

University of the Philippines Manila
COLLEGE OF NURSING



DISASTER RISK REDUCTION

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LEARNING OUTCOMES

1. Familiarize with the existing institutional structures and systems in DRRM
2. Describe the integration of DRRM in the Philippine health system and nursing practice
3. Discuss the goals of nursing care across the disaster management continuum
4. Familiarize with the different frameworks and tools used for hazard, risk, vulnerability, capacity assessment/analysis
5. Analyze hazards, risks, vulnerabilities, and capacities in a given setting/situation
6. Describe mechanisms for reducing disaster risks and minimum DRR actions in the community

DISASTER RISK REDUCTION AND MANAGEMENT

DISASTER RISK REDUCTION

- “the concept and practice of **reducing disaster risks** through systematic efforts to analyze and manage the causal factors of disasters, including through **reduced exposures to hazards**, **lessened vulnerability** of people and property, **wise management** of land and the environment, and **improved preparedness** for adverse events.” (RA 10121)

DRR or DRM

- **Disaster risk reduction (DRR)**
 - focused on activities on a **strategic level of management** – primarily at policies that aim at anticipating and reducing risks (PreventionWeb, n.d.; USAID, 2011).
 - enforcement of building codes, reforestation efforts, public awareness campaigns
- **Disaster risk management (DRM)**
 - focused on actions on a **tactical and operational level of management** – which aim to achieve the goal of reducing risk, and can be considered as the implementation of DRR (PreventionWeb, n.d.; USAID, 2011) – the application of DRR policies and strategies.
 - evacuation planning, emergency response, provision of medical care, post-disaster recovery efforts

DISASTER RISK REDUCTION AND MANAGEMENT

- “the systematic process of using **administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities** in order to lessen the adverse impacts of hazards and the possibility of disaster.” (RA 10121)

OVERVIEW OF THE PHILIPPINE DISASTER CONTEXT

- The Philippines has been consistently on the list of top five countries with the highest disaster risk in the world.
- Why?
 - Geographic location and physical environment (Asian Disaster Reduction Center [ADRC], 2008)
 - Changing demographic and socioeconomic characteristics of the population (Donner & Rodriguez, 2011)



NATIONAL DRRM FRAMEWORK

- **Policy:** RA 10121 or “The Philippine DRRM Act of 2010”
- **Structure:** DRRM councils (national to local), clusters
- **Framework:** “Comprehensive, all-hazards, multi-sectoral, inter-agency and community-based approach to DRRM”
- **NDRRMF Vision:** “Safer, adaptive and disaster-resilient Filipino communities towards sustainable development”
- **National Disaster Resilience Month:** July every year

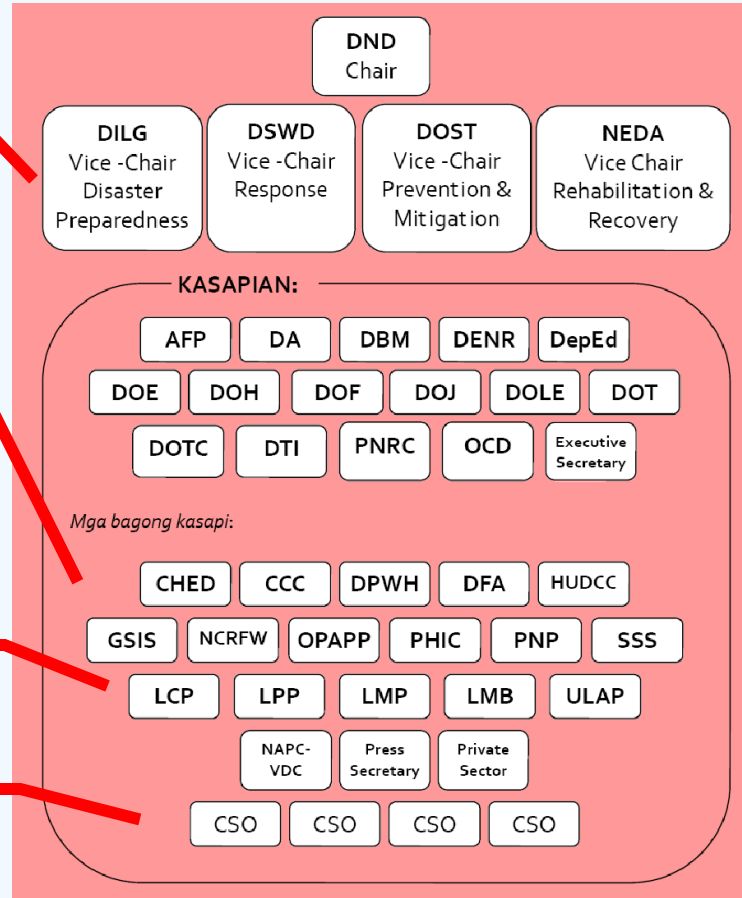
NATIONAL DRRM COUNCIL (NDRRMC): “WHOLE OF SOCIETY APPROACH”

Decentralized leadership
over key disaster risk
management functions

Addition of agencies with
DRR functions
(Climate Change Commission,
Education, Peace Process, Social
Security, Housing, etc.)

Representatives from local
government units

Four representatives from
civil society

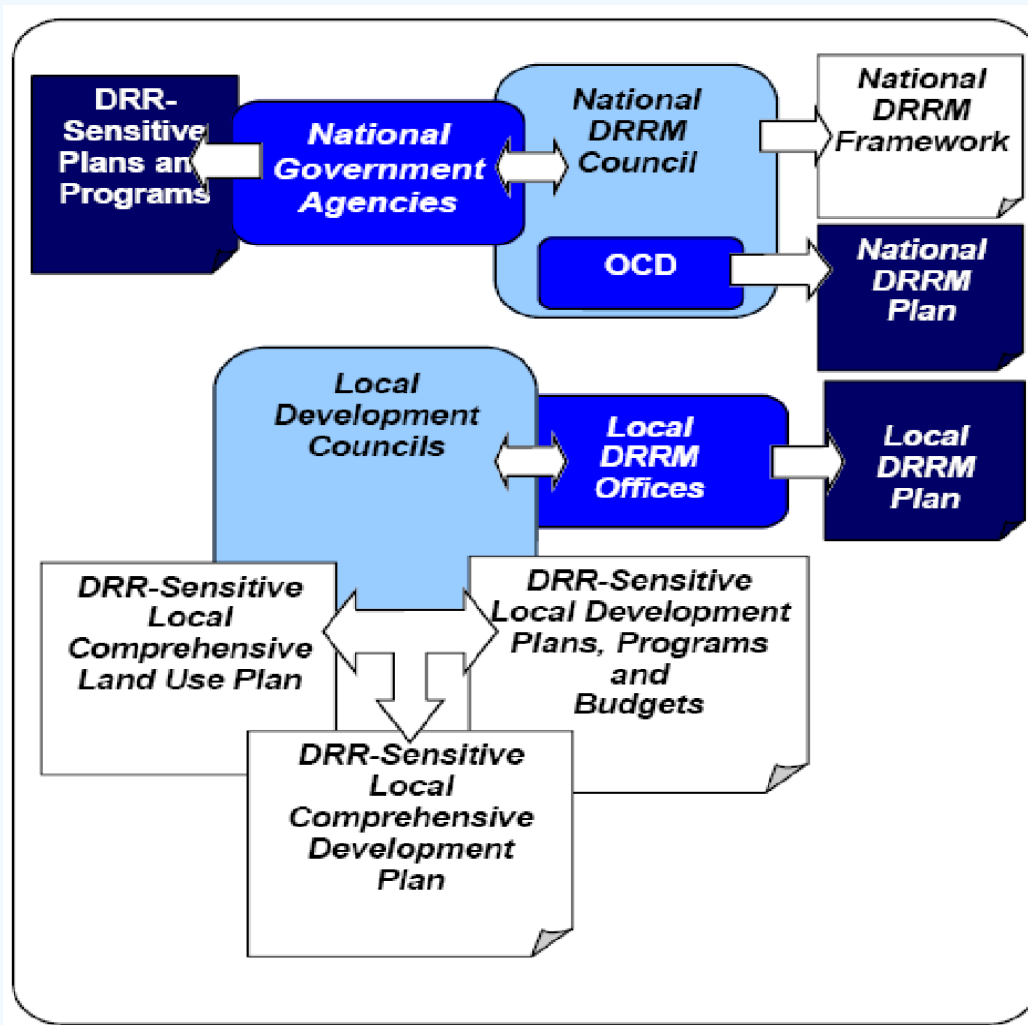


Lead agency for health sector

Government lead for
Water, sanitation & hygiene
(WASH)

Health & nutrition
Psychosocial services (PSS)

Thru the **Health Emergency
Management Bureau
(DOH-HEMB)**



BREAKING DOWN CONCEPTS

WHAT IS A DISASTER?

- **DISASTER** – “Serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impact. The disruption exceeds the ability of the affected community or society to cope using its own resources.”
(United Nations Office for Disaster Risk Reduction – UNISDR)
 - Often the result of a combination of **exposure to a hazard**; the conditions of **vulnerability** that are present; and insufficient **capacity** or measures to reduce or cope with the potential negative consequences,
 - Disaster impact may include loss of life, injury, disease and other negative effects on human, physical, mental and social well-being, together with damage to property

BASIC CONCEPTS

- **HAZARD** – “Dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impact, property damage, loss of livelihood and services, social and economic disruption, or environmental damage “ (RA 10121)

HAZARDS

Man-made Hazards

Climate Change

Radiactivity Release

Chemical Threats and Bio-Weapons

Radiological Emergencies

Hazardous Materials

Terrorist Attacks

Cyber Attacks

Power Disruption, Blackouts

Civil Unrest

Infrastructure Disutility; Dam and Levee Failures

Epidemics, Pandemics

Ignorance, Incompetence and Corruption

Agricultural Diseases and Pests

Natural Hazards

Hurricanes and Tropical Storms

Earthquakes

Major Wildfires and Forest Fires

Tsunamis

Extreme Heat

Drought and Water Shortage

Landslide and Debris Flow

Damaging Wind and Tornadoes

Winter and Ice Storms

Floods and Flash Floods

Hail and Damaging Windstorms

Thunderstorms and Lightning

Sinkholes

MULTIPLE AND COMPLEX HAZARDS

- **Exposure to different Hazards**
 - Coastal areas prone to Storm Surge, flooding, earthquake
- **Hazards leading to Secondary Hazards**
 - Earthquake
 - Tsunami
 - Flooding
 - Spread of Diseases
- **Complex Emergencies**
 - Hazard and Assistance complicated by intense political considerations
 - Declared war, civil war, genocide, ethnic cleansing/ethnic conflict, refugee crisis, internally displaced persons crisis, global catastrophes

BASIC CONCEPTS

- **VULNERABILITY** – “Characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. Vulnerability may arise from various physical, social, economic, and environmental factors such as poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for sustainable environmental management.” (RA 10121)
- **EXPOSURE** – “Degree in which the elements at risk are likely to experience hazard events of different magnitudes.” (RA 10121)

BASIC CONCEPTS

- **CAPACITY / CAPABILITY** – “Combination of the strengths and resources available within a community, society or organization that can reduce the level of risk, or effects of a disaster. Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills, and collective attributes such as social relationships, leadership and management.” (RA 10121)
- **RESILIENCE** – “Ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from their effects in a timely and efficient manner, including through the preservation and restoration of essential basic structures and functions. “ (RA 10121)

BASIC CONCEPTS

- **RISK** – “Combination of the probability of an event and its negative consequences.” (RA 10121)

The Classic Concept of Risk

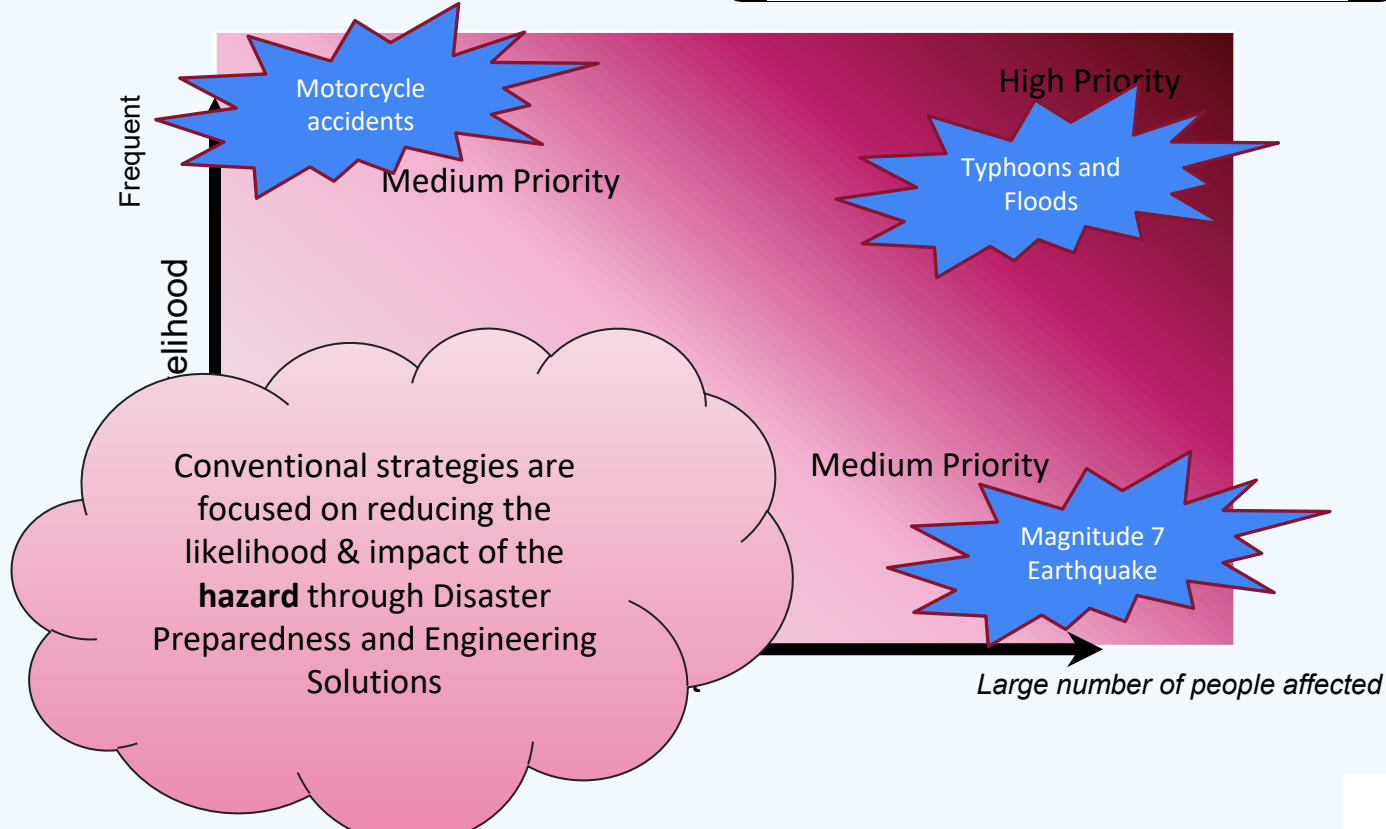
Risk = Likelihood x Impact

WHAT IS RISK?

The Classic Concept of Risk

$$\text{Risk} = \text{Likelihood} \times \text{Impact}$$

Likelihood of harm, loss, disaster



DRRM AND NURSING

GOALS OF NURSING CARE ACROSS THE DISASTER MANAGEMENT CONTINUUM

Phase	Goals of Nursing Care
Prevention and Mitigation	<ul style="list-style-type: none">• Avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and enhancing capacities of communities (WHO/ICN, 2009)• Ensure individuals and communities are with improved health and nutrition, and vulnerabilities are minimized if not completely removed (Bonito & Minami, 2017)• Know the hazards and vulnerabilities of national and local areas to help individuals and communities cope with potential emergencies and disasters (Bonito & Minami, 2017)
Preparedness	<ul style="list-style-type: none">• Establish and strengthen capacities of communities and health facilities to anticipate, cope, and recover from the negative impacts of emergency occurrences and disasters (WHO/ICN, 2009)
Response	<ul style="list-style-type: none">• Mobilize responders to the disaster area to save as many lives as possible (WHO/ICN, 2009)• Provide for meeting the immediate needs of the survivors and reduce the longer-term health impact of the disaster (WHO/ICN, 2009)
Recovery and Rehabilitation	<ul style="list-style-type: none">• Continue to provide care and support to those with physical and mental health needs (WHO/ICN, 2009)

DISASTER PREVENTION AND MITIGATION

DISASTER RISK

- **DISASTER RISK** – “the *potential* losses in lives, health status, livelihoods, assets and services, which could occur in a particular community, or a society over some specified future time period”. (UNISDR)

The Classic Concept of Risk

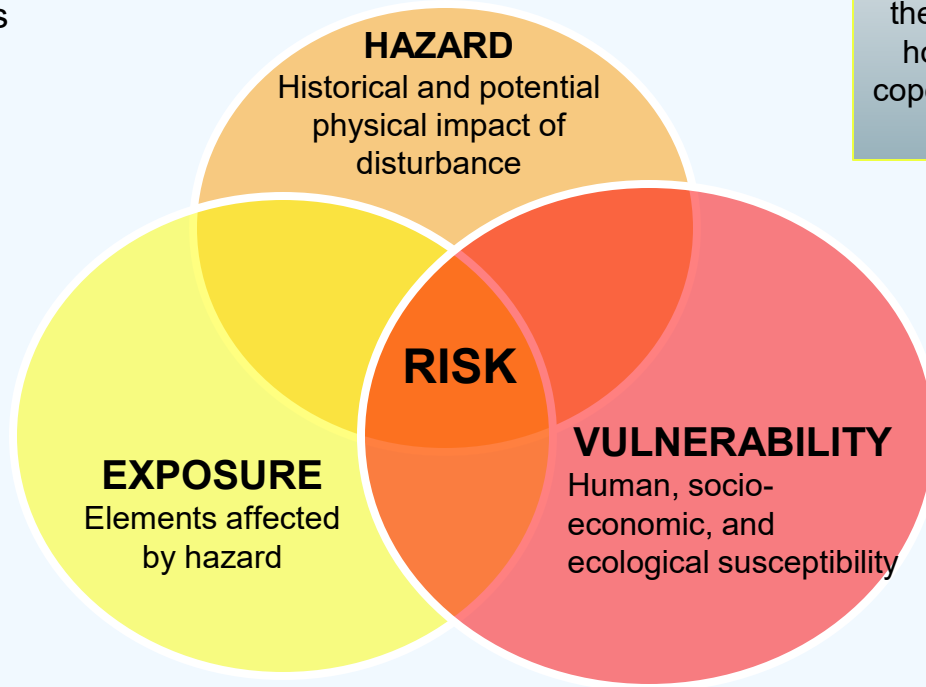
$$\text{Risk} = \text{Likelihood} \times \text{Impact}$$

$$\text{Disaster Risk} = \text{Hazard} \times \text{Exposure} \times \frac{\text{Vulnerability}}{\text{Capability}}$$

AN ALTERNATIVE DEFINITION

WHAT IS A RISK?

When the vulnerable is exposed to hazards



Developmental Concept of Risk

$$\text{Risk} = \frac{\text{Hazard} \times \text{Exposure} \times \text{Vulnerability}}{\text{Capacity}}$$

the resources of individual, household, community to cope with or resist the impact of a disaster

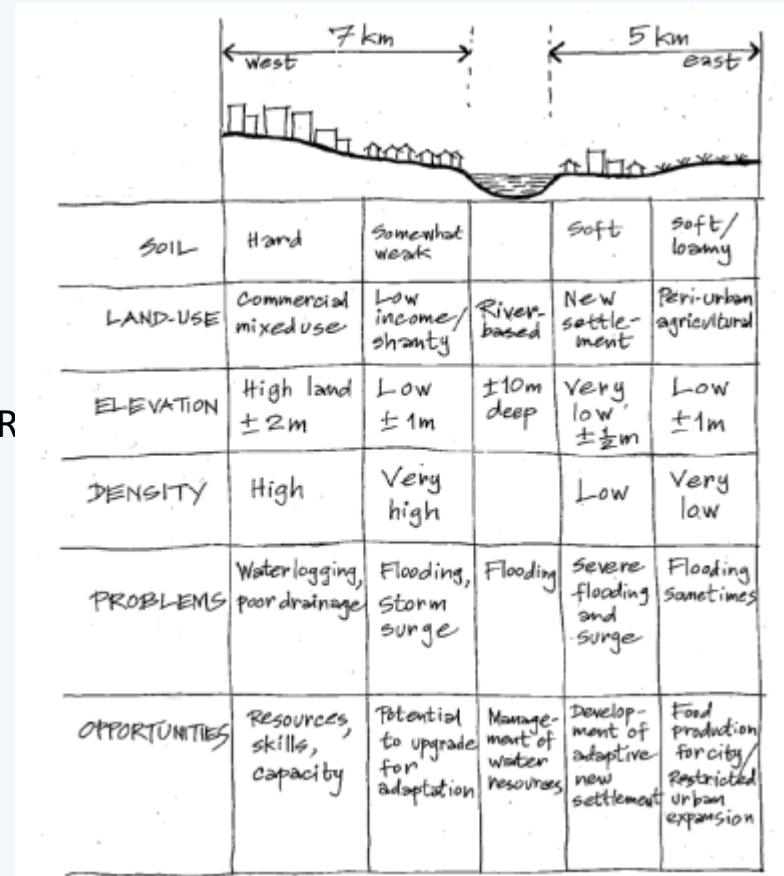
Recognizes the differential impact of disasters on the poor, the marginalized, the discriminated, and the oppressed

TOOLS FOR ASSESSING AND ANALYZING HAZARDS, RISKS, VULNERABILITIES, AND CAPACITIES

- **Transect Walk**
- **Spatial Map**
- **Risk and Hazard Map**
- **Capacity and Resource Map**
- **Livelihood Analysis**
- **Institutional and Social Network Analysis**
- **Vulnerability and Capacity Assessment (VCA)**
- **Problem Tree**

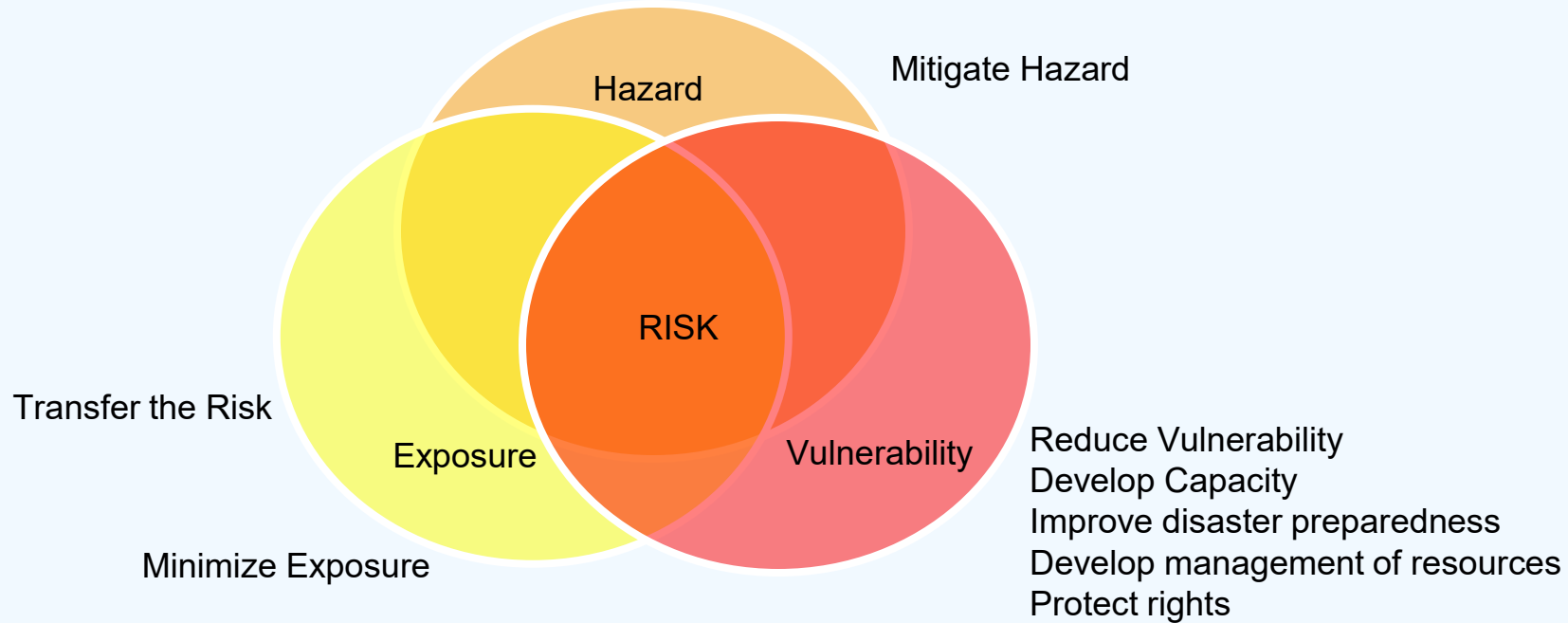
TRANSECT WALK

- **TRANSECT WALK** - involves walking through the community to observe the surroundings and its resources, and used to note the sites and topography of the area as well as understand interrelationships in their natural surroundings (PFR Philippines, 2011).



MECHANISM TO REDUCE DISASTER RISKS

MECHANISM TO REDUCE DISASTER RISKS



ANY QUESTIONS?