EMERGENCY, CRISIS, DISASTER, SAFETY, ENVIRONMENTAL & RISK MGT INSTITUTE (ECRMI)

Values & Professionalism

Building Progressive Competence:
From Foundation to Strategic Leadership.

EXECUTIVE MASTER CLASS- ONLINE CERTIFICATION SERIES

Level 1: Foundation – Basic Disaster Awareness & Response

FEATURED GUEST FACILITATOR:

DR. ABBAS G. IDRISS

- Former Pioneer Director General, FCT Emergency Management Agency (FEMA)
- CEO, Aygee & Hazards Consulting Ltd.

- Recipient: ONSA Commendation for National Crisis Doctrine
- Ph.D. in Political Economy
- M.Sc. in Disaster Risk Management & Devt Studies (ABU Zaria)
- Fellow of RIMSON, IMC, IDMSS, Public Admin & Mgt Devt Institute

7th MAY 2026

❑ COURSE OUTLINE

- 1.1 **Understanding Disasters:** Types, Causes, phases and impacts of disasters
- 1.2 **Disaster Risk Concepts**: Hazard, vulnerability, exposure, capacity, resilience
- 1.3 **Emergency Preparedness**: Early warning systems, evacuation, first aid basics
- 1.4 **Community-Based Disaster Risk Management (CBDRM)**: Role of communities, volunteers, and local actors
- 1.5 **Basic Incident Reporting**: Communication, documentation, situational awareness

1.1 Understanding Disasters

1.1.1 Definition of Disaster: Disaster is a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses, which exceed the ability of the affected community or society to cope, using its own resources.

- A disaster happens when a hazard impacts upon a vulnerable population and causes damage, casualties and disruption. An earthquake in an uninhabited desert cannot be considered a disaster, no matter how strong the intensities produced. An earthquake is only disastrous when it affects people, their property and activities. It is the same thing with flood and other adverse events. Where no lives and property are not affected, they are not counted as disasters.

1.1.2 Types and Causes of Disasters

Disasters are categorized into two types, namely- Natural and Human-induced Disasters.

i. Natural Disasters: these are disasters triggered by events such as-

- Hurricanes
- Typhoons
- Volcanic eruptions
- Earthquakes
- Land slides
- Mud slides
- Famine
- Drought
- Pests invasion
- Tsunamis,
- Tornadoes

ii. **Human-induced Disasters:** These are caused by human actions, and include-

- Floods
- Fire outbreaks
- Dam failures
- Collapsed buildings
- Disease epidemics – E.G. yellow fever, cholera
- Technologically-induced
- Terrorist Attacks
- Ethno-cultural/religious Violence
- Climate change
- Road /Air Crashes
- Attack on national power facilities

1.1.3 Phases of Disaster Management

Disasters are commonly managed through the following phases or cycles:

- Prevention and Mitigation Phase: Taking measures to avoid potential hazards and reduce their negative impacts, such as through land-use planning and building codes.
- Preparedness Phase: Planning and creating systems to respond effectively when an event occurs, including developing early warning systems, conducting drills, and building public awareness.
- Response Phase: Actions taken during and immediately after a disaster to save lives and meet basic needs, which requires command, control, and coordination.
- Recovery Phase: Efforts to restore affected areas and communities after a disaster, which should include rebuilding in a way that reduces future risk ("building back better").
-

1.1.4 Impact of Disasters

Disaster occurrence usually comes with impact, including the following:

- Damage to lives
- Damage to properties
- Disruption of social and economic development
- Disruption of ecological balance
- Huge financial investments in relief, reconstruction and recovery efforts
- Psychological/Trauma/Injuries
- Wastage of human/materials resources etc.

1.2 Disaster Risk Concepts: Hazard, Vulnerability, Exposure, Capacity and Resilience

1.2.1 Hazard :Hazard is an event or occurrence that has the potential to cause injuries to life and damage property and the environment. Examples of natural hazards are typhoons, tsunamis, earthquake and volcanic eruption exclusively. Landslides, floods, drought, fires can be described as socio-natural hazards since their causes are both natural and human-induced. The distinction between natural and human-induced hazards is becoming harder to define. For example, flooding may be increased through landfill, drainage or groundwater extraction; storm surge hazard may be worsened by the destruction of vegetation, narrowing of river channels and drainages, etc.

1.2.2 Vulnerability

- **Vulnerability** is a set of prevailing or consequential conditions, which adversely affect people's ability to prevent, mitigate, prepare for and respond to hazardous events.
- These long-term factors affect a household or community's ability to absorb losses after disaster and to recover from the damage. Vulnerabilities precede disasters; contribute to their severity, impede disaster response, and may continue to exist long after a disaster has stuck.
- For example, poor people who have few physical and material resources usually suffer more from disasters than rich people. People who are poor often live on marginal lands; they don't have any savings or insurance; they are in poor health. These factors make them more vulnerable to disasters and mean that they have harder time surviving and recovering from a calamity than people who are better off economically.

1.2.3 Exposure

- Exposure refers to the people, assets, or systems located in hazard-prone areas such as houses built on a floodplain, people living near a volcano, or infrastructure in an earthquake zone.
- Exposure is- "who or what is in harm's way," whereas vulnerability is "why they are likely to be harmed"

1.2.4 Capacity

- Capacity refers to the assets, resources and skills available within a community, society or organization that can be used to reduce the risks or effects of a disaster.
- Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management.
- Capacity enable households and communities to cope with, withstand, prepare for, prevent, mitigate, or quickly recover from a disaster. Things in a community such as Fire Stations, Hospitals, Police Stations, Skilled Volunteers and availability of various professions help increase the coping capacity of that community in the event of a disaster.

1.2.5 Resilience

- Resilience is the ability of individuals, communities, organizations, and systems to prepare for, withstand, adapt to, and recover from natural hazards or shocks.
- It focuses on minimizing damage and reducing risks, enabling a faster return to normal functioning while learning from past disasters to strengthen future security.

1.2.6 Key components of Disaster Resilience

- Absorption (Resistance): The capacity to absorb the initial impact of a disaster and maintain essential functions, such as through flood-resistant infrastructure.
- Adaptation (Flexibility): The capacity to adjust to new realities and changing conditions, such as upgrading building codes post-disaster.
- Rapid Recovery: The ability to recover quickly and efficiently to restore normal life.
- Learning: Utilizing knowledge from past experiences to minimize future vulnerability.

1.2.7 Hazard Mapping

- **Hazard mapping** is the process of identifying, analyzing, and visualizing areas vulnerable to specific dangers—such as floods, earthquakes, or wildfires—to prevent damage and fatalities. Hazard maps highlight impact areas, showing risk levels and potential hazards, from natural disasters to site-specific environmental hazards.
- **Hazard maps** are crucial for disaster prevention, providing critical data for creating robust emergency management plans and promoting safety at local, national, and global levels.

1.2.8 Key Aspects of Hazard Mapping

- **The types of Hazards**: Maps are created for natural hazards including earthquakes, volcanoes, landslides, tsunamis and flooding.
- **Methodology:** The process involves inventorying past events, assessing susceptibility, creating fragility maps, and using real-time data to create accurate risk assessments.
- **Techniques:** Specialized softwares are used to create flood maps, which involves calculating water surface elevation and velocity to determine danger levels.
- **Application:** These maps are used to develop corrective action plans for emergency management, ensuring public safety, and conducting ongoing monitoring.
- **Workplace Application**: Beyond natural disasters, mapping is used to identify workplace safety hazards, including biological, chemical and physical dangers.

1.2.9 Community Vulnerability Assessment (CVA)

- **Community Vulnerability Assessment (CVA)** is a participatory process that identifies and prioritizes the people, infrastructure, and resources most at risk from hazards. While hazard mapping identifies where dangers are located, a CVA explains who is likely to be harmed and why.
- **The Three Determinants of Vulnerability**

• Vulnerability is typically measured by analyzing three core factors:

- **Exposure**: The physical presence of people or assets in a hazard zone (e.g., houses built on a floodplain).

- **Sensitivity:** The degree to which a system is affected by a hazard (e.g., an elderly population being more sensitive to extreme heat).
- **Adaptive Capacity:** The ability of a community to adjust, take advantage of opportunities, or respond to consequences (e.g., access to financial resources or early warning systems).

1.2.10 Key Components of an Assessment

A comprehensive CVA looks beyond just physical buildings to include social and economic layers:

- **Physical Infrastructure**: Evaluating the resilience of roads, power grids, and hospitals.
- **Social Vulnerability**: Identifying groups at higher risk due to age, income, disability, or language barriers.
- **Economic Impact**: Mapping how hazards might disrupt local businesses or employment centers.
- **Environmental Factors**: Assessing how natural resources like clean water or coastal buffers might be degraded.
-

1.2.11 Tools and Methods : Assessments often use a mix of "top-down" scientific data and "bottom-up" local knowledge:

- **Participatory Mapping:** Community members use their lived experience to mark problem areas that official maps might miss.
- **Community Vulnerability Assessment Tool (CVAT):** A structured seven-step framework to guide local planners through hazard identification and social analysis.
- **Geographic Information Systems (GIS):** Used to overlay hazard data with demographic and infrastructure data to visualize risk "hotspots".
- **Surveys and Focus Groups**: Essential for gathering data on local coping strategies and intangible community values.
- By combining these insights, communities can move from simply knowing where a flood might happen to creating targeted mitigation strategies—like building specialized shelters for the elderly or reinforcing specific bridges.

1.3 Emergency Preparedness

Emergency preparedness involves taking proactive steps—planning, assembling supplies, and staying informed—to ensure safety before, during, and after natural or human-induced disasters.

1.3.1 Essential Emergency Preparation Steps

- Prepare a relief package: Prepare a relief package with water (1 gallon/person/day), food and non-food items, a battery-powered radio, flashlight, extra batteries, first aid kit and other essential items for survival.

- **Make a Plan**: Create a household plan that includes emergency contacts, designated meeting spots, and evacuation routes.
- **Stay Informed**: Identify how local authorities will alert you (e.g., weather radio, cell phone alerts).
- **Special Needs**: Consider specific needs for pets, the aged, pregnant women, children or individuals with disabilities, including medication and mobility devices.

1.3.2 Early warning and Alert systems

- Early Warning Systems (EWS) are integrated, people-centered tools designed to detect, analyze, and communicate information about impending hazards to allow individuals and communities to act ahead of time.
- These systems are essential for reducing fatalities and economic damage from natural disasters—such as floods, droughts, heatwaves, and storms—as well as human-induce crises like industrial accidents, terrorist attacks.

1.3.3 Four Key Pillars of Effective Early Warning Systems

An effective Early Warning System rests on four interconnected pillars:

- Risk Knowledge: Systematic collection of data and assessment of hazards, vulnerabilities, and risks.
- Monitoring and Warning: Real-time data collection, analysis, and forecasting of hazards (e.g., satellite monitoring, AI-based flood tracking).
- Dissemination and Communication: Delivering clear, actionable, and timely alerts to those at risk via, for example, SMS, sirens, and radio.
- Response Capability: Building community preparedness to ensure alerts are understood and acted upon (e.g., evacuations, reinforcing structures.

1.3.4 Evacuation

- **Evacuation** in disaster management is the urgent, organized movement of people from dangerous or threatened areas to safety, to reduce loss of life. It involves five key stages: **decision-making, warning, withdrawal, shelter, and safe return**.
- Effective evacuation requires advance planning, clear, accessible, and inclusive routes, and public preparedness.

1.3.5 Types of Evacuation

- **Pre-warned/Phased**: Often used for floods or cyclones, allowing, orderly movement to prevent traffic congestion.
- **Immediate/Urgent**: Rapid response to sudden hazards like fires or chemical spills.
- **Partial**: Evacuating only specific, high-risk areas.

1.3.6 The 5-Stage Process of Evacuation

- **Decision:** Authorities determine the need for evacuation.
- **Warning**: Clear instructions are delivered to the public.
- **Withdrawal**: People move to safe areas.
- **Shelter**: Safe, designated areas are provided.
- **Return**: Ensuring the area is safe before returning.

1.3.7 First Aid Basics

- First Aid in disaster management involves immediate, life-saving actions to stabilize victims when professional medical help is unavailable.
- Key basics include ensuring scene safety, checking for breathing and consciousness, managing severe bleeding, treating for shock, and prioritizing injuries using triage. The primary goal is to preserve life and prevent further injury.

1.3.8 Core First Aid Principles (DRABC & Triage)

Danger: Assess the scene for dangers (fire, wire, structural collapse) to protect yourself first.

- **Response:** Check if the victim is conscious by gently tapping them.
- **Airway:** Open the airway by tilting the head back and lifting the chin.
- **Breathing**: Check for normal breathing (look, listen, feel for max 10 seconds).
- **Circulation:** Check for severe bleeding and manage it immediately.
- **Triage (Prioritize):** In disasters, treat those with life-threatening injuries first (e.g., severe bleeding, airway blockage) over those with minor injuries.

1.3.9 Disaster-Specific Safety

- **Do Not Move Victims**: Unless they are in immediate danger (e.g., from fire or collapse) to avoid worsening spinal injuries.
- **Comfort/Reassure**: Calm victims to reduce psychological shock.
- **Call for Help**: Use the "phone first/fast" method (immediately for adults, fast for children) if communications are functional.

1.3.10 Essential First Aid Kit Items for Disasters

- Bandages, gauze, and adhesive tape, Antiseptic wipes, scissors, gloves and masks, Emergency blanket, Flashlight and batteries.

1.4 Community-Based DRM: Role of Communities, Volunteers, and Local actors

- Community-based Disaster Risk Management (CBDRM) is a process in which at-risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capacities (ADPC 2003).
- This means that people are at the heart of decision-making and implementation of disaster risk management activities. The involvement of most vulnerable social groups is considered as paramount in this process, while the support of the least vulnerable groups is necessary for successful implementation.

1.4.1 Principles and Importance of Community Based Disaster Risk Management

- Community-Based Disaster Risk Management (CBDRM) is a participatory, bottom-up approach that empowers local communities to identify, assess, and manage their own disaster risks, shifting focus from reactive response to proactive prevention.
- By leveraging local knowledge, resources, and institutions, CBDRM builds lasting resilience, ensuring marginalized groups are involved and fostering sustainable, tailored strategies. It also Promotes locally understood, timely, and actionable warning systems that directly reach the community.

1.4.2 Role of communities, Volunteers and Local Actors in Community Based Disaster Risk Management

- In Community-Based Disaster Risk Management (CBDRM), communities, volunteers, and local actors are not just beneficiaries but active partners who constitute the first line of defense against disasters.
- By leveraging localized knowledge, trust networks, and immediate proximity, these actors, including local NGOs, Community-Based Organizations (CBOs), and community leaders, facilitate rapid, culturally relevant, and sustainable disaster preparedness and response.

1.4.3 Core Roles in CBDRM

- First Responders: Communities are usually the first to arrive at a disaster scene, and evidence shows that up to 90% of survivors are rescued by their own neighbors.
- Risk Identification and Mapping: Local actors lead hazard, vulnerability, and capacity assessments, identifying critical risks and creating community maps for evacuation and mitigation.
- Disaster Preparedness Planning: They establish and maintain community-based early warning systems (EWS) and develop local disaster management plans, such as establishing community emergency hubs.

- **Mobilizing Local Resources**: Volunteers and local institutions mobilize internal resources for relief efforts and provide logistics support when external aid is delayed.
- **Long-Term Mitigation**: They engage in structural and non-structural mitigation measures, such as community-level infrastructural improvements or reforestation, based on indigenous knowledge.

1.4.4 Specific Contributions of Key Actors

- **Volunteers:** They provide essential services, including immediate Search & Rescue (SAR), first aid, and aid distribution
- **Local Authorities/Leaders:** They are crucial for connecting grassroots efforts to institutional structures, implementing building codes, and organizing community surveillance systems.
- **CBOs and Grassroots Groups**: They act as intermediaries between community members and larger humanitarian agencies, facilitating localized, sustainable, and inclusive action, particularly through women-led organizations.

1.4.5 Key Success Factors and Challenges

- **Need for Coordination:** While voluntary efforts are crucial, they are often uncoordinated or improperly funded, making it vital to connect them with formal disaster management systems to improve efficiency and avoid creating further risks.
- **Building Capacity:** Targeted educational programs and training, such as the Red Cross Volunteer Programmes, are necessary to ensure that local responders can effectively use modern tools alongside traditional methods.
- **Inclusivity:** Successful CBDRM involves women, children, the elderly, and people with disabilities in decision-making to address specific vulnerabilities.

1.5 Basic Incident Reporting: Communication, Documentation, Situational Analysis

- Incident reporting is a structured process designed to document unexpected events, analyze causes, and prevent recurrence.
- It relies on immediate communication, thorough documentation, and objective analysis to maintain safety and operational efficiency.

1.5.1 Basic Incident Reporting Communication Steps

- Immediate Action: Secure the scene, ensure the safety of personnel, and provide medical aid.
- **Initial Notification**: Report the incident quickly to supervisors or designated safety personnel, even for "near misses".
- **Consistent Reporting Line:** Define clear roles (e.g., incident commander) to prevent conflicting information.
- Communication Content: Provide a concise summary: type of incident, location, time, and involved parties.

1.5.2 Incident Documentation Procedure

- Fact-Based Recording: Document facts only, avoiding speculation or assigning blame.
- Key Information Needed: Date, time, location, names of involved persons, witness names, and a description of injuries or damage.
- Evidence Collection: Take photographs, videos, or create sketches of the scene.
- Witness Statements: Collect statements as soon as possible while memories are fresh.
- Timely Submission: Complete reports promptly to ensure accuracy and compliance.

1.5.3 Situational Analysis

- Root Cause Analysis (RCA): Use techniques like the "5 Whys" (asking why 5 times) to uncover the underlying systemic issues rather than just immediate causes.
- Analyze Contributing Factors: Examine equipment, procedures, and training that may have led to the event.
- Corrective Actions: Develop actionable recommendations to address the root causes, including responsible parties and timelines.
- Trend Identification: Review past incident reports to identify recurring issues or potential risks.

1.5.4 Key Components of a Good Incident Report

- Clear Description: Detailed, chronological account of the incident.
- Objective Tone: Focus on what was seen/heard rather than opinions.
- Actionable Suggestions: Specific, tailored recommendations to prevent future incidents.
- Accessibility: A standardized template that is easy for employees to use.

  Note: For serious incidents, involve legal counsel and follow strict confidentiality protocols.

THANK YOU FOR LISTENING

Q & A