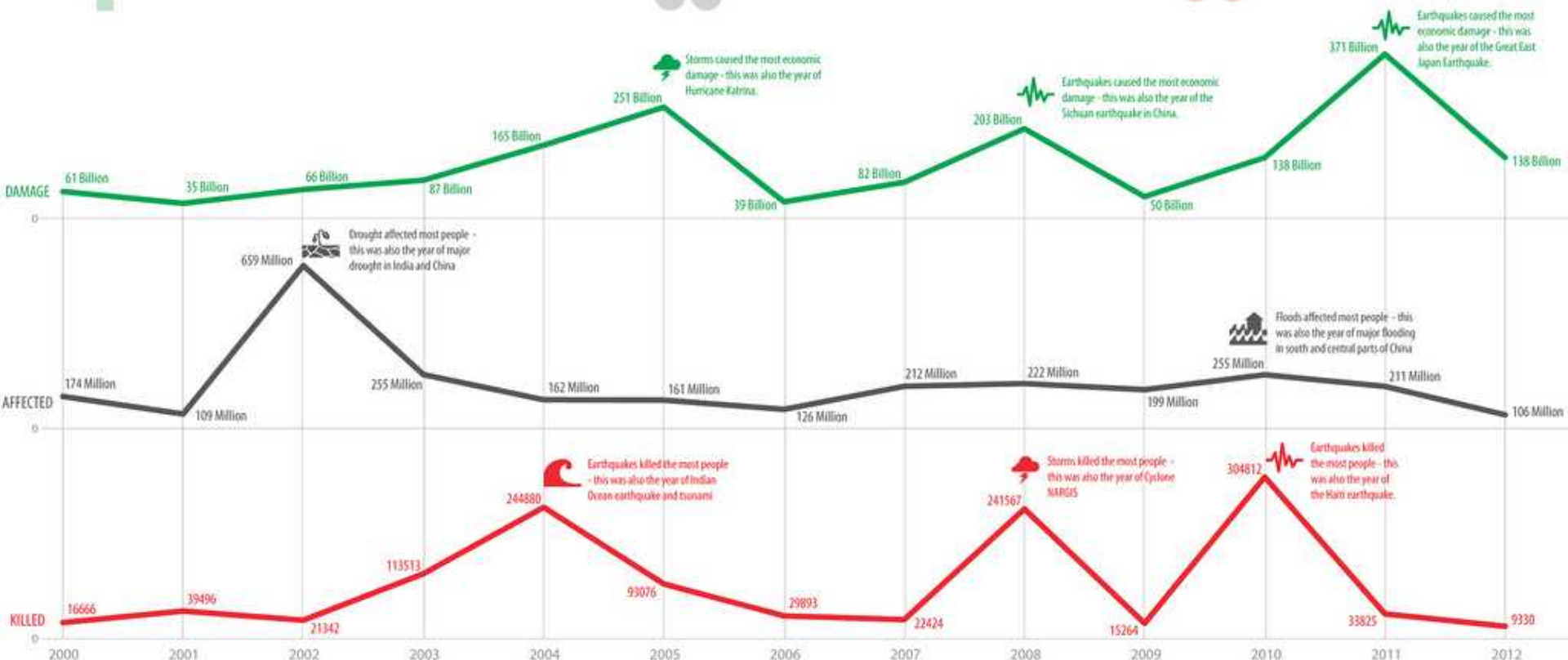
# DISASTER IMPACTS / 2000-2012

\*Disasters refers to drought, earthquake (tectonic activity), epidemic, extreme temperature, flood, insect infestation, mass movement (dry or wet), storm, volcanic, and wildfire / Data source: EM-DAT: The OFDA/CRED International Disaster Database / Data version: 12 March 2013 - v12.07  
 ©CHA Humanitarian Symbol (2012); <http://reliefweb.int/maps/world/world-humanitarian-and-country-icons-2012/> / Find out more about UNISDR: <http://www.unisdr.org>

**\$1.7 TRILLION**  
DAMAGE (USD)

**2.9 BILLION**  
AFFECTED

**1.2 MILLION**  
KILLED



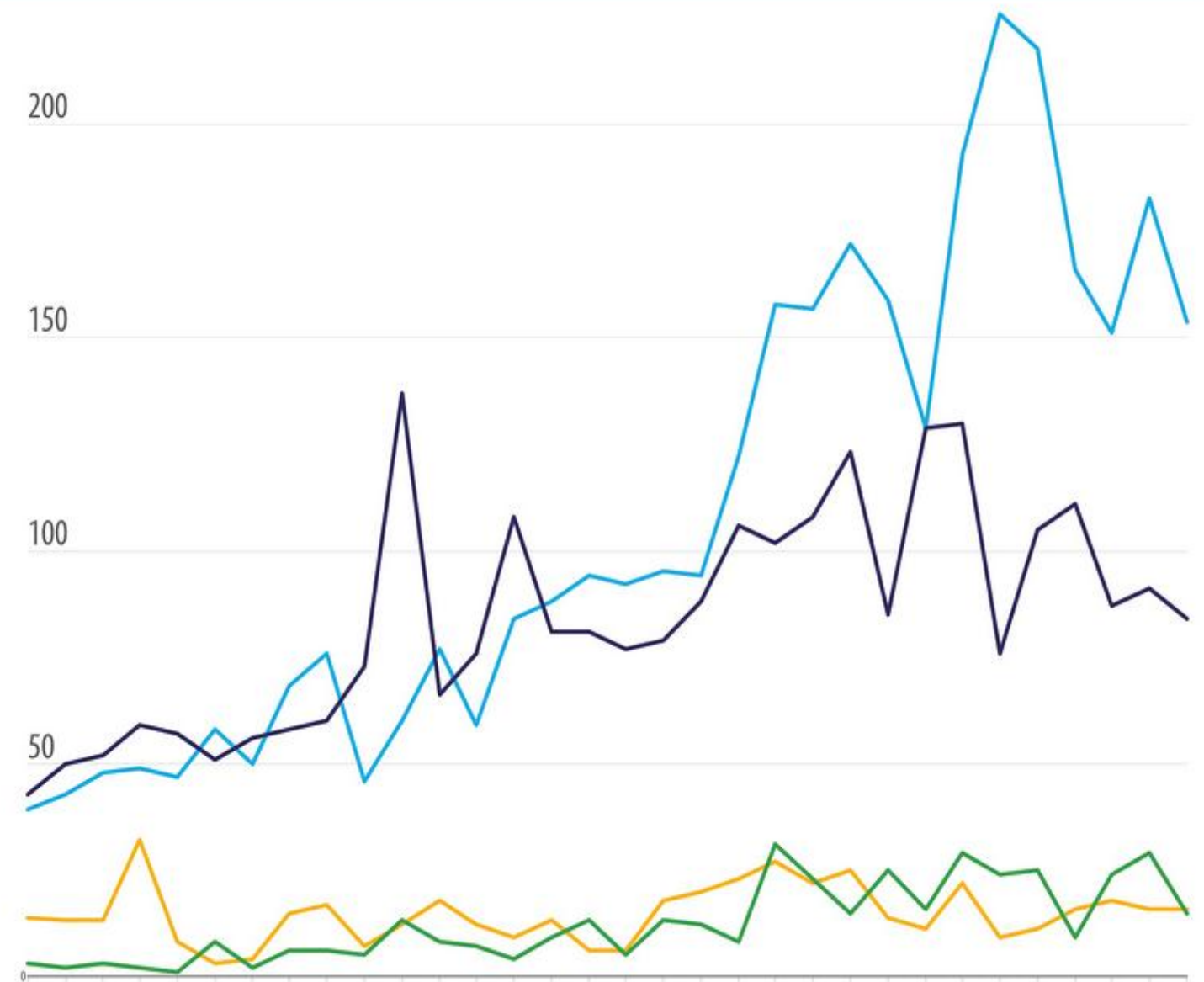
# Number of Climate-related Disasters Around the World (1980-2011)

 **3455**  
FLOODS

 **2689**  
STORMS

 **470**  
DROUGHTS

 **395**  
EXTREME TEMPS



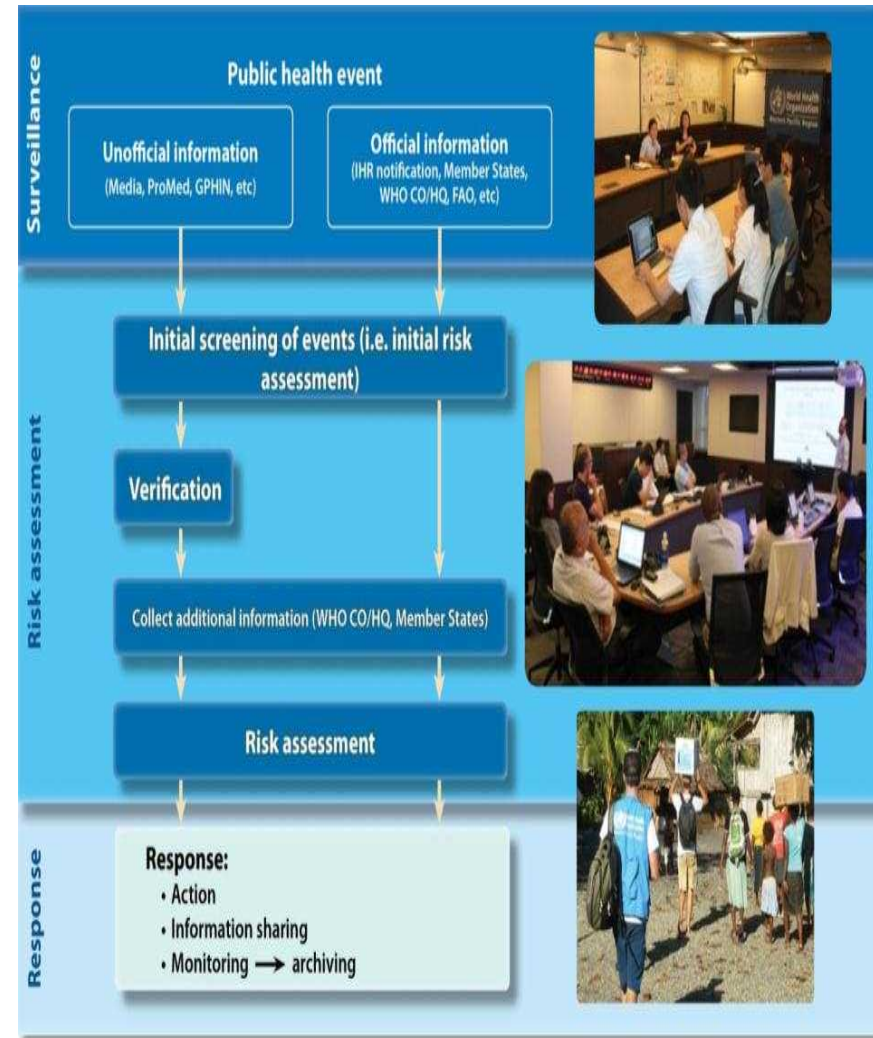
 **UNISDR**  
The United Nations Office for Disaster Risk Reduction  
<http://www.unisdr.org>  
Version: 13 June 2012  
DATA SOURCES  
EM-DAT - <http://www.emdat.be/> - The OFDA/CRED International Disaster Database; Data version: 13 June 2012 - v1.2.07  
Humanitarian Symbol Set (2008):  
<http://www.unisdr.org/map/guideline.php>

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>FLOOD</b>	39	43	48	49	47	58	50	68	76	46	60	77	59	84	88	94	92	95	94	122	158	157	172	159	129	193	226	218	166	151	183	154
<b>STORM</b>	43	50	52	59	57	51	56	58	60	73	137	66	76	108	81	81	77	79	88	106	102	108	123	85	129	130	76	105	111	87	91	84
<b>DROUGHT</b>	14	13	13	32	8	3	4	15	17	7	12	18	12	9	13	6	6	18	20	23	27	22	25	14	11	22	9	11	16	18	16	16
<b>EXTREME TEMPERATURE</b>	3	2	3	2	1	8	2	6	6	5	13	8	7	4	9	13	5	13	12	8	31	23	15	25	16	29	24	25	9	24	29	15



# A Vulnerable Western Pacific Region

- **Western Pacific regional alert and response system** in place since 2007
- Average: **200-300 events/year**
- **>100 events** have been reported by National IHR Focal Points since June 2007



# MERS: An ongoing health security threat

- Since 2012, **26 countries** have been affected by MERS, including the recent significant outbreak in the Republic of Korea

- Globally, more than **1500 cases**, including at least **550 deaths** have been reported

## Middle East respiratory syndrome coronavirus (MERS-CoV)

### Summary of Current Situation, Literature Update and Risk Assessment

July 2015 – This publication brings together all of the latest information on the current MERS-CoV outbreak and reports on WHO's support to countries to help contain the virus. The summary gives guidance and recommendations for WHO best practices for infection, prevention, and control that is specific to the current outbreak. The maps and graphs highlight cases by country, an epicurve of the main countries affected, and a global map that shows concentrated areas affected.



### Current outbreak situation in the Republic of Korea and China as of 11 September 2015

#### News on the current situation

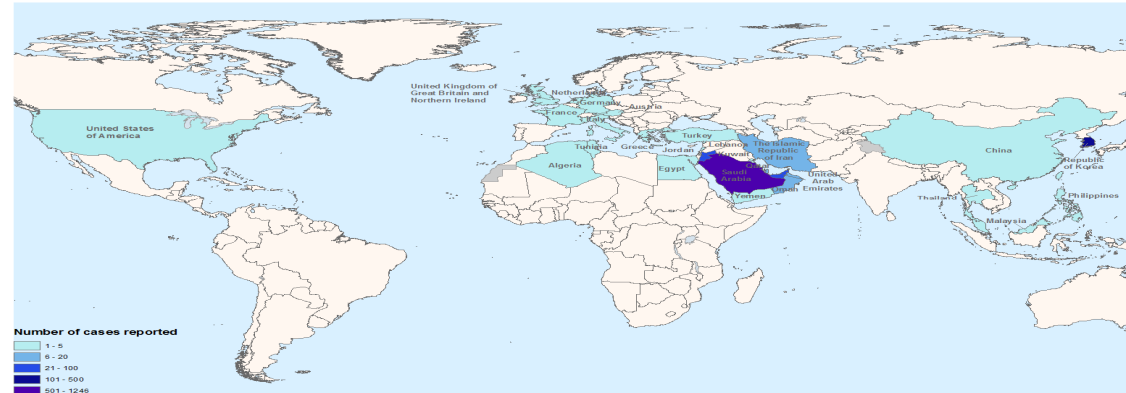
The last case of MERS-CoV infection in the Republic of Korea as reported to WHO was laboratory confirmed on 4 July 2015.



## CONFIRMED CASES OF MIDDLE EAST RESPIRATORY SYNDROME - CORONAVIRUS 2012 - 2015

World Health Organization

MAP DATE: 02 October 2015



Map Scale (A3): 1:72,051,400  
1 cm = 227 km  
Coordinates Display: UTM WGS 1984  
Data: WHO, 2015  
Date: 02/10/2015

The boundaries and names shown and the designation used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its borders or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

# Impact of Hazards

- Immediate increase in cases of illness, disability, and death
- Psychosocial **stress**
- Possible environmental **pollution**
- **Exposure** to toxic substances
- Damage to or loss of **essential life support** services (water, food, shelter)
- **Displacement** of population
- Breakdown in **security**
- Breakdown in **communication** networks and information flows
- Damage to and loss of **facilities, services, and staff**
- Risk of **infection or contamination** for response and relief personnel
- Delay to/lack of access to health services
- Increase burden to **health personnel**
- Economic **impact**

---

# WHO FRAMEWORKS FOR ACTION



# DRM: Paradigm Shifts

#1. From

*disasters'  
preparedness  
& response*

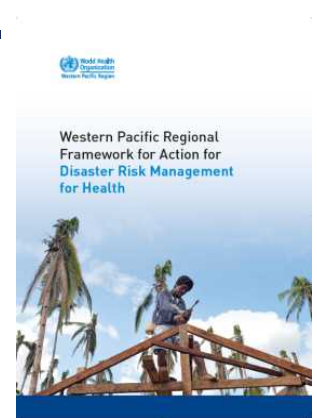
to

disaster risk  
management

#2 All hazards

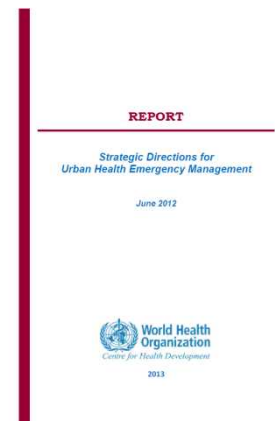
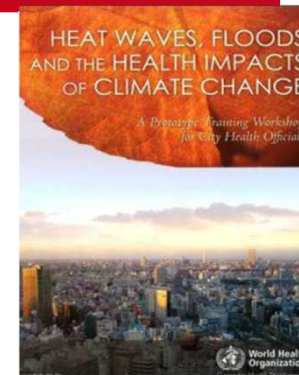
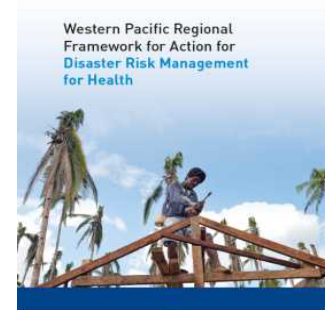
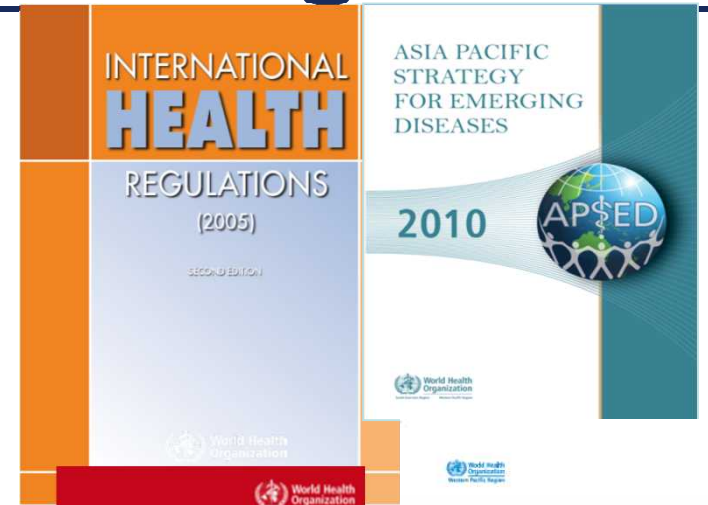
#3 Continuum: DRM-  
preparedness, response,  
recovery, reconstruction,  
rehabilitation

#4 Protecting  
vulnerable  
populations



# Frameworks and Strategies

- **Global legal framework: IHR (2005)**
- **Global DRM framework: Sendai Framework (health references)**
- **WHO Regional efforts: Asia Pacific Strategy for Emerging Diseases (APSED)**
  - A bi-regional tool to help meet IHR core capacity requirements
- **WHO Urban health emergency framework; vulnerable populations: WHO Kobe Centre**
- **Mechanisms: IASC, GOARN, WHO Contingency Fund, PIP Framework, PEF**



# WHO's role in emergencies

**Ministry of Health**  
**Several other**  
**Ministries: Finance,**  
**Security, Welfare,**  
**Labour, Education,**  
**Interior,**  
**Communications, etc**

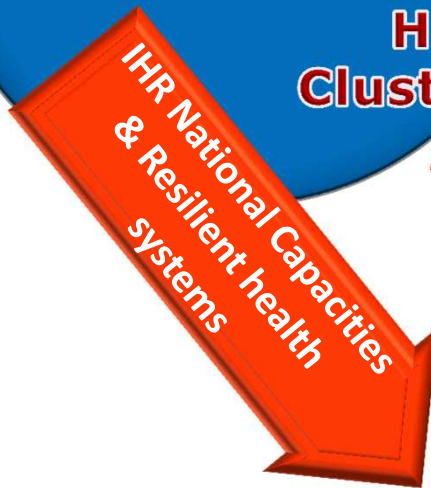
- **Technical Agency**
- **Coordination, Leadership**
- **Surge capacity**



**Health Cluster Lead**  
**ERF**

**IASC**

**Health Sector/Cluster & Stakeholders**



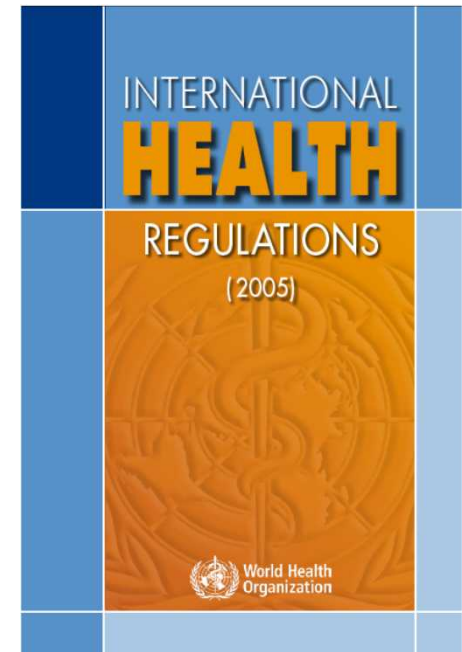
**IHR 2005**

**National Focal Points**

**WHO Lead**

# What are IHR (2005)? A global framework

- Legally-binding global agreement to protect public health
- The international commitment for shared responsibilities and collective defence against disease spread
- Public health emergencies: biological, chemical, radiological
- WHO and country obligations





# Why have IHR (2005) ?

- **Serious and unusual disease events are increasing and inevitable**
- **Globalisation– public health event in one location can be a threat to others**
- **Need for collective effort and agreed rules**
  - **strong national public health system**
  - **international alert & response system**



**Credit: MOH Viet Nam**

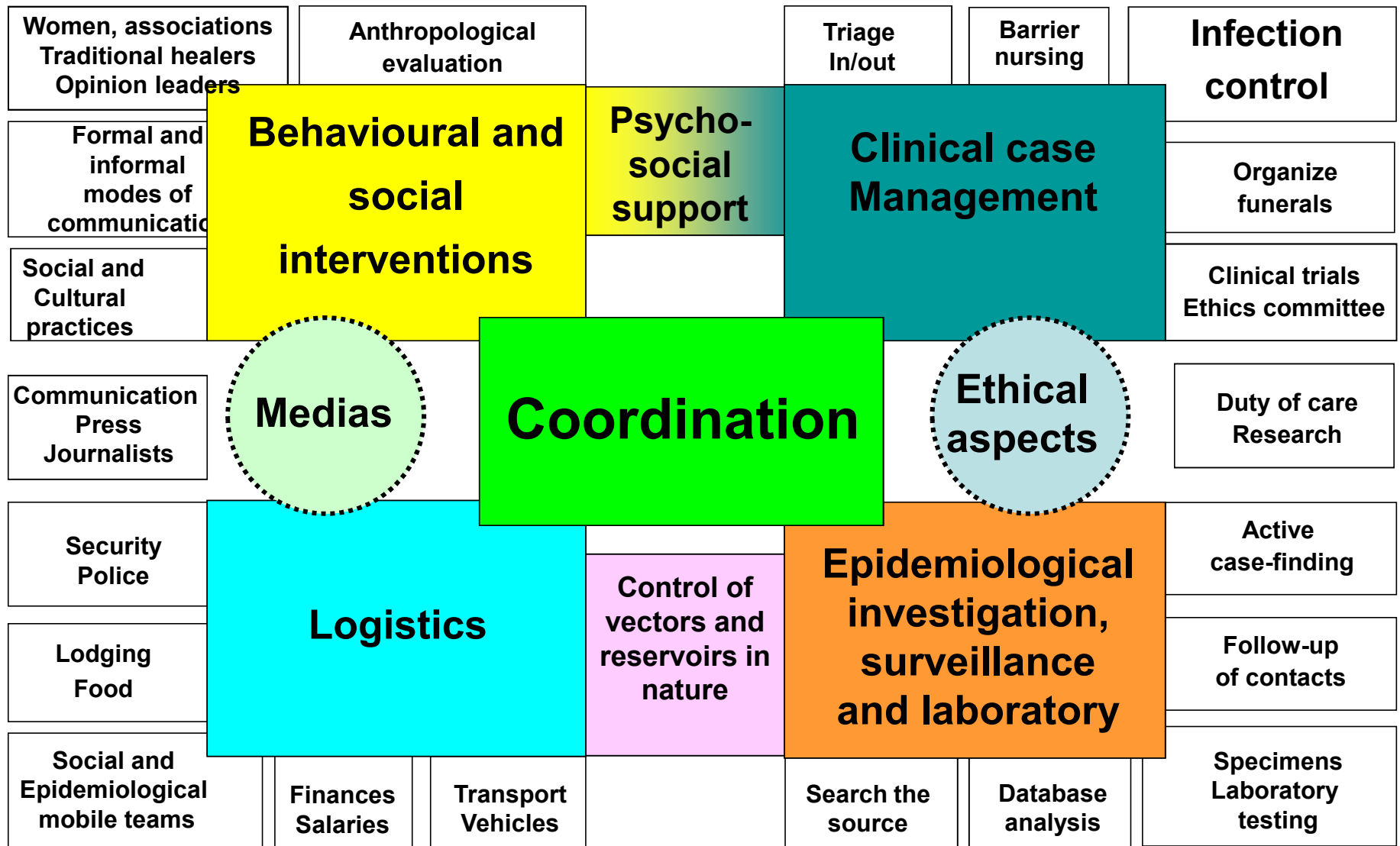
# Importance of national capacity & resilient health systems

The **best way** to prevent international spread of diseases is to detect public health threats early and implement effective measures **when the problem is small and at local level**

**Need functioning and resilient health systems**



# General strategy to CONTROL Ebola outbreak



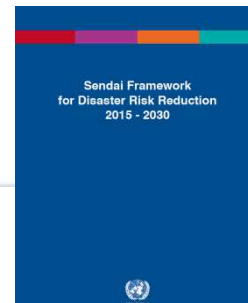
# Sendai Framework for Disaster Risk Reduction 2015-2030

- **Main result of the 3<sup>rd</sup> UN World Conference on DRR, Sendai, March 2015**
- **Outcome:**
  - **The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.**



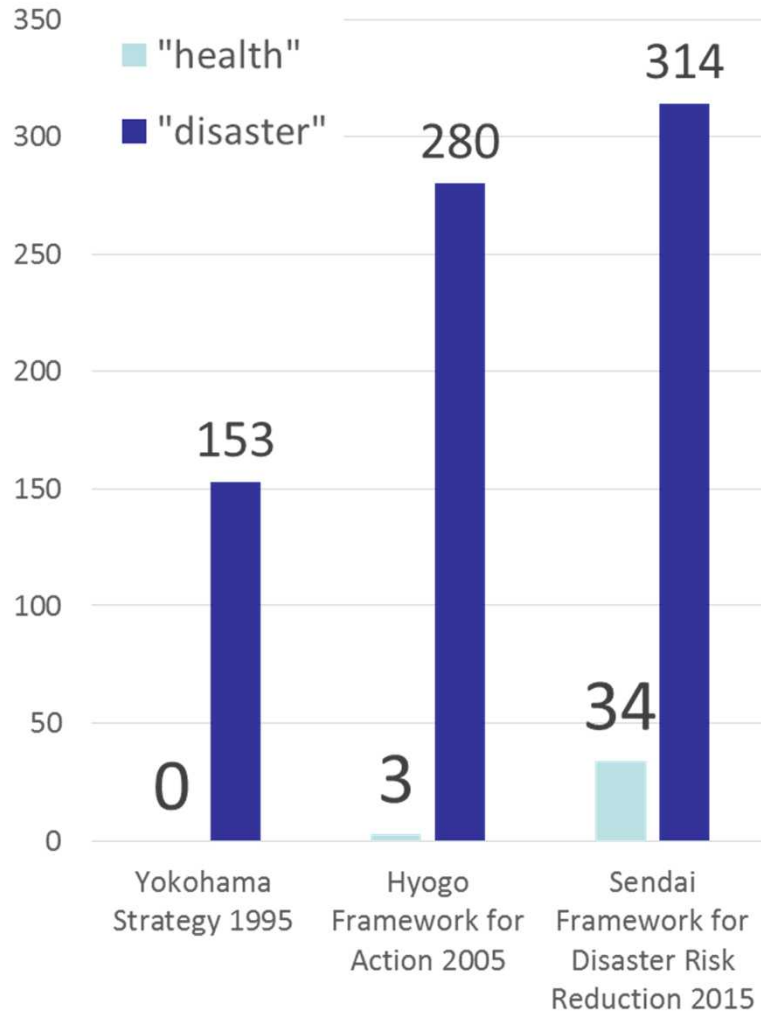
Centre for Health Development

**13<sup>th</sup> ASEAN & Japan High Level Officials Meeting on Caring Societies**





# Health in DRR framework



# SFDRR now includes Health

## 34 Words of “health”

- disasters losses with a significant economic, social, **health**, cultural and environmental impact
- their livelihoods, **health**, cultural heritage
- social, **health**, cultural and educational resilience of person
- more explicit focus on people and their **health** and livelihoods
- food security, **health** and safety
- strengthening of economic, social, **health** and environmental resilience
- **health** and safety standards
- environment, agriculture, **health**, food and nutrition
- access to basic **health** care services, including maternal, newborn and child **health**, sexual and reproductive **health**,
- Enhance cooperation between **health** authorities and other relevant stakeholders to strengthen country capacity for disaster risk management for **health**, the implementation of the International **Health** Regulations (2005) and the building of resilient **health** systems;
- social, **health** and economic well-being

# Sendai Framework for Disaster Risk Reduction

- Strengthen ... disaster resilient public and private investments, particularly through: structural, non-structural and functional **disaster risk prevention and reduction measures in critical facilities**, in particular schools and hospitals ...
- Promote **the resilience of new and existing critical infrastructure**, including ... hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters in order to provide live-saving and essential services
- **Consider the relocation of public facilities and infrastructures to areas outside the risk range**, wherever possible, in the post-disaster reconstruction process ...



# Proposed EDRM–H Risk Management Policy Framework

---

5 guiding principles:

- Comprehensive approach across the emergency management cycle.
- All-hazards approach
- Inter-sectoral collaboration
- Community participation and resilience
- Integration of EDRM-H within health system strengthening

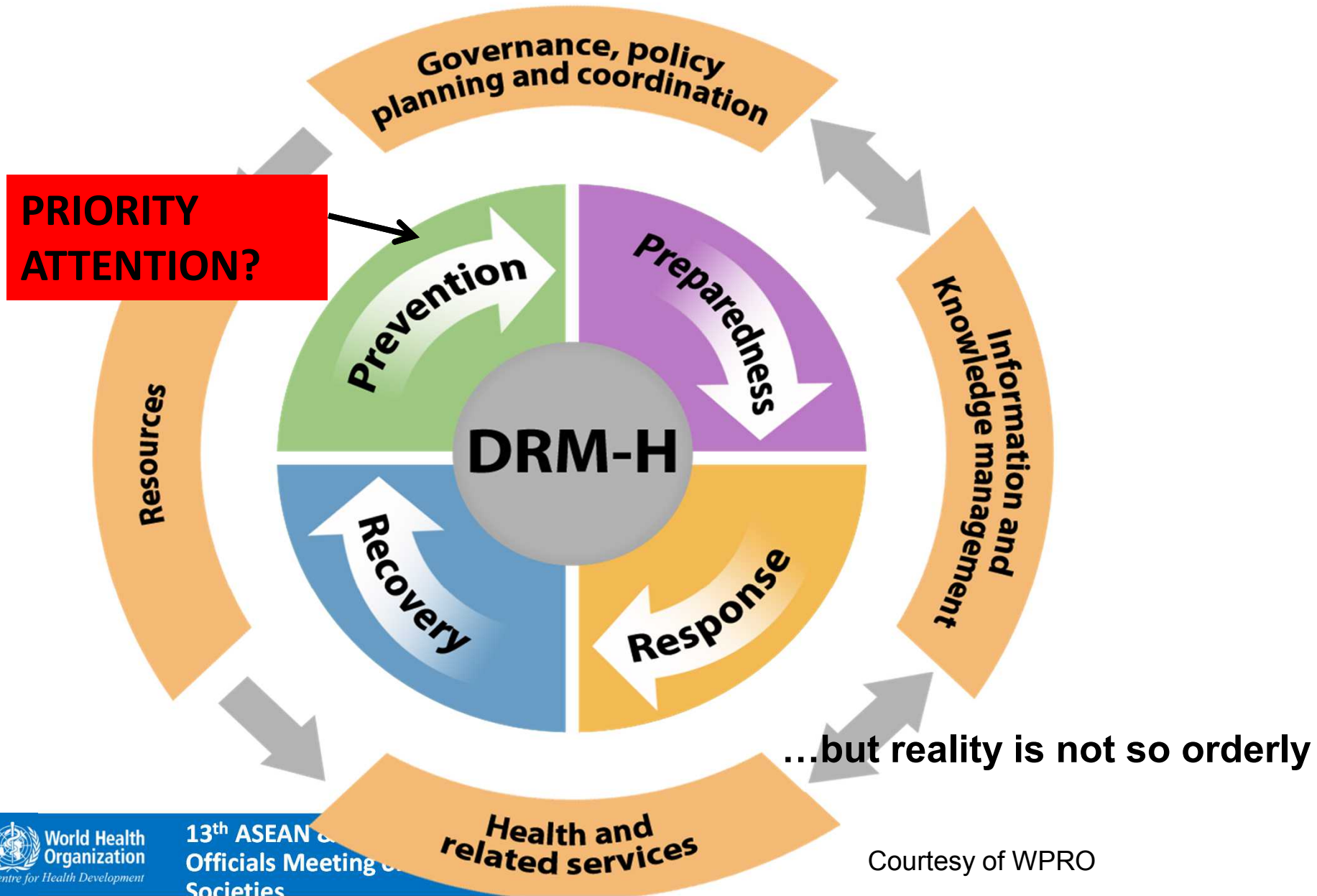


# 9 Essential Capacities of EDRM-H

---

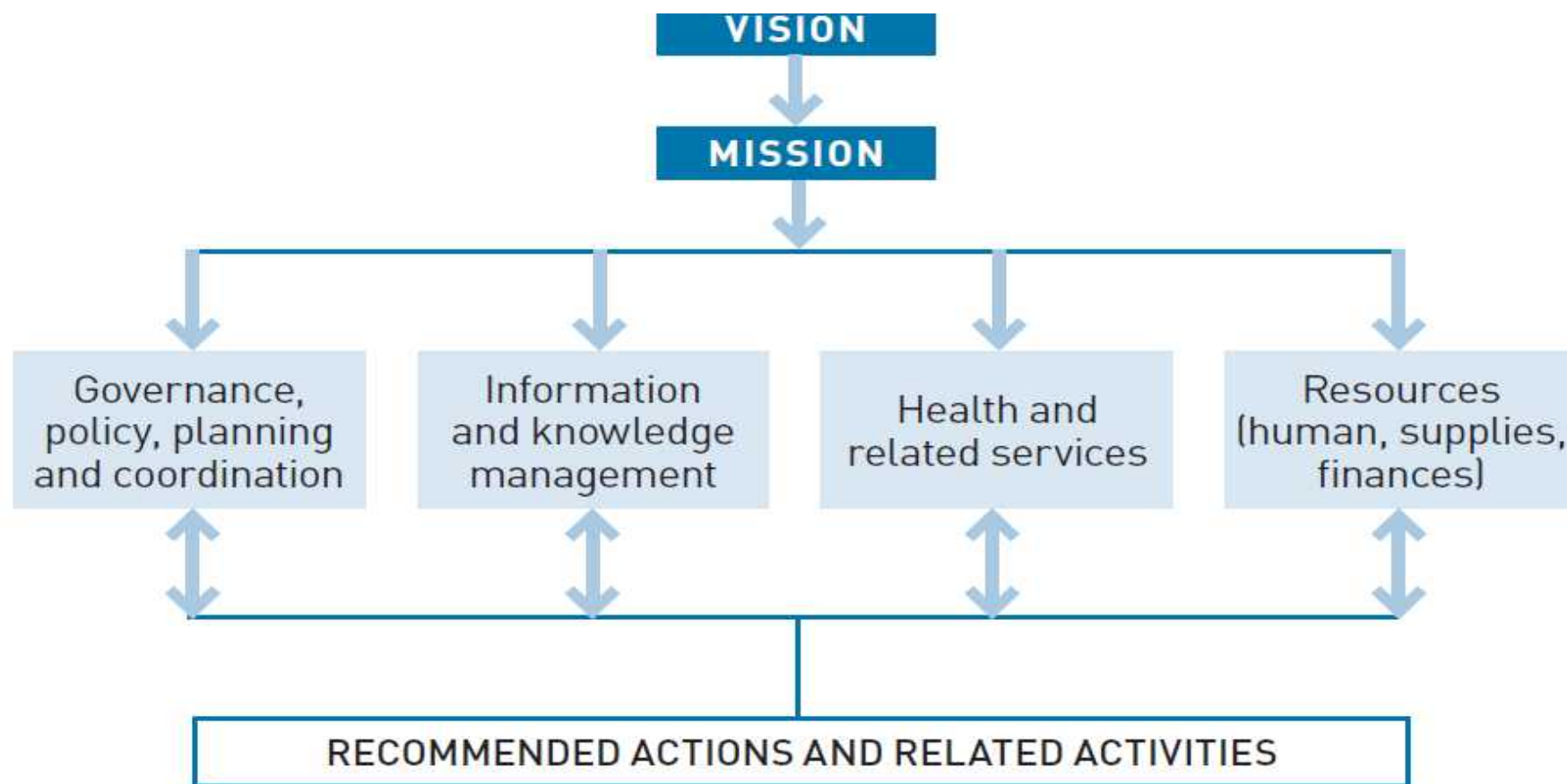
1. Policies, legislation and strategies
2. Planning and coordination
3. Human resources
4. Financing
5. Information and communications
6. Monitoring and evaluation
7. Health infrastructure and logistics
8. Health and related services
9. Community capacities for EDRM-H

# DRM cycle and the framework components



**VISION:** Attain overall well-being of populations at risk of or affected by disasters due to any hazard and minimize the related death, injury, disease and disability.

**MISSION:** Strengthen regional, national and subnational capacities to address the health aspects of DRM, thus enhancing health and human security.



# DRM-H planning matrix

	<b>Governance, policies, planning and coordination</b>	<b>Information and knowledge management</b>	<b>Health and related services</b>	<b>Resources (human, supplies, financial)</b>
<b>Prevention</b>	NDMO-MoH link Risk reduction policies (hospital building codes)	Hazards vs HFs mapping Vulnerable detected	Link with CDC Vulnerable groups: scale up key services	Use resources from UHC and CCA
<b>Preparedness</b>	National & local preparedness plans	Evacuation plans, <b>critical HF identified</b>	Emergency hospital plans' implementation	Set up & Train surge health teams
<b>Response</b>	Health cluster + Inter-cluster coordination	Health Assessments (initial + in-depth)	Life saving + basic & specific health services	Surge deployment
<b>Recovery</b>	Build Back Better policies and plans	PDNA, health inequalities monitoring	Specialized services at primary care	Funding for health sector recovery  Courtesy of WPRO



# Priority areas for DRM-H : Operational Action Plans

- NDMO & MoH DRM joint policy, strategy & planning
- Sub-national thematic maps of base lines key information against local hazards, on:
  - health system capacities (H. facil. and H. workforce)
  - health status of exposed communities
  - Coverage of key health services in high risk areas
- Identification and upgrade of the Critical Emergency Health Facilities (as well the HFs at high risk of being affected)
- Scale up and maintain Health Facilities Safety Index
- Emergency Medical Teams (national and internationals) surge and coordination mechanisms

# **URBAN** Health Emergency Strategic directions

## Topic of concern

Enhancing resilience, risk reduction, preparedness, response and recovery among national and local health authorities in urban areas

**RESILIENCE**

Building technical surge capacity and urban health emergency management expertise

**HEALTH AND GOVERNANCE**

Strengthening health systems to support urban health emergency management

**HEALTH SYSTEMS**

Ensuring the protection of the health of vulnerable urban populations

**HEALTH EQUITY and SECURITY**

Improving sector coordination for health by strengthening multi-sectoral partnership and community ownership

**INTERSECTORAL COLLABORATION**

Developing and adapting tools to urban contexts, including city health risk assessment and city plans

**RISK IDENTIFICATION AND MANAGEMENT**

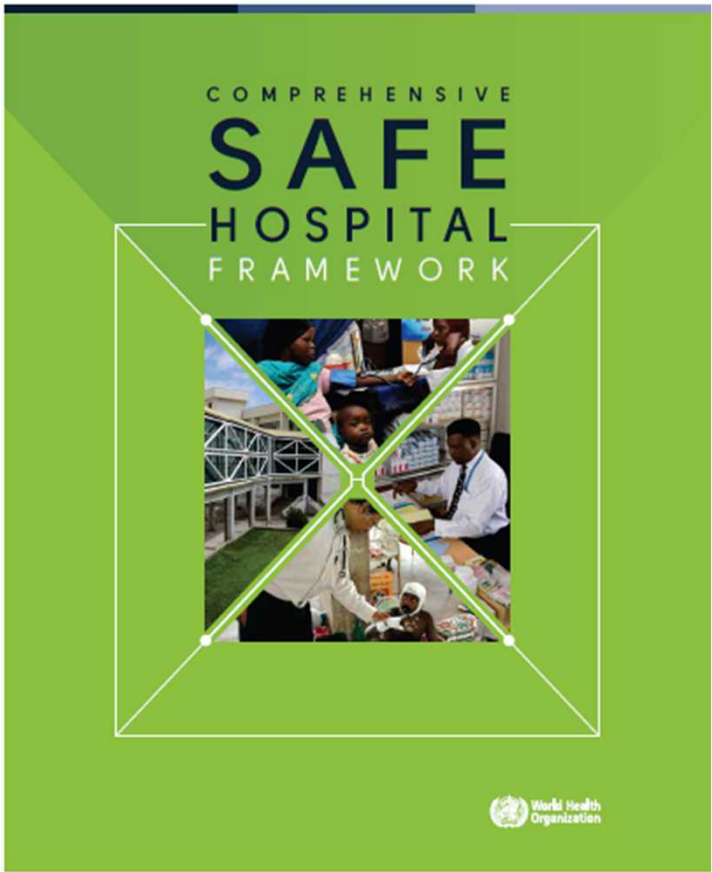
# WHO Kobe Centre

---

- Research on resilient health systems/community based systems for health emergencies
- Long term psycho-social impact of disasters on survivors, especially older populations
- DRM for vulnerable populations, especially older populations
- Urban DRM systems for health

# WHO Safe Hospital Framework

## SAFE HOSPITALS INITIATIVE



## II SAFE HOSPITAL FRAMEWORK

### ■ INTRODUCTION TO THE FRAMEWORK

The Safe Hospitals Framework presents a structured approach for actions to strengthen the safety and preparedness of hospitals and health facilities for all types of hazards. It describes the framework's vision and the scope of the work, with medium to long-term goals and achievable outcomes, and proposes four main components of Safe Hospitals programmes. An implementation mechanism follows, with guiding principles that support implementation of key actions of the framework in a country setting.

### ■ TARGET AUDIENCE

The main target audiences are the governments, health authorities, financial institutions and disaster management organizations that will use the framework as a guide for the development and implementation of Safe Hospitals programmes at national, subnational and facility levels. The wider audience includes all stakeholders in safe hospitals across many sectors, as well as hospital managers and staff,

who can use the framework to guide projects and activities for making hospitals more resilient and better prepared for emergencies and disasters.

### ■ SCOPE

Given their vital role in health care at community and national levels, hospitals must continue to function before, during and following an emergency or disaster. The Safe Hospitals Framework promotes an all-hazards approach in order to take account of the wide range of hazards that affect the safety of hospitals, staff and patients and that may lead to emergencies and disasters requiring a health response. Hospitals need a wide support system to be able to fulfil their roles in health service delivery. The Safe Hospitals Framework is intended to ensure the functionality of hospitals as a core element of a broader health and societal system for managing the risks of emergencies and disasters.

The role of a hospital can be seen from three perspectives:



<sup>1</sup> A Framework to protect the health structures underlying a country's health system is a critical requirement to help that country reduce the risks to several sectors being considered in defining a concept (<http://www.who.int/diseases/prevention/risks/whoframework>, accessed 26 December 2014).

<sup>2</sup> In this document the term "hospital" refers to all health facilities and their functions. "Safe hospital" is a wider definition, but the Safe Hospitals Framework does not consider the entire risk. The different types of health facilities play an essential role in health systems and therefore the scope of the term goes beyond the traditional definition of a hospital.

---

# COORDINATION MECHANISMS



# What is the IASC ?

The Inter-Agency Standing Committee is an inter-agency forum for

- coordination,
- policy development and
- decision-making

involving the key UN and non-UN humanitarian partners.

Established in 1992 in response to UN General Assembly Resolution [46/182](#) on the strengthening of humanitarian assistance.



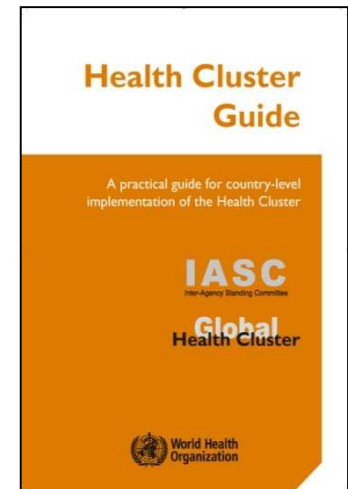
# What is the Global Health Cluster ?

A forum of the **IASC** comprised of key international health entities

Mandated to build global humanitarian response capacity

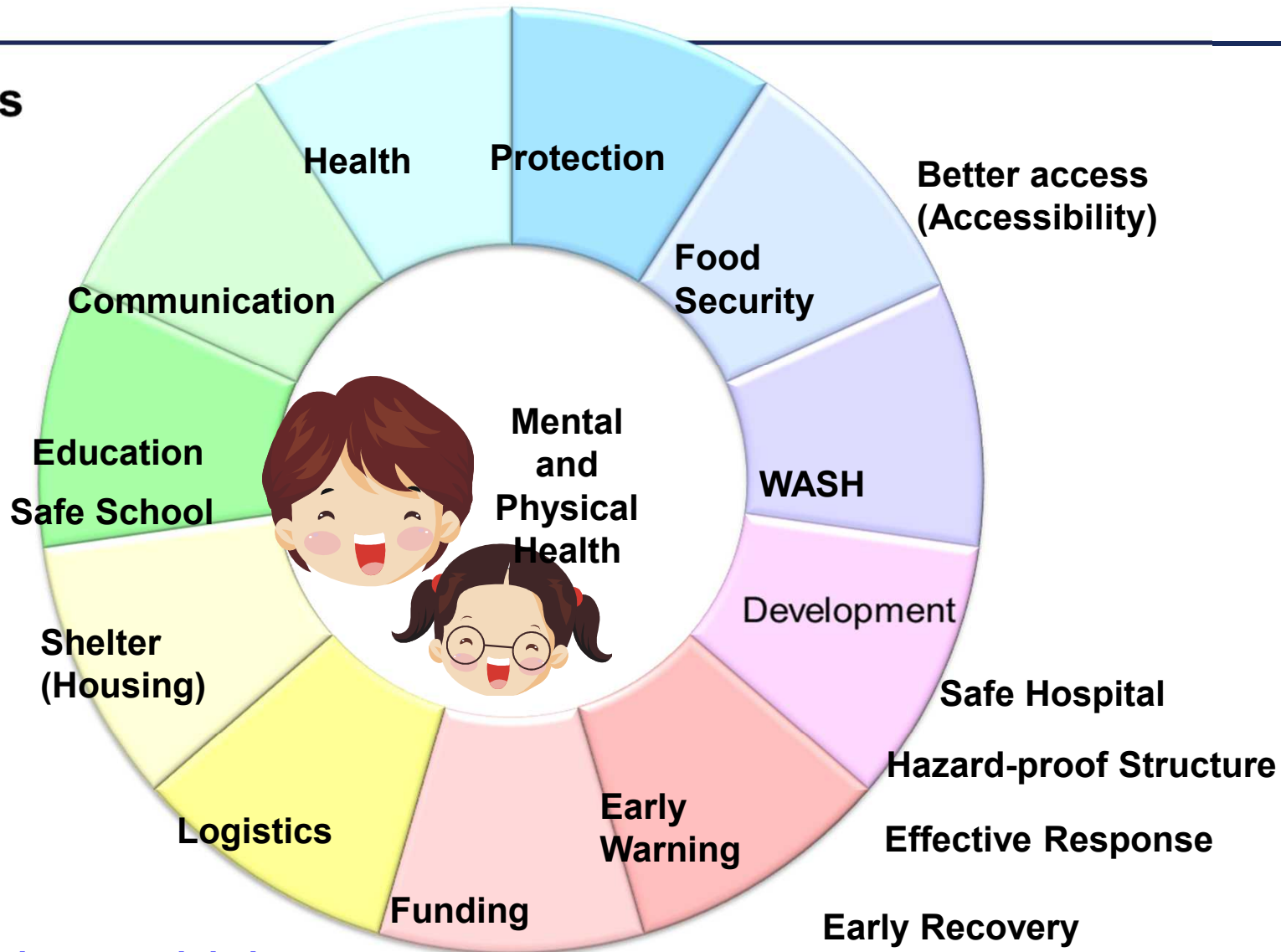
By developing common guidance and tools, surge systems and global partnerships

[http://www.who.int/hac/global\\_health\\_cluster/en/](http://www.who.int/hac/global_health_cluster/en/)



# Human Security in Disaster

## Clusters



People-centered approach is important

# WPRO Regional Health Cluster

## Meeting Report

### First Regional Health Cluster Forum on Humanitarian Emergencies



Kobe, Japan  
22–24 August 2011



[http://www.wpro.who.int/emergencies\\_disasters/en/](http://www.wpro.who.int/emergencies_disasters/en/)



*First Regional Health Cluster Forum on Humanitarian Emergencies  
22–24 August 2011, Kobe, Japan*

# Regional Efforts: APSED (WHO WPRO and SEARO)

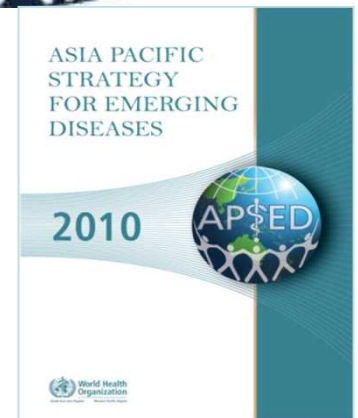
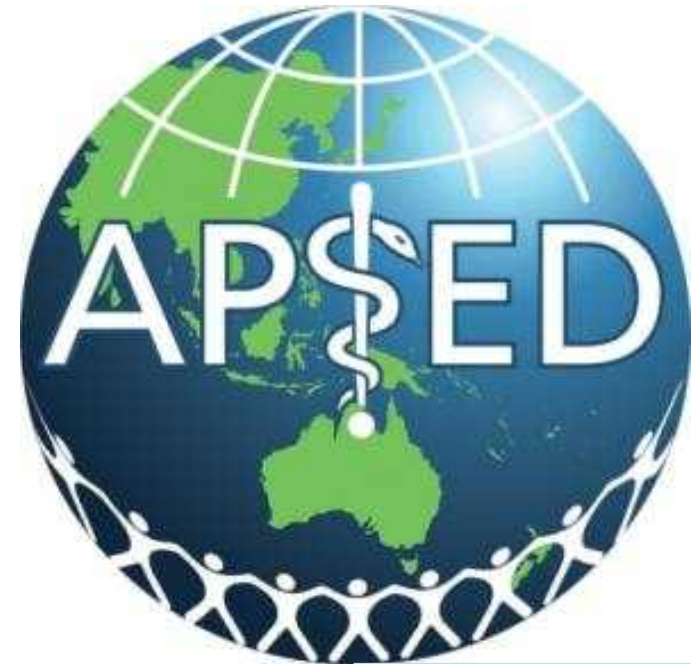
## Asia Pacific Strategy for Emerging Diseases (APSED)

✓ **Generic platform** for preparedness, alert and response

✓ **Step-wise approach** to capacity development

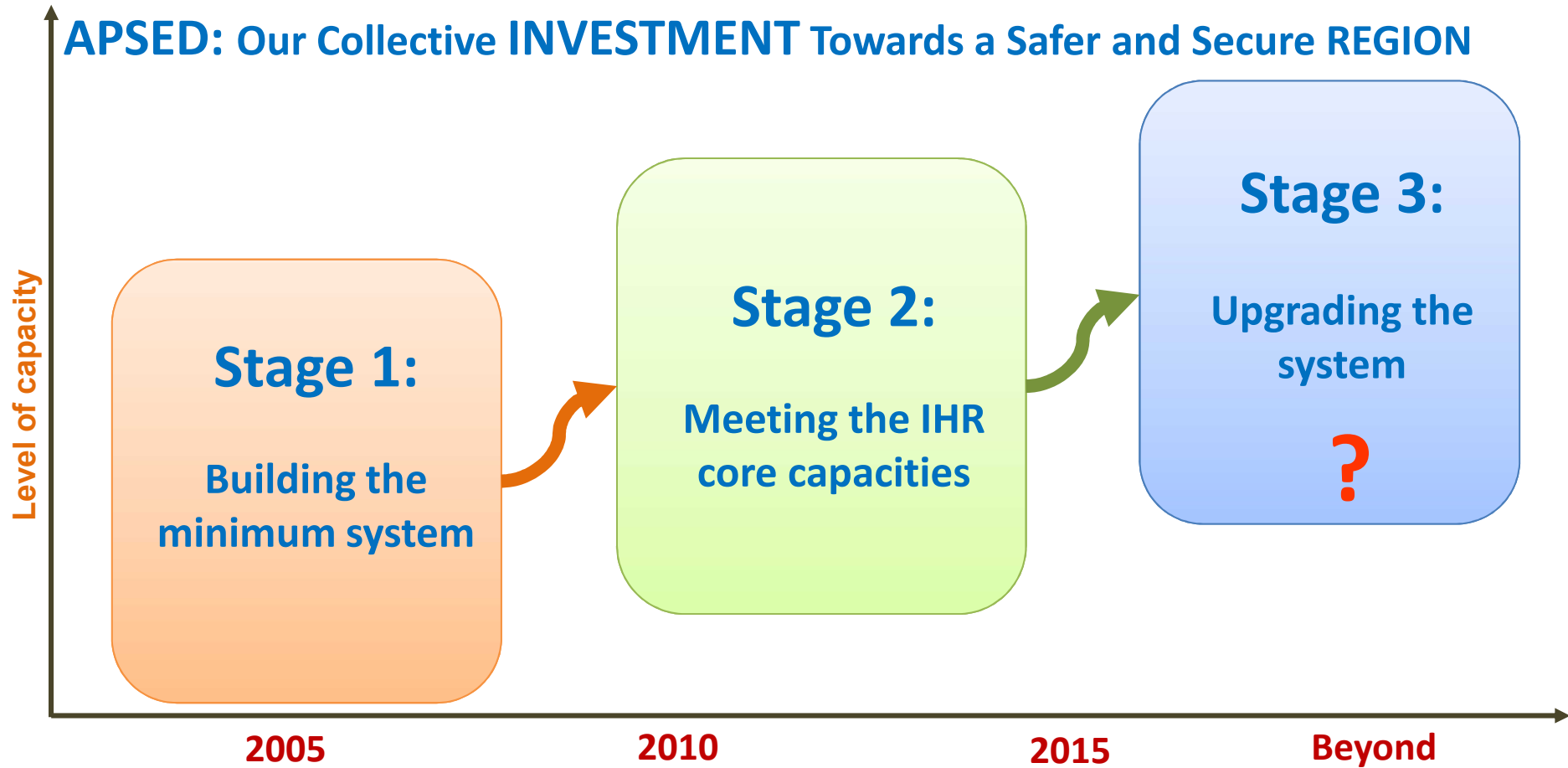
✓ **Connects** stakeholders (health and non-health sector) at national and regional levels

✓ **Emphasizes value of learning** from real world events





# Build, Strengthen, Upgrade

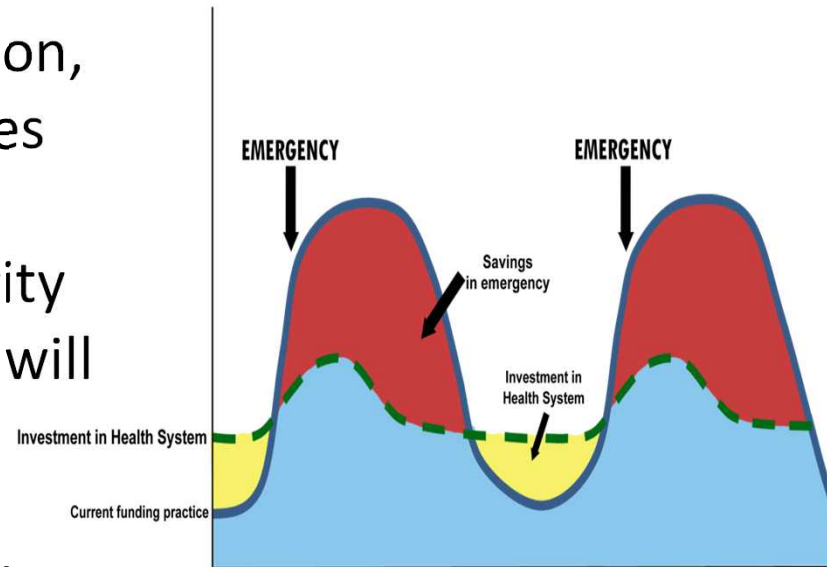


# The Future of Health Security and DRM...

***Learning from the past*** – outbreak review (Ebola, MERS), joint APSED evaluation, reviews of natural disaster responses

***Anticipating the future*** – health security events like outbreaks and disasters will continue to “shock” us...

***Advancing our preparedness*** -- comply with IHR and Sendai Framework DRM through renewed global and regional efforts , and new opportunities (e.g. GHSA)



# Thank You!



# WHO RESOURCES AND CONTACTS

**WHO Kobe Centre:** Alex Ross, Dr Ryoma Kayano

[http://www.who.int/kobe\\_centre](http://www.who.int/kobe_centre) Email: [wkc@who.int](mailto:wkc@who.int)

[http://www.who.int/kobe\\_centre/emergencies/en/](http://www.who.int/kobe_centre/emergencies/en/)

[http://www.who.int/kobe\\_centre/emergencies/ja/](http://www.who.int/kobe_centre/emergencies/ja/)

**WHO Western Pacific Regional Office:** Dr Ailan Li, Dr Nevio Zagaria

[http://www.wpro.who.int/about/administration\\_structure/dse/en/](http://www.wpro.who.int/about/administration_structure/dse/en/)

[http://www.wpro.who.int/emergencies\\_disasters/en/](http://www.wpro.who.int/emergencies_disasters/en/)

Email [drm@wpro.who.int](mailto:drm@wpro.who.int)

**WHO South-East Asia Regional Office:** Dr Roderico Ofrin

[http://www.searo.who.int/about/administration\\_structure/hse/en/](http://www.searo.who.int/about/administration_structure/hse/en/)

<http://www.searo.who.int/entity/emergencies/about/en/>

Email [searo\\_eha@who.int](mailto:searo_eha@who.int)

**WHO HQ Emergency and Risk Management for Health:** Jonathan Abrahams, Rudi Coninx, Rick Brennan

<http://www.who.int/hac/en/>

[http://www.who.int/hac/global\\_health\\_cluster/en/](http://www.who.int/hac/global_health_cluster/en/)

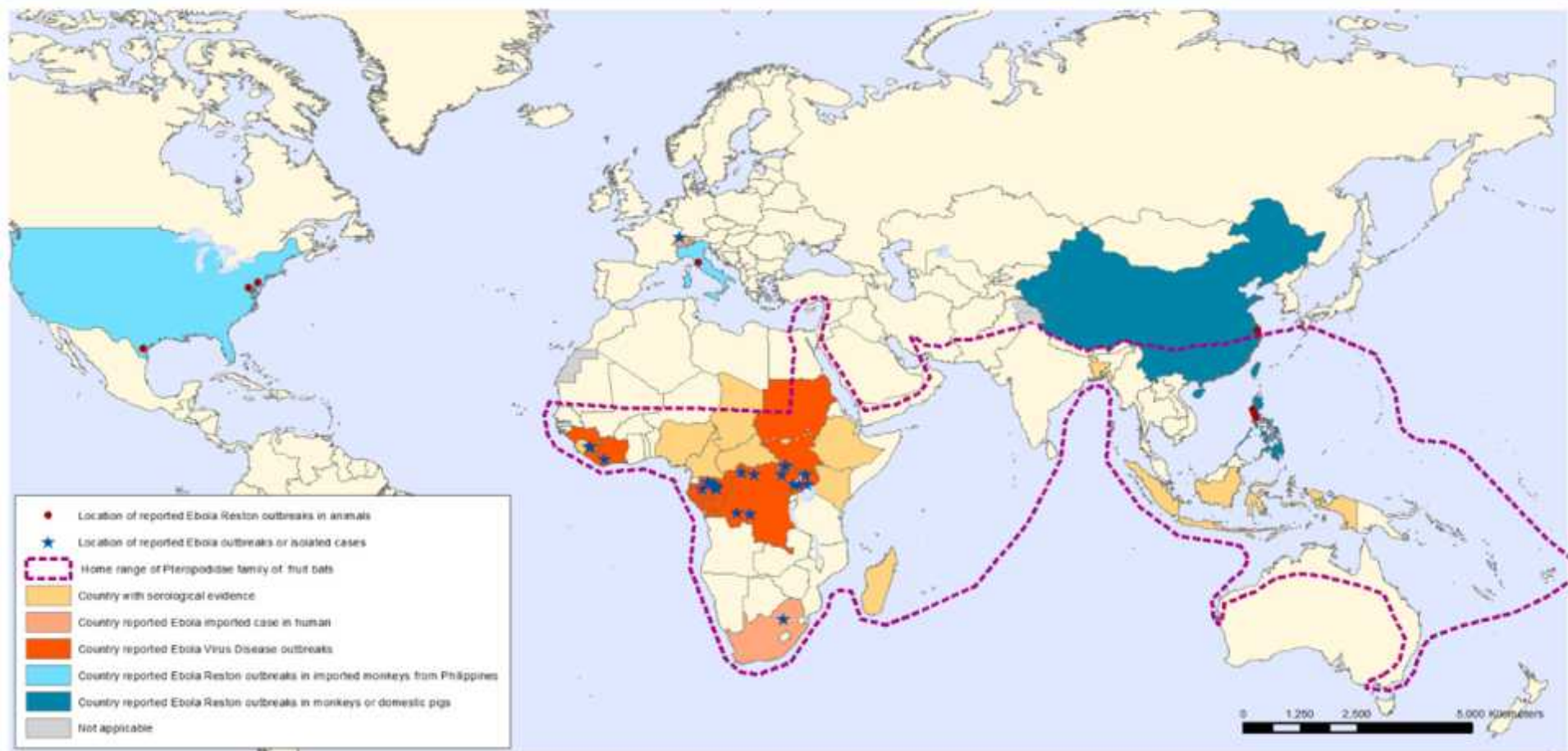


---

# ADDITIONAL SLIDES FOR INFORMATION



# Geographic distribution of Ebola virus disease outbreaks in humans and animals



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
 Map Production: Health Statistics and Information Systems (HSI)  
 World Health Organization

 **World Health Organization**  
 © WHO 2014. All rights reserved.

# Roles in Managing Health Risks of Emergencies (1)

- **Risk assessment**
  - Anticipate the problems
- **Reduce risks**
  - Communicate the risks - change behaviour
  - Reduce vulnerability and strengthen resilience (community, staff, infrastructure and health care, facilities)
- **Prepare for emergencies**
  - Plan, train, exercise, evaluate; Build capacity
  - Early warning systems; Communicate the risks



# Roles in Managing Health Risks of Emergencies (2)

- **Respond to emergencies**
  - Provide leadership in the health sector
  - Assess the health consequences and impact on health services
  - Determine the needs
  - Protect staff and facilities
  - Provide health services



# Roles in Managing Health Risks of Emergencies (3)

- **Respond to emergencies**
  - Communicate the risks
  - Mobilize resources
  - Manage logistics
  - Manage health information
  - Manage human resources



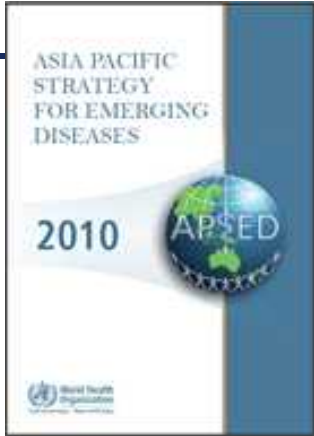
# Roles in Managing Health Risks of Emergencies (4)

- **Recovery and rehabilitation**
  - Assess health needs over the long-term
  - Provide health services over the long-term
  - Restore health services, facilities and health systems
  - Human resource development
  - Plan reconstruction to reduce risks





**Securing Regional Health through APSED**  
Building sustainable capacity for managing emerging diseases and public health events



## DSE Securing our Region's Health

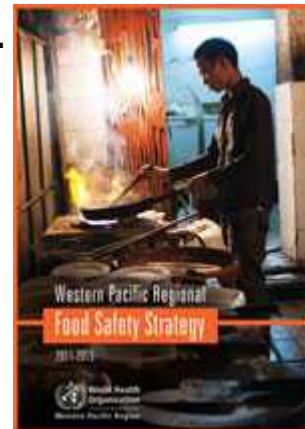
### Safe Hospitals



**The Great East Japan Earthquake**  
A story of a devastating natural disaster, a tale of human compassion



**Western Pacific Regional Food Safety Strategy 2011-2015**



# Learning from history...

- **Health security threats** especially emerging diseases are *inevitable*
- **Investing preparedness** during peaceful times enables *a rapid response* during emergencies
- **APSED** has proven to be a valuable regional tool to comply with **IHR**, thus contributing to the work of global health security



Asia Pacific Strategy  
for Emerging Diseases  
Progress Report 2015



Securing regional health

# The case of Nepal, 25 April 2015 Earthquake

- **Emergency preparedness pays off as Kathmandu hospitals respond to earthquakes**





# Great East Japan Earthquake (GEJE)

## Otsuchi Town, Iwate Prefecture, Japan



before tsunami



after tsunami

# Hurricane Sandy -- USA



**Breezy Point neighborhood of New York City on Oct. 30. Millions of people across the eastern United States had no power. Hurricane Sandy swamped New York City's subway system and submerged streets in Manhattan's financial district. (Keith Bedford/Reuters)**



**US Route 30, the White Horse Pike, one of three major approaches to Atlantic City, N.J. (Tom Mihalek/Reuters)**



# Hurricane Sandy -- Caribbean



**People walk on a street littered with debris after Hurricane Sandy hit Santiago de Cuba on Oct. 26. (Desmond Boylan/Reuters)**

**People sit on the rooftop of houses submerged in floodwaters in the neighborhood of Barquita, after days of heavy rain in Santo Domingo, on Oct. 26. (Ricardo Rojas/Reuters)**





# Global threats : International Health Security 1980 - 2013



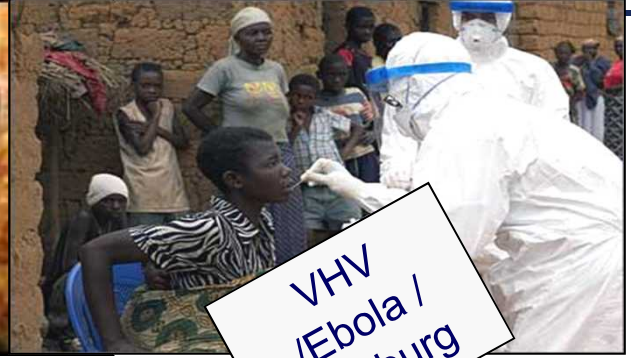
HIV/AIDS  
XDR-TB



Chernobyl



Pest



VHV /Ebola / Marburg



BSE/ NvCJD



Nipah



Anthrax



SARS



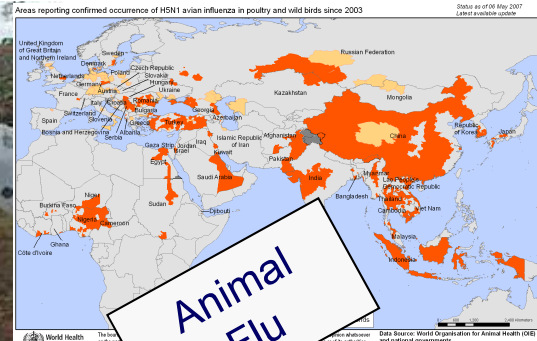
meningitis



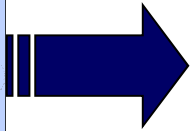
cholera



Chemical pollution



Animal Flu





# Global threats : International Health Security 1980 - 2013



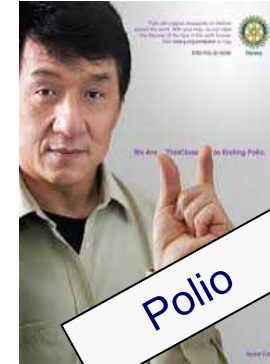
Fukushima



MERS-CoV



VHV /Ebola / Marburg



Polio



E-Coli



Dengue



Chikungunya



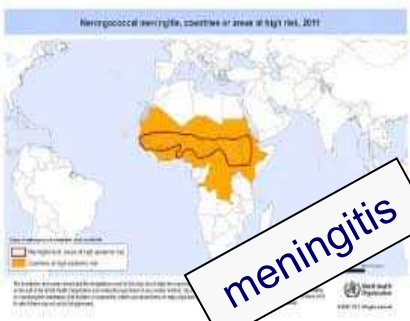
H7N1



Air pollution



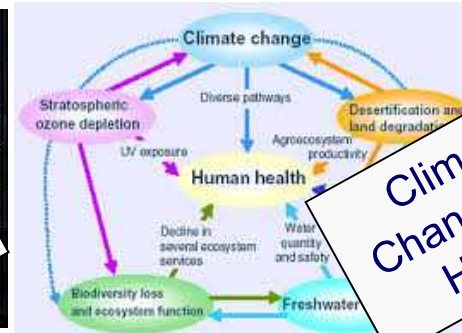
Chemical pollution



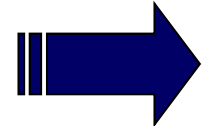
meningitis

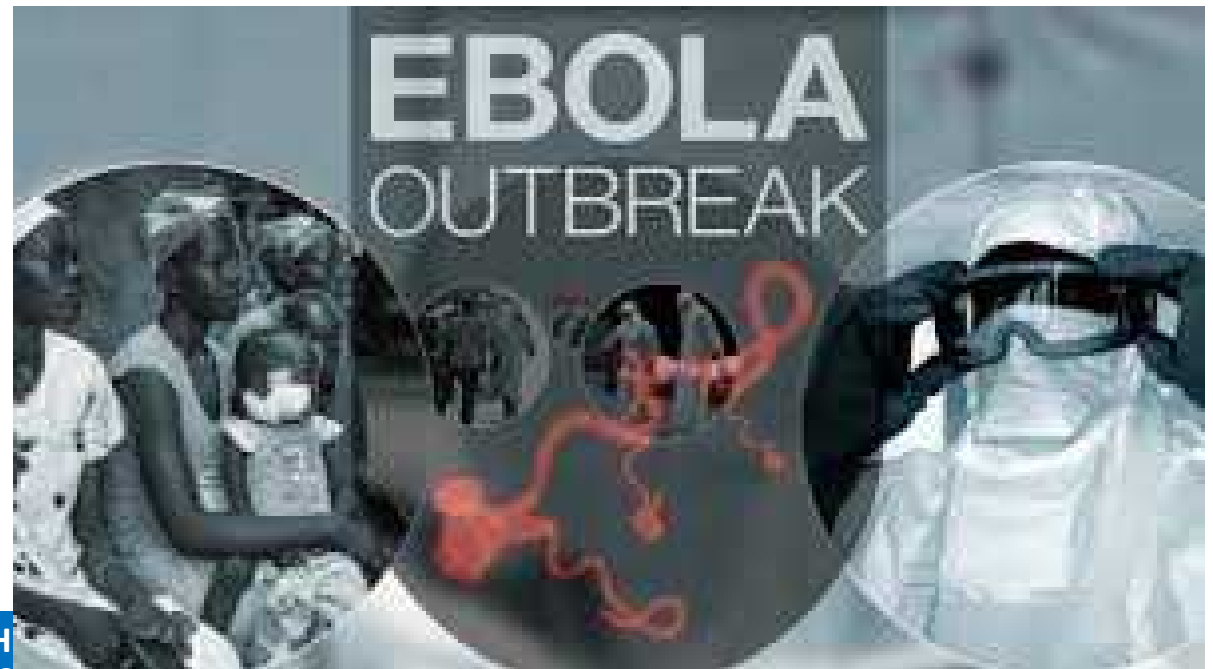


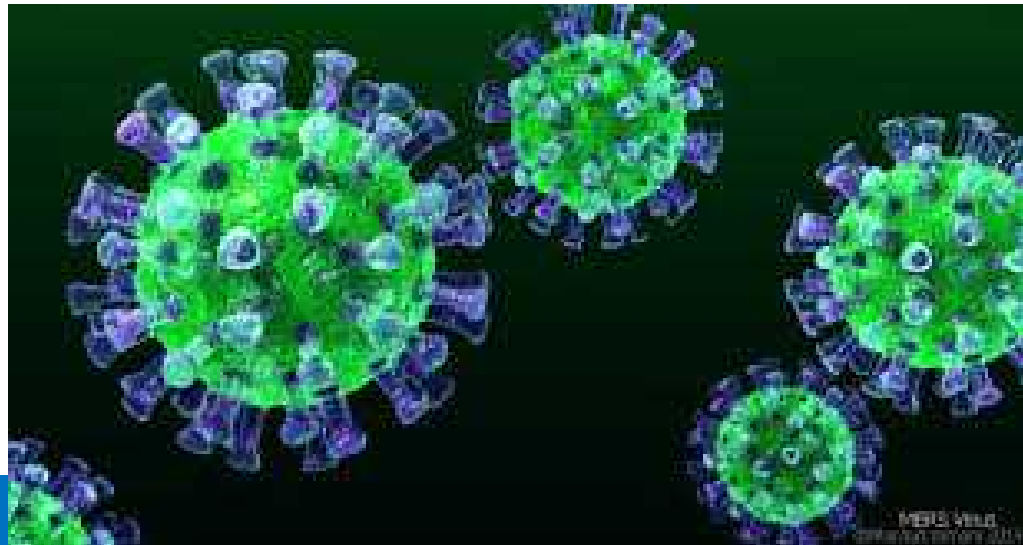
Norovirus



Climate Change and Health



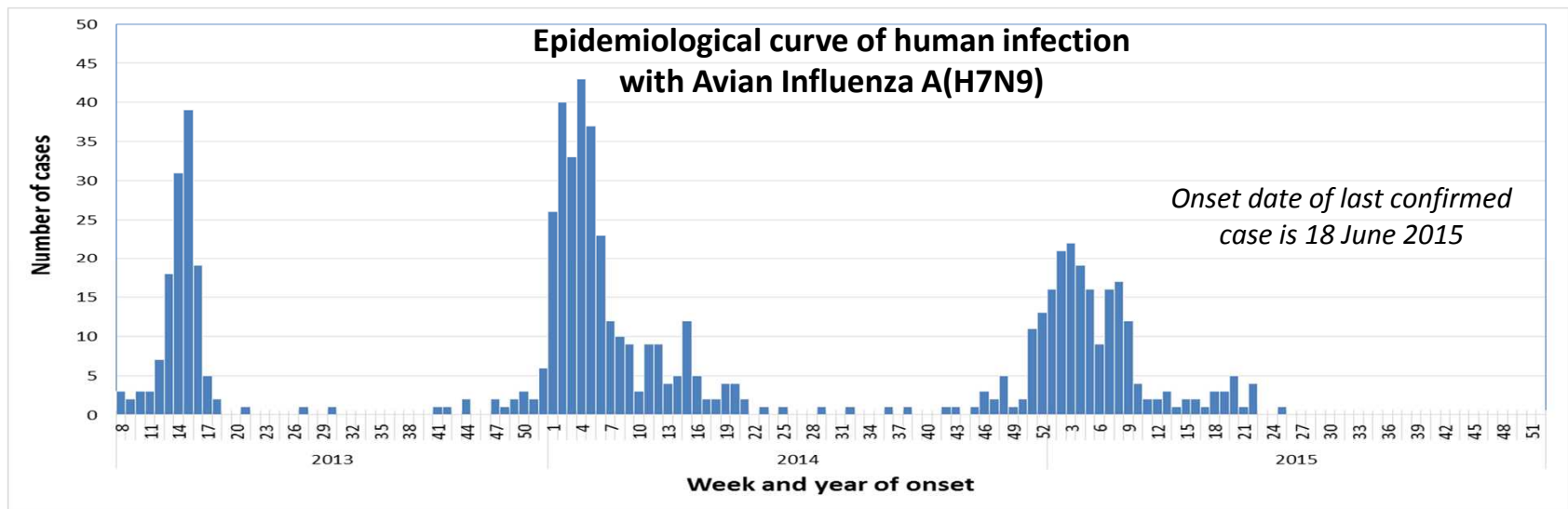






# H7N9: First detected in 2013

- Human infection of H7N9 was first notified to WHO in March 2013
- Ongoing event: **677 cases, 271 deaths** as of 28 September 2015
- Stark reminder of the continuing risk of pandemic influenza



# Ebola is NOT over...



# Fear: Ebola Response 2014



*Fear of infection has spread much faster than the virus, with significant economic costs*

