

# Hospital Emergency Preparedness & Response Workshop

23-26 October 20-18

Gujarat, India



## DRM Concepts & Terminologies

# Session Objectives

At the end of the session, participants should be able to:

1. Define the basic terms and concepts used disaster risk management
2. Describe the processes used in disaster risk management
3. Discuss the linkages between disasters and development





**What is risk?**

**How is it generated?**

**How do we prevent emergencies & disasters?**

**How do we reduce or eliminate risks?**





**ALL** disasters are emergencies

But **NOT ALL** emergencies are disasters

**ALL** disasters are **HEALTH EMERGENCIES**

# Group Activity

## Instructions:

- Each individual will use the cards to answer each of the questions (10 min.)
- Then they will work in their groups to prepare a group answer (10 min.)
- The group answers will be written on a flip chart.

# Give examples of the following...

- Name 3 disasters
- Name 3 emergencies
- Name 3 hazards
  
- Name 3 vulnerabilities
- Name 3 risks
- Give 3 examples of preparedness

# Disasters

Date	Place	Hazard	Deaths
2018	Indonesia	Earthquake	2,500
2018	India	Floods	500
2015	Nepal	Earthquake	9,000
2013	Philippines	Typhoon	6,300
2005	Pakistan	Earthquake	85,000
2004	Indian Ocean	Tsunami	300,000

## ***Question:***

*What are the common characteristics of the above examples of disasters?*

# Disasters

- Legally, a disaster occurs whenever the Government Agency responsible for disaster management makes a Declaration.
- The hazards that can lead to a disaster declaration are **USUALLY** only those which fall into the mandate of the Disaster Management Agency (i.e. not epidemics, plane crashes, major accidents etc).
- Disaster declarations are only made by **NATIONAL** governments.
- All other hazards are covered by Declarations of Emergency. Any Government Agency or Local Government Authority can declare an emergency.



# Disaster

Disasters are any ***actual threat*** to public safety and / or public health where local government and the emergency services are unable meet the immediate needs of the community that it requires help from external agencies.



# Emergencies

Some examples:

- I can't find my mobile phone
- My son hasn't come home from school
- A man is having a heart attack
- Gas is leaking from a factory
- Trauma victim from road accident in the Emergency Department

**Question:**

*What are the common characteristics of the above examples of emergencies?*

# Emergency

Anything urgent and threatening – if urgent action is not taken, something bad will happen – if you act quickly and appropriately, there is an opportunity to prevent something happening at all, to reduce the seriousness of the situation or to reduce the consequences.



# Hazard

Some examples:

- Earthquakes
- Floods
- Volcanoes
- Civil unrest
- Sporting events
- Chemical
- Anthrax



**Question:**

*What are the common characteristics of the above examples of hazards?*



# Hazard

Any ***potential threat*** to public safety and / or public health – natural phenomena, technological hazards, biological hazards, social hazards.



# Vulnerabilities

Some examples:

- Access to water and sanitation
- Access to healthcare
- nutrition status
- age / sex
- Cultural practices
- Employment
- Education



*The above examples relates to vulnerabilities of people*

# Vulnerability

Factors which increase the *risks* arising from a specific *hazard* in a specific *community* (risk modifiers)





# Risks

## Examples

- Death
- Injury
- Displacement
- Loss of property
- Loss of income



*Anticipated* consequences of a specific hazard interacting with a specific community (at a specific time): death, injury, disease and displacement.



# Risks

are:

The probability AND the consequences of exposure to a hazard

$$\text{RISKS} \propto \{\text{HAZARD}\} \times \left\{ \begin{array}{c} \text{VULNERABILITIES} \\ \div \\ \text{CAPACITIES} \\ \text{(for response and recovery)} \end{array} \right\}$$

# Hazard events have potential consequences

## Some Examples...

- dead and missing
- injury (mental and physical)
- disease (mental and physical)
- secondary hazards (fire, disease etc.)
- contamination
- breakdown in security
- damage to infrastructure
- breakdown in essential services
- loss of property
- loss of income

# Using the Logical Framework of Terminology

- The level of RISK is determined by analysing threats, weaknesses and strengths.
- COMMUNITY RISKS arise when HAZARD meets COMMUNITY
- COMMUNITIES have vulnerabilities AND capacities

Therefore we can say:

- COMMUNITY RISK is a *product*\* of: 
$$\{ \text{HAZARD} \} \quad \times \quad \left\{ \begin{array}{c} \text{VULNERABILITIES} \\ \div \\ \text{CAPACITIES for response} \end{array} \right\}$$
- \* Note: this relationship is proportional, not arithmetic

# There are 4 Classes of Hazards

## 1. Natural

- Earthquake
- Typhoon
- Drought



## 2. Biological

- MERS-COV
- H5N5



## 3. Technological

- Chemical
- Radiological Materials



## 4. Societal

- Sporting Events
- Demonstration



# Vulnerabilities

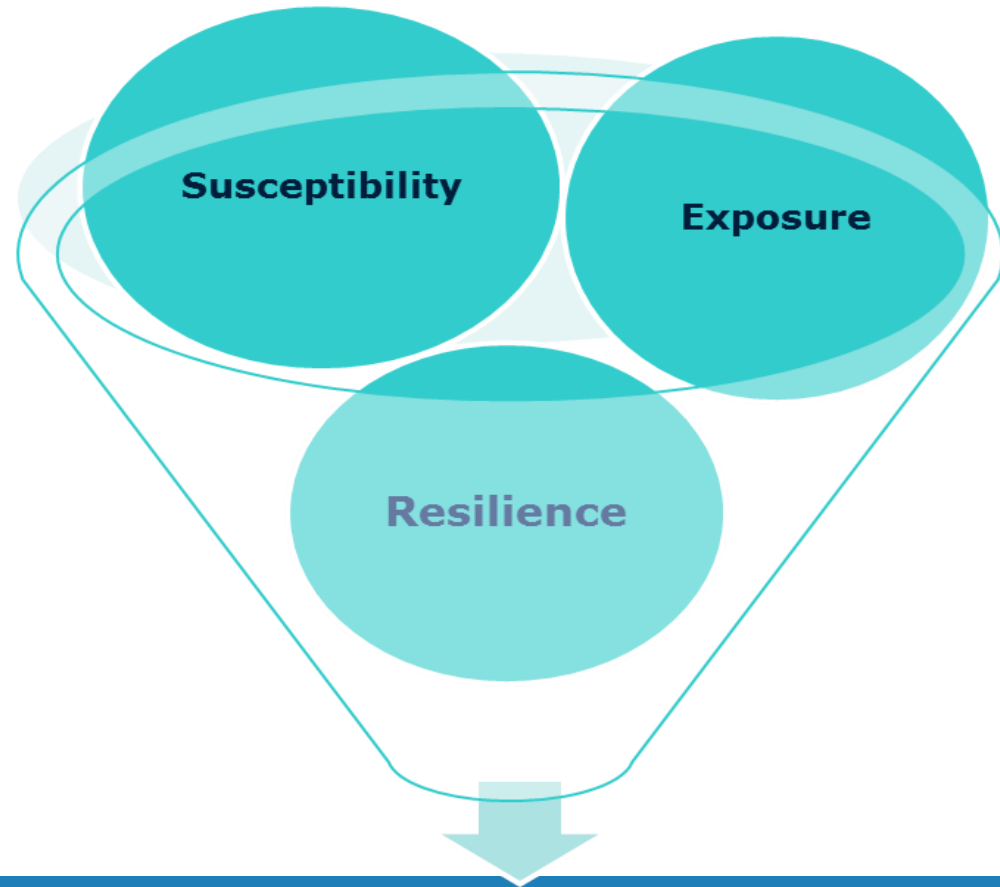
are determinants of risk

$$\text{RISK} \propto \{\text{HAZARD}\} \times \left\{ \frac{\text{VULNERABILITIES}}{\text{CAPACITIES (for response and recovery)}} \right\}$$

# $$\text{Vulnerability} = (E \times S) / R$$

Factors affecting vulnerability:

- Exposure
- Susceptibility
- Resilience



Vulnerability

# What is exposure?

- Exposure

- “People, services, livelihood, environment, property, systems present in hazard zones that are thereby subject to potential losses”

- Example of exposure

- Living in an area that floods

# What is susceptibility?

- Susceptibility
  - “The state of being at risk, if exposed to a hazard”
- Example of susceptibility
  - Not being able to swim

UNISDR 2009, <http://www.unisdr.org/eng/terminology/terminology-2009-eng.html>



# What is resilience?

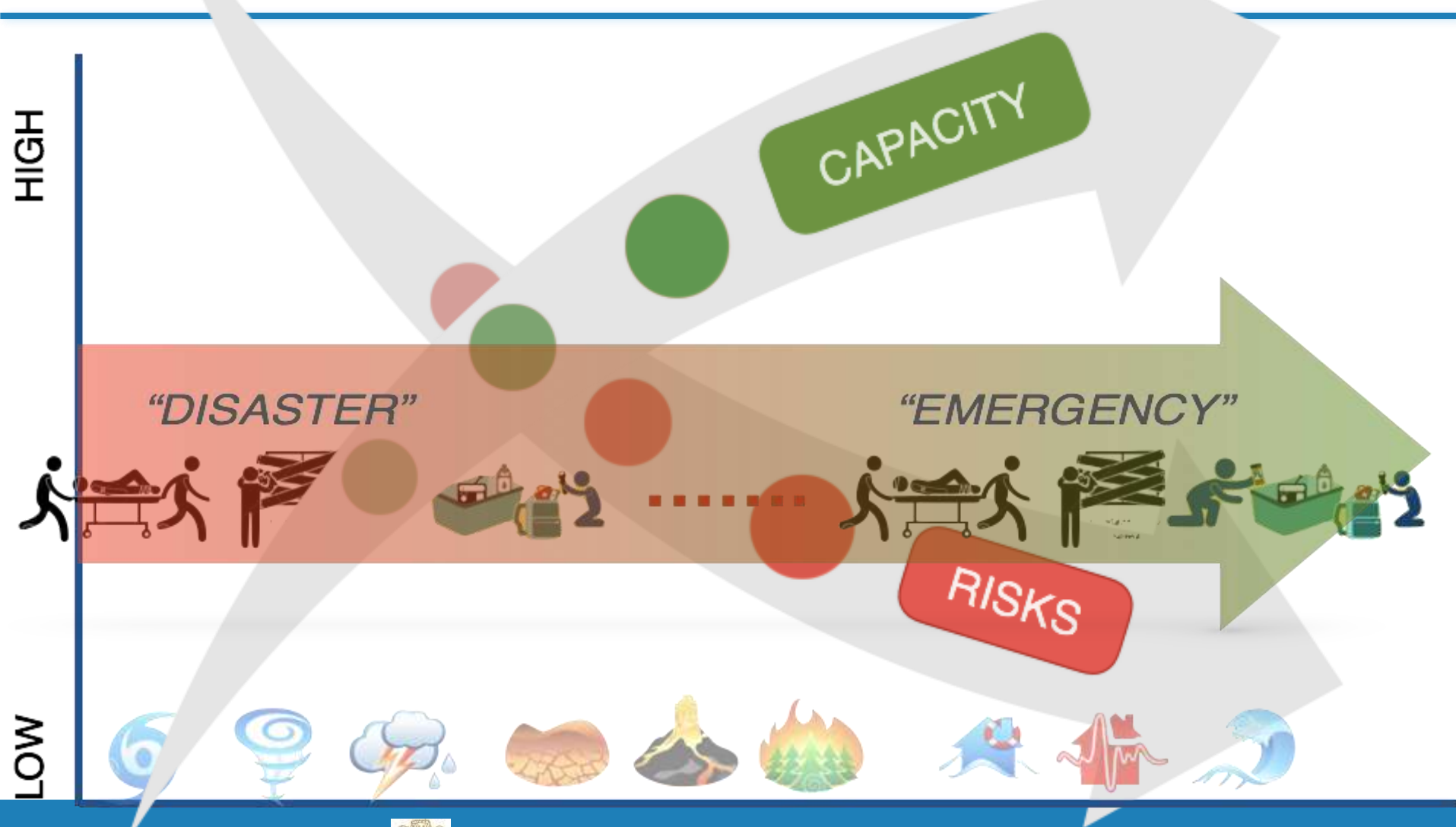
- Resilience

- “The ability of a system, community or society exposed to hazards to **resist, absorb, accommodate to and recover from** the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions”.

- *Example of resilience*

- *Economy*
- *Earthquake resistant structure*

# Hospital Disaster Resilience



# Capacities

are determinants of risk

$$\text{RISK} \propto \{\text{HAZARD}\} \times \left\{ \frac{\text{VULNERABILITIES}}{\text{CAPACITIES (for response and recovery)}} \right\}$$

# Capacity

The combination of all the strengths, attributes and resources available within the community, society or organization that can be used to achieve agreed goals.

*Capacity is the ability to manage risks by:*

- reducing hazards
- reducing vulnerabilities
- reducing consequences by responding to, and recovering from emergencies

# How To Measure The Risks

Question:

What information do we need to measure the risks in communities?



# A Community consist of 5 Elements

1. The **people**
2. Their **property** (infrastructure, possessions and assets; public, private and cultural)
3. Their **services** (government and non-government, commercial and voluntary)
4. Their **livelihoods** (urban and rural, formal and informal)
5. Their **environment** (air, water and soil; urban and rural, built and natural)

*Is is the same in hospitals?*

# Vulnerabilities in Hospitals

- Structural
  - Beams
  - Columns
  - Foundation
  - Load bearing walls
- Non Structural
  - Equipment
  - Lifelines
  - Furnitures
  - Access
- Emergency and Disaster Management
  - Training
  - Plans
  - Exercises
  - Emergency Management Systems
  - Incident Management System
  - Evaluation and After Action Review (AAR)

# Preparedness Programmes

**PREPAREDNESS** is:

A long term institutionalised PROGRAMME  
of measures to build capacities

to prevent, mitigate, respond to, and recover from, disasters and emergencies

A programme has:

A visible place in the organisational chart

Full time staff, A regular budget, An annual work PLAN

Preparedness is not a PLAN, it is:

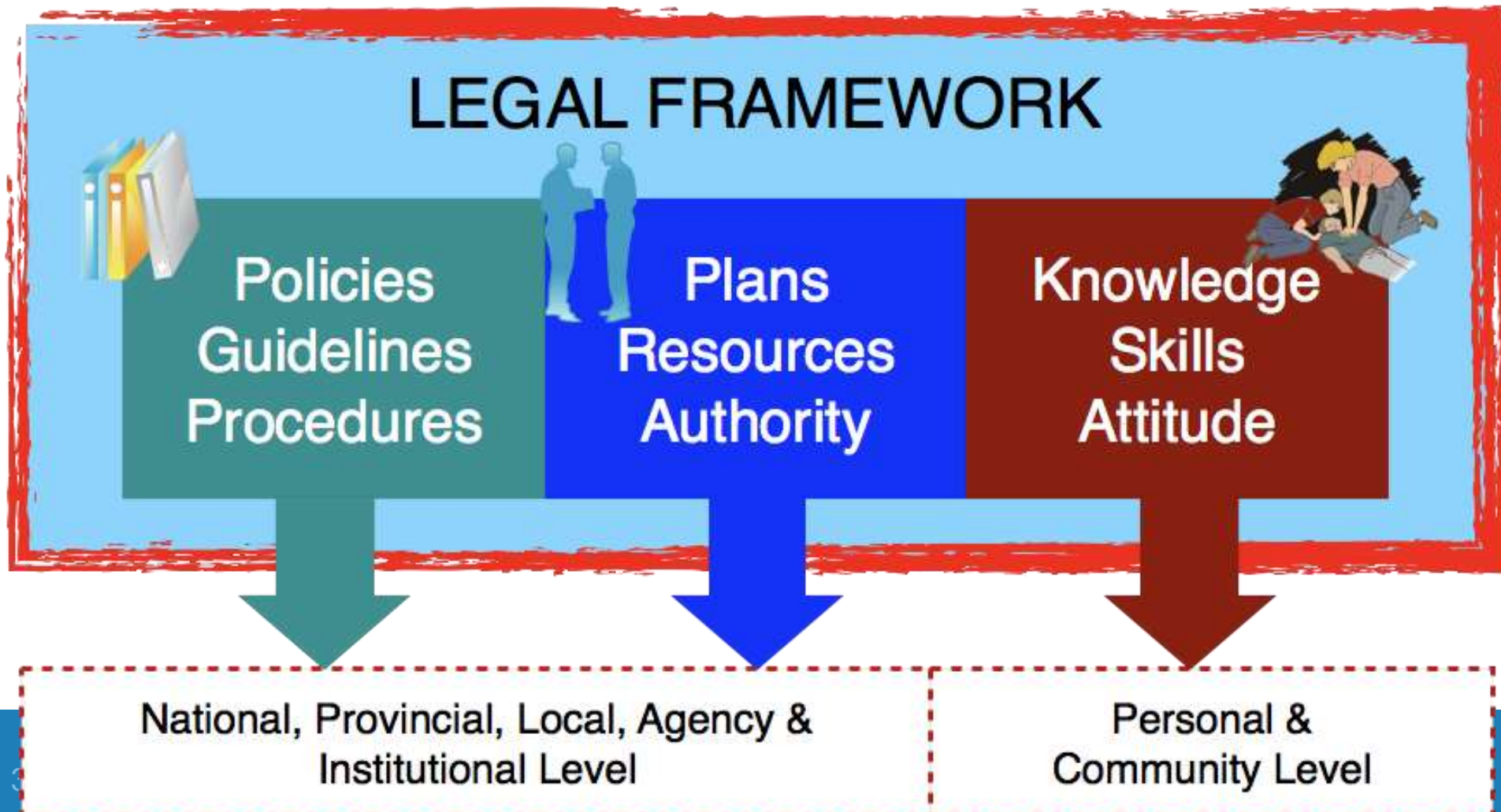
A PROGRAMME WITH A PLAN

# Quick exercise

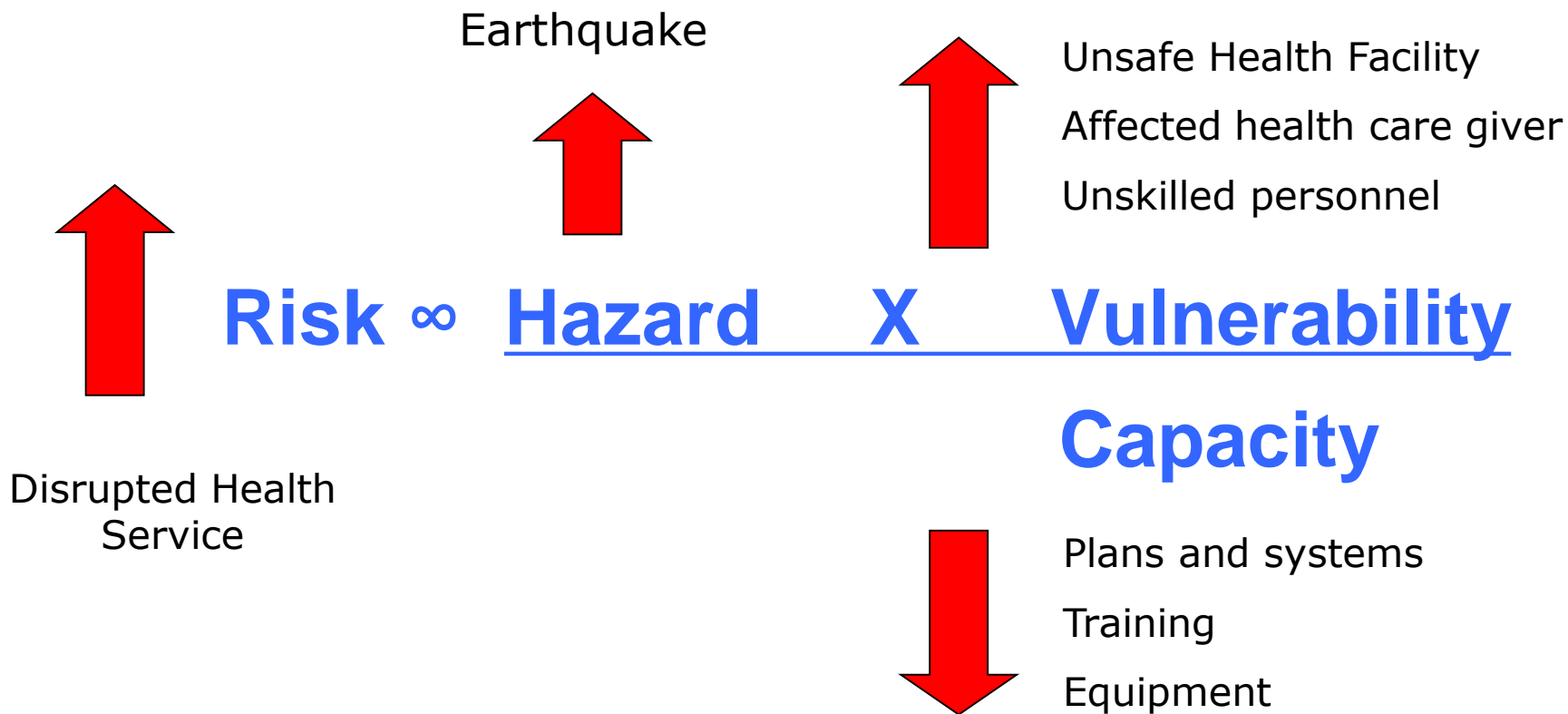
How can we measure preparedness:

- In the community?
- In the hospital?
- In the National Ministry?

# Ten Key Elements of Preparedness







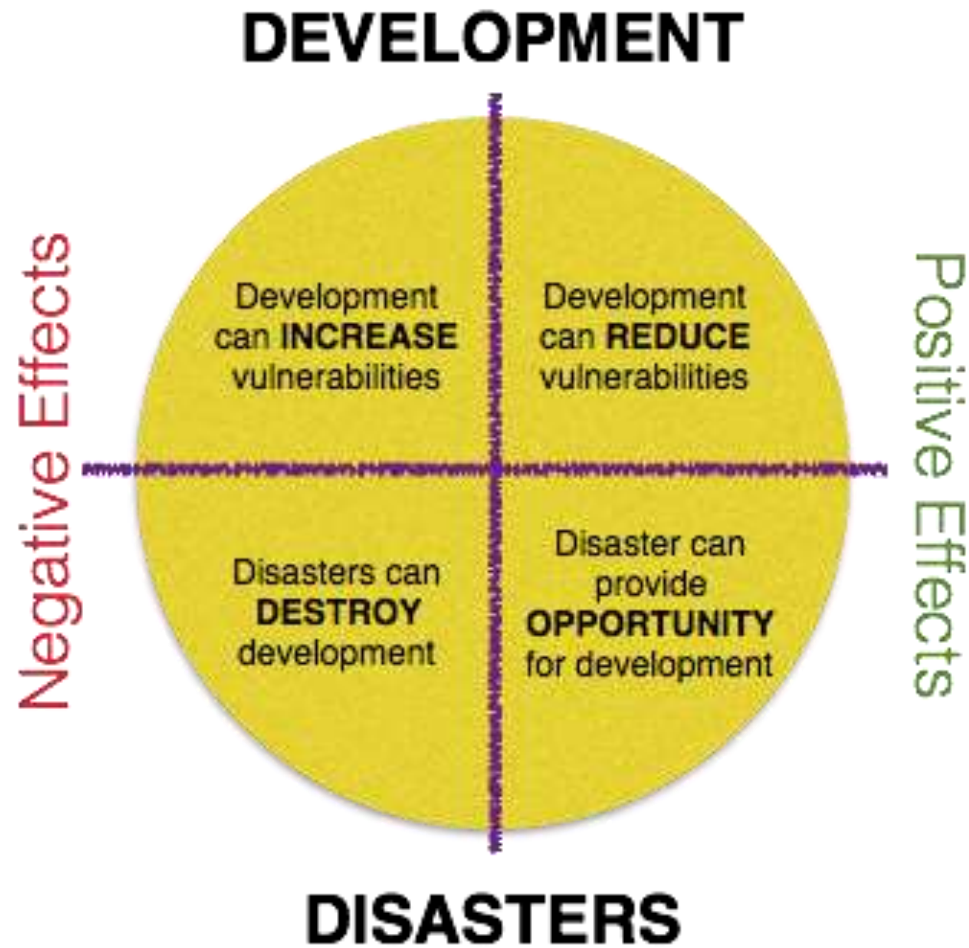
# Risk Management Demonstration

# What is Disaster Risk Management?

# Disaster Risk Management

- DISASTER RISKS are the potential disaster losses in lives, health status, livelihood, assets and services, which could occur to a particular community or a society over specified future time period.
- DISASTER RISK MANAGEMENT is a systematic process in order to lessen the adverse impacts of hazards and the possibility of disaster.
  - **preventing exposure** to hazards (target = hazards)
  - **reducing vulnerabilities** (target group = community)
  - **developing response and recovery capacities** (target group = response agencies)





# Disasters and Development





HAZARD	x	HOSPITALS & HCFs		=	RISKS
		<u>Vulnerability</u>	<u>Readiness</u>		
Probability					Death
Magnitude					Injury
Scale					Disease
Duration					Mental trauma
Natural					Lifelines
Biological					Loss of Income
Technological					Security
Societal					Infrastructure
					Contamination
					Functional collapse

# Anatomy of Hospital Risk Management

HAZARD	x	HOSPITALS & HCFs		=	RISKS
		<u>Vulnerability</u>	<u>Readiness</u>		
Probability Magnitude Scale Duration		People Property Services Livelihoods Environment	Policy Guidelines Standards		Death Injury Disease Mental trauma
Natural Biological Technological Societal		Structural Non Structural Functional External	Response Plan Recovery Plan ICS Information System Resources Training Simulation Community participation		Lifelines Loss of Income Security Infrastructure Contamination Functional collapse
					
<b>Prevention &amp; Mitigation Program</b>		<b>Vulnerability Reduction Program</b>	<b>Emergency Preparedness Program</b>		<b>DISASTER RISK MANAGEMENT PROGRAM</b>

# Thank you

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