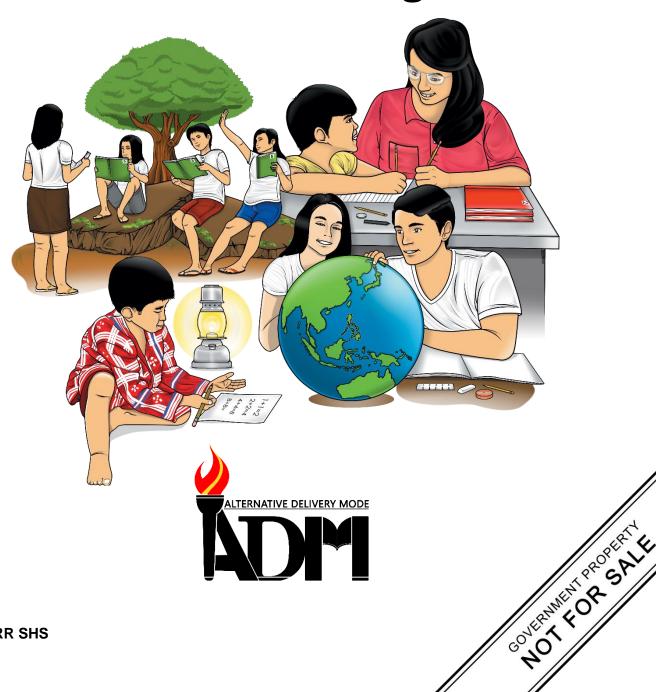


Disaster Readiness and Risk Reduction

Quarter 2 – Module 16: Community-Based Disaster Risk Reduction and Management



Disaster Readiness and Risk Reduction
Alternative Delivery Mode
Quarter 2 – Module 16: Community-based Disaster Risk Reduction and Management
First Edition, 2021

Republic Act 8293, section 176 states that: No copyright shall subsist in any work of the Government of the Philippines. However, prior approval of the government agency or office wherein the work is created shall be necessary for exploitation of such work for profit. Such agency or office may, among other things, impose as a condition the payment of royalties.

Borrowed materials (i.e., songs, stories, poems, pictures, photos, brand names, trademarks, etc.) included in this module are owned by their respective copyright holders. Every effort has been exerted to locate and seek permission to use these materials from their respective copyright owners. The publisher and authors do not represent nor claim ownership over them.

Published by the Department of Education Secretary: Leonor Magtolis Briones

Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Writers: Armando R. Tolentino, Joseph L. Guerrero Editors: Aries B. Manalo, Riza Mae S. Sanchez

Reviewers: Desiree D. Vista, Doris D. Abogado, Ana Rose I. Colarina,

Jo Anne Maurice A. Gerance

Illustrator: Leumel M. Cadapan

Layout Artist: Dyessa Jane P. Calderon

Management Team: Francis Cesar B. Bringas

Job S. Zape, Jr.
Ramonito Elumbaring
Reicon C. Condes
Elaine T. Balaogan
Fe M. Ong-ongowan
Hereberto Jose D. Miranda

Neil G. Angeles Edna F. Hemedez Jackie Lou A. Almira Maribeth G. Herrero

Printed in the Philippines by	

Department of Education – Region 4A CALABARZON

Office Address: Gate 2 Karangalan Village, Brgy. San Isidro, Cainta, Rizal

Telefax: 02-8682-5773/8684-4914/8647-7487 E-mail Address: lrmd.calabarzon@deped.gov.ph

Disaster Readiness and Risk Reduction

Quarter 2 – Module 16: Community-based Disaster Risk Reduction and Management



Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-bystep as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

In this module, the learner will be able to know what is a community-based disaster risk reduction and management. This will further teach the learner how to develop community emergency preparedness plan and community disaster preparedness plan to minimize vulnerability and disaster risk in the community and avoid or limit the adverse impact of hazards.

This module is consisted of one lesson:

 Lesson 1 - Community-Based Disaster Risk Reduction and Management Competency: Discuss different community-based practices for managing disaster risk to specific hazards (DRR11/12-IIg-h-44)

After going through this module, you are expected to:

- 1. Discuss community-based disaster risk management and its importance;
- 2. Identify the best practices for disaster management in the school or in the community;
- 3. Be familiar with the importance of having an early warning system in school and community; and
- 4. Create a poster and action plan for disaster risk reduction and management in your community.



What I Know

Instructions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

- 1. Here, the presence of the people and most vulnerable social groups are considered at the utmost decision-making process, as well as the primal support of the least vulnerable social groups plays a crucial role in the success of implementation of disaster risk management activities.
 - a. Community-based Disaster Risk Manager
 - b. Community-basis Disaster Risk Management
 - c. Community-based Disaster Risk Management
 - d. Community-based Disastrous Risk Management
- 2. It refers to the proximity or closeness of the people, property, systems, or other elements to the hazard zones that are thereby subject to potential losses in case of any disasters. What is this?
 - a. Closure

c. Pleasure

b. Exposure

d. Pressure

	identi	fy after asse	essing a	nd ar	nalyzing tl	he ris	ks that they f	face.	nmunities may
		Risk Redu					sk Production		
		Risk Redu					sk Production		
4.							primary ben		ry of the
			_	-			ns	_ ·	
		Communit							
							aster risk ma		
							aster risk arr		
_			•				management	-	
Э.									for, preparing ement of the
									post disaster
		entions.	uisasii	cis a	ana mera	iucs	an the pre	anu	post disaster
		Risk Mana	gement			c Di	saster Manaş	remei	nt
		Risk Procu	_				saster Procu		
6		llowing are 1		งาปก	erability F			CITIC	iii
٥.							ychosocial V	_· ulner	ahility
		Physical V					cial Vulnera		asinty
7.		•		-					ty or condition
									perty damage,
									disruption, or
		onmental da			,				• ,
		Biohazard				c. Ha	azard		
	b.	Disaster				d. Ri	sk		
8.	Which	of the follow	ving is (CORF	RECT?				
	a.	Disaster	Risk	=	Hazard		Exposure	X	Vulnerability
	h	Disaster	Risk	=	Capa		Errocalino		Valoonobilita
	υ.	Disastei	KISK	_	<u>Hazard</u> Capa		Exposure	+	Vulnerability
					Capa	icity			
	C	Disaster	Rielz	=	-	+	Evnosure	+	Viilnerahility
	c.	Disaster	Risk	=	Hazard	+	Exposure	+	Vulnerability
			-	=	<u>Hazard</u> Capa	city	-		
		Disaster Disaster	-		Hazard Capa Hazard	city -	-		Vulnerability Vulnerability
9.	d.	Disaster	Risk	=	Hazard Capa Hazard Capa	city - city	Exposure	-	Vulnerability
9.	d. It invo	Disaster	Risk ng and i	= mple	Hazard Capa Hazard Capa Capa menting o	city - acity one or	Exposure more treatm	- ent o	Vulnerability ptions. Once a
9.	d. It invo	Disaster olves selectionent has be	Risk ng and i	= mple	Hazard Capa Hazard Capa Capa menting o	city - acity one or	Exposure more treatm	- ent o	Vulnerability
9.	d. It invo	Disaster olves selectionent has be	Risk ng and i en impl	= mple emen	Hazard Capa Hazard Capa Capa menting o	city - city one or	Exposure more treatm	ent o	Vulnerability ptions. Once a
9.	d. It invo	Disaster blves selectionent has be	Risk ng and i en impl	= mple emen	Hazard Capa Hazard Capa Capa menting o	city city one or comes c. Ri	Exposure more treatm a control or	ent o	Vulnerability ptions. Once a
	d. It invotes treatments control a. b.	Disaster blves selectionent has be bls. Disaster To Hazard Tre	Risk ng and i en imple reatment	= mple emen t	Hazard Capa Hazard Capa Capa menting outed, it bed	city - city one or comes c. Ri d. Tr	Exposure more treatm a control or sk Treatment icks Treatme	ent o it mo	Vulnerability ptions. Once a
	d. It invotes treatments to a. b. What	Disaster olves selection nent has be ols. Disaster Tre Hazard Tre is the key t	Risk ng and i en imple reatment eatment o reduci	= mple emen t	Hazard Capa Hazard Capa menting cated, it because	city city one or comes c. Ri d. Tr	Exposure more treatments a control or sk Treatment icks Treatment d constructi	ent o it mo nt ng di	Vulnerability ptions. Once a odifies existing
	d. It invo	Disaster plyes selection nent has be pls. Disaster To Hazard Tre is the key to ies because	Risk ng and i en imple reatment eatment o reduci	= mple emen t ing vi	Hazard Capa Hazard Capa menting cated, it becaused	city one or comes c. Ri d. Tr ties ar e abi	Exposure more treatments a control or sk Treatment icks Treatment id constructi lity of people	ent o it mo int int ing di ing, orga	Vulnerability ptions. Once a odifies existing
	d. It invo	Disaster plyes selection nent has be pls. Disaster To Hazard Tre is the key to ies because	Risk ng and i en imple reatment eatment o reduct c coping	mple emen t ing vi capa skill	Hazard Capa Hazard Capa menting of the distribution of the distrib	city one or comes c. Ri d. Tr ties ar e abi	Exposure more treatments a control or sk Treatment icks Treatment id constructi lity of people	ent o it mo int int ing di ing, orga	Vulnerability ptions. Once a odifies existing saster resilient anizations and
	d. It invotes treatment on treatment on treatment on treatment on the control of the condition of the condi	Disaster blves selectionent has be bls. Disaster Transfer is the key to ies because ms, using a	Risk ng and i en imple reatment eatment o reduci e coping vailable gencies o	mple emen t ing vi capa skill	Hazard Capa Hazard Capa menting of the distribution of the distrib	city one or comes c. Ri d. Tr ties an	Exposure more treatments a control or sk Treatment icks Treatment id constructi lity of people	ent o it mo int int ing di ing, orga	Vulnerability ptions. Once a odifies existing saster resilient anizations and
10	d. It invotes treatment on treatment on treatment on treatment on the control of the condition of the condition on the condition on the condition on the condition on the condition of the condi	Disaster plyes selection ment has be pls. Disaster To Hazard Tre is the key to ies because ms, using a tions, emerg Authentici Capacity	Risk ng and i en imple reatment o reduci e coping vailable gencies o	= mple emen t ing vi capa skill or dis	Hazard Capa Hazard Capa menting cated, it becaused it the cate of	city one or comes c. Ri d. Tr cies ar e abis source c. Re d. Vt	Exposure more treatments a control or sk Treatment icks Treatment construction of people ics, to face an exponsibility alnerability	ent o it mo nt ng di , orga	Vulnerability ptions. Once a odifies existing saster resilient anizations and anage adverse
10	d. It invo	Disaster plyes selectionent has be pls. Disaster Trais the key to ies because ms, using a tions, emergations, emergation	Risk ng and i en imple reatment o reduci e coping available gencies of ty nowledg	= mple emen it ing vi capa skill or dis	Hazard Capa Hazard Capa menting of the distribution of the distrib	c. Ricity comes c. Ricites are abilissource c. Red. Vities a	Exposure more treatments a control or sk Treatment construction of people es, to face an exponsibility alnerability are developed	ent o it mo	Vulnerability ptions. Once a odifies existing saster resilient anizations and anage adverse governments,
10	d. It invotes treatment on treatment on treatment on treatment on the societ system conditions a. b. This profess	Disaster plyes selectionent has be pls. Disaster Trais the key to ies because ms, using a tions, emergations, emergation	Risk ng and i en imple reatment o reduci e coping vailable gencies o ty nowledg	mple emen it ing vi capa skill or dis	Hazard Capa Hazard Capa menting conted, it becomes the content of	city comes c. Ri d. Tr cies ar e abii source c. Re d. Vu ties a	Exposure more treatments a control or sk Treatment icks Treatment construction in the construction of people ics, to face an exponsibility alnerability are developed ganizations,	ent o it mo	Vulnerability ptions. Once a odifies existing saster resilient anizations and anage adverse governments, munities and
10	d. It invotes treatment on treatment on treatment on treatment on the system of the s	Disaster plyes selectionent has becols. Disaster Trais the key trais because ms, using a tions, emergations, emergations	Risk ng and i en imple reatment o reduci e coping vailable gencies o ty nowledg ponse ectively a	mple emen it ing vi capa skill or dis e an and	Hazard Capa Hazard Capa Menting of the distribution of the distrib	c. Red. Vities are organized to the control of the	Exposure more treatments a control or sk Treatment icks Treatment construction of people ics, to face an exponsibility alnerability are developed ganizations, to, and recovered.	ent o it mo	Vulnerability ptions. Once a odifies existing saster resilient anizations and anage adverse governments,
10	d. It invotes treatment on treatment on treatment on the second of the	Disaster plyes selectionent has becols. Disaster Traisthe key to is the key to is because ms, using a tions, emergations, emergations	Risk ng and i en imple reatment o reduci e coping vailable gencies o ty nowledg ponse ectively a	mple emen it ing vi capa skill or dis e an and	Hazard Capa Hazard Capa Menting of the distribution of the distrib	city one or comes c. Ri d. Tr cies ar e abis source c. Re d. Vu ties ar org	Exposure more treatments a control or sk Treatment icks Treatment construction from the construction of people es, to face an exponsibility alnerability are developed ganizations, to, and recover conditions	ent o it mo	Vulnerability ptions. Once a odifies existing saster resilient anizations and anage adverse governments, munities and m, the impacts
10	d. It invote treatment on treatment on treatment on the second of the system of like a.	Disaster plyes selectionent has becols. Disaster Trais the key trais because ms, using a tions, emergations, emergations	Risk ng and i en imple reatment o reduct e coping vailable gencies o ty nowledg ponse ectively a nt or cur	mple emen it ing vi capa skill or dis e an and	Hazard Capa Hazard Capa Menting of the distribution of the distrib	c. Red. Vities are organized to c. Di	Exposure more treatments a control or sk Treatment icks Treatment construction of people ics, to face an exponsibility alnerability are developed ganizations, to, and recovered.	ent o it mo	Vulnerability ptions. Once a odifies existing saster resilient anizations and anage adverse governments, munities and m, the impacts

- 12. The probability that negative consequences may arise when hazards interact with vulnerable areas, people, property and environment is called ______.
 - a. Anticipation
 - b. Capacity
 - c. Risk
 - d. Vulnerability
- 13. This is the restoration of an entity to its normal or near-normal functional conditions after the occurrence of a disaster. It includes Re-establishing essential services and Reviving key economic and social activities?
 - a. Reconstruction
 - b. Relief
 - c. Rescue
 - d. Risk Treatment
- 14. The main strategy is to enhance the capacities and resources of most vulnerable groups and to reduce their vulnerability in the future to avoid the occurrence of disasters in future. This statement pertains to the aim of
 - a. Disaster Risk Reduction
 - b. Disaster Management
 - c. Hazard Prevention
 - d. Disaster Prevention
- 15. Which of the statement pertains is **NOT** considered as role and function of Community-based Disaster Risk Management?
 - a. minimize human suffering
 - b. broaden the idea of the community to disater
 - c. minimize loss and damage to life, property, and the environment
 - d. reduce vulnerabilities and increase capacities of vulnerable groups and communities to cope with

Lesson 1

Community-based Disaster Risk Reduction and Management

Community Based Disaster Risk Management (CBDRM) is a procedure, which directs to a locally appropriate and locally "owned" strategy for disaster preparedness and risk reduction. It also covers a **community-based** approach projects, activities and program planning for relief, recovery and resettlement.

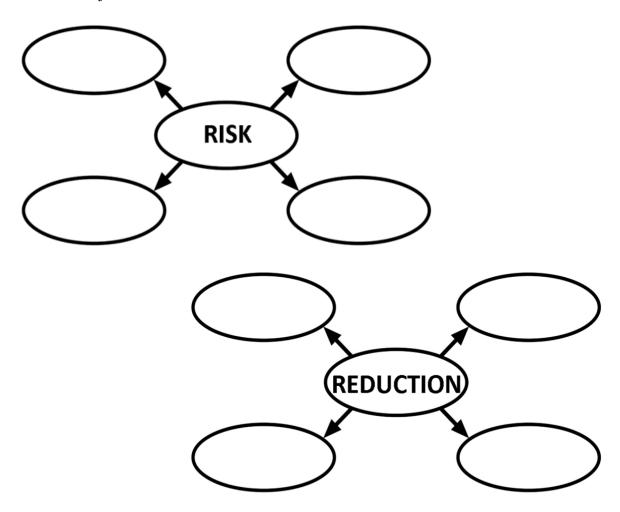
(Prevention Web, 2014. Retrieved from https://www.preventionweb.net/events/view/40211?id=40211)

Welcome to our module which is about Community-based Disaster Risk Reduction and Management. Take a look at some important points that you encountered in the previous module.



What's In

Complete the graphic organizer below by filling up the words that comes into your mind when you read and hear the words RISK and REDUCTION.



By combining those words you have listed and given above, construct a simple meaning of "Risk Reduction".

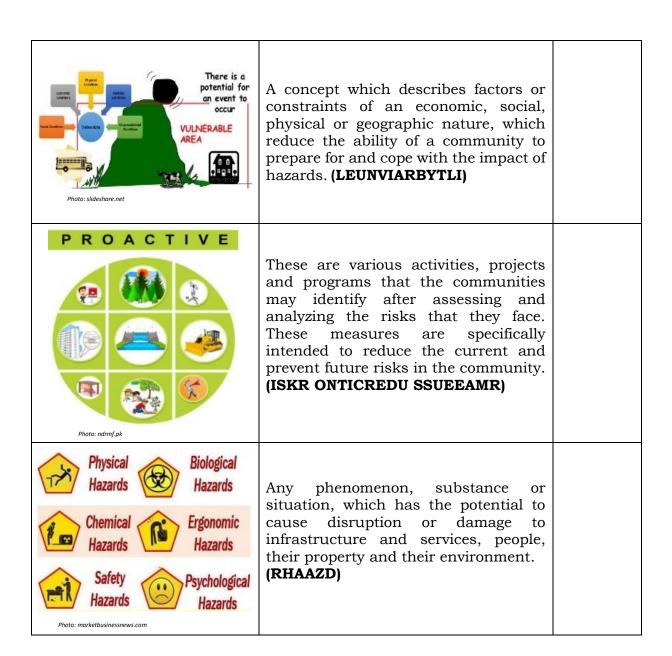
1.		 	 	



Activity 1: Unlock Me!

Instructions: Analyze each picture given below together with its corresponding descriptions/statements/definitions given in the second column. Then, unscramble each word given after each statement in the second column and write your answer on the third column.

Pictures	STATEMENTS/ DEFINITIONS	Scramble Words
Photo: zhl.org.in	The serious disruption of the functioning of society, causing widespread human, material or environmental losses, which exceed the ability of the affected communities to cope using their own resources. It occurs when the negative effects of the hazards are not well managed. (RSSADTIE)	
TRAINING LEARN KNOWLEDGE SKILLS COACHING SUPPORT DEVELOPMENT Photo: shutterstock.com	The resources and skills people possess, can develop, mobilize and access, which allow them to have more control over shaping their own future and coping with disaster risks. (YITAACCP)	
Photo: osce.org	The probability that negative consequences may arise when hazards interact with vulnerable areas, people, property and environment. (SKRI)	





What is It

In REGION IV-A, a well-established Provincial Disaster Risk Reduction Management Office (PDRRMO), Municipal and City Disaster Risk Reduction Management Office are well established and organized to promote disaster awareness among its constituents. Officers and members of the said offices were very active in responding to any kind of disaster because their personnel are well-trained and equipped with complete rescue equipment.

In many barangays, if not all, they also have a well-organized Barangay Quick Response Team (BQRT). They also responded in any type of calamities and disasters with the tie-up of the municipal/city DRRM. They promote disaster in barangay levels.

Just like in other regions, Region IV-A whether it is a school or barangay also practiced and joined the nationwide quarterly earthquake drill in preparation for the "Big One".

School DRRM was also established and activated. Advocacy campaign on disaster awareness in different schools was intensified. Learners were issued with portable flashlights and whistle that could be used in times of emergency. These are just some of the best practices in CALABARZON.

What is Community-based Disaster Risk Management (CBDRM)?

It pertains to the idea of processing the active engagement in identifying, analyzing, treating, monitoring and evaluating disaster risk to ease vulnerabilities and enhancing the capacities of at-risk communities. Here, the presence of the people and most vulnerable social groups considered at the utmost decision making process, as well as the primal support of the least vulnerable social groups play a crucial role for the success of implementation of disaster risk management activities.

Source: Kafle, S.K and Zubair, M. Community-Based Disaster Risk Management for Local Authorities. Bangkok, Thailand: Asian Disaster Preparedness Center.2006.

CBDRM can be defined as inclusive, active and owned community driven processes aimed at addressing the drivers of disaster risk creation; disaster risk reduction; and societal resilience building, within the context of local and indigenous knowledge and wisdom. CBDRM thus implies the direct and continued involvement of at-risk communities in the decision-making process of disaster risk reduction. It assumes that local and indigenous knowledge are akin to scientific knowledge and should be respected. The community becomes the drivers and custodians of knowledge creation, and work in unison with "outsiders" (i.e., International Non-governmental Organizations (INGOs), Non-governmental Organizations (NGOs), governments, and the private sector). Central to CBDRM is the notion that locally relevant solutions must be found and that these solutions are part of the sustainable community development process, implemented through a grassroots approach (Ekanayake, 1990)

Source: Niekerk, Dewald Van, Leandri Kruger, Livhuwani David Nemakonde, and Kylah Genade. "Community-Based Disaster Risk Management." ResearchGate, January 1, 2017. Retrieved from https://www.researchgate.net/publication/317411922_Community-based_Disaster_Risk_Management.

Importance

Including both planning and implementation, understanding the Term "Community" Community is a term that has a wide range of usage, which includes the following:

- > Community can be defined geographically: such as a cluster of households, a small village, or a neighborhood in a town.
- ➤ Community can be defined by shared experience, such as particular interest groups, ethnic groups, professional groups, language groups, particular hazard-exposed groups, etc.
- Community can be defined by sector, such as the farmers, fisherfolk, business sector, etc.
- Community can be used to refer to groupings that are both affected by and can assist in the mitigation of hazards and reduction of vulnerabilities.

Recognition of the Need for Community Involvement Community involvement is essential in the development process because of the following practical considerations:

- ➤ Nobody can understand local opportunities and constraints better than the local communities themselves who therefore need to be involved in the identification and resolution of disaster vulnerability issues.
- Nobody is more interested in understanding local affairs than the community whose survival and well-being is at stake. Therefore the information should be generated in a manner and language that is understood by the community.

Key Points on the CBDRM Approach The aim of CBDRM is to reduce vulnerabilities and to strengthen peoples' capacity to cope with the disaster risks they face. The direct involvement of the community in undertaking local level risk reduction measures is a must.

> Some authors differentiate between community participation and community involvement. For our purposes in CBDRM, community involvement and community participation are used interchangeably.

Best Practices and Experiences in the Implementation of CBDRM and Its Essential Features

Centrality of the Role of Community in Disaster Risk Management The center of consideration in disaster risk management is the local community. The CBDRM approach recognizes that the local individuals/people are equipped and competent of initiating and sustaining their own development. Change for the better is a kind of responsibility that can be integrated with those living in the local community in their day-to-day life.

Aim of Disaster Risk Reduction

The main purpose of disaster risk reduction is to enhance and enrich the capacities and resources of most vulnerable groups and to lessen their vulnerability to avoid the occurrence of disasters in the future.

Recognition of the Link between Disaster Risk Management and the Development Process

CBDRM should lead to general improvement in people's quality of life and the natural environment. The approach assumes that addressing the root causes of disasters, e.g. poverty, discrimination and marginalization, poor governance and bad political and economic management would contribute towards the overall improvement in the quality of life and environment.

Community is the Key Resource in Disaster Risk Management The community is the key actor as well as the primary beneficiary of the disaster risk management process.

Application of Multi-Sectoral and Multi-Disciplinary Approaches

CBDRM brings together the many local communities and even national stakeholders for disaster risk management to expand its resource base.

CBDRM as an Evolving and Dynamic Framework

Lessons learned from practice continue to build into the theory of CBDRM. The sharing of experiences, methodologies and tools by communities and CBDRM practitioners continues to enrich practice.

CBDRM recognizes that Different People have Different Perceptions of Risk Specifically, people in every context who may have different understanding and experiences in coping with risk also may have a different perception of risk and therefore may have different views on how to reduce the risks. It is important to recognize these differences.

Various Community Members and Groups in the Community have Different Vulnerabilities and Capacities

Different individuals, families and groups in the community have different vulnerabilities and capacities. These are determined by age, gender, class, occupation (sources of livelihood), ethnicity, language, religion and physical location.

Source: Abarquez, I. and Zubair, M. Community-Based Disaster Risk Management Field Practitioners' Handbook. Klong Luang, Pathumthani 12120, Thailand: ADPC. 2004.

Characteristics of Community-based Disaster Risk Management

- ➤ It looks at disaster as a question of vulnerability
- ➤ It recognizes people's existing capacities and aims to strengthen them
- ➤ It contributes to addressing the roots of people's vulnerabilities and transforming or removing the social structures generating inequity and underdevelopment
- > It considers people's participation as essential factor to disaster risk reduction
- ➤ It puts premium on the organizational capacities of vulnerable sectors
- ➤ It mobilizes the less vulnerable sectors into partnerships with vulnerable sectors in DRR and development projects

Reference: Dulce, Obias, Talavera, Furigay, Furigay, Ortinero, Plomos, and Gepte. *Training on Disaster Preparedness and Contingency Planning.* Quezon Avenue, Barangay Sta. Cruz Quezon City 1104, Philippines: Assistance and Cooperation for Community Resilience and Development Inc. (ACCORD), 2012.

Basic Terms and Concepts used in Disaster Management Disaster

- > Serious disruption of the functioning of society, causing widespread human, material or environmental losses, which exceed the ability of the affected people to cope using their own resources. UNISDR defines that a disaster takes place when the following three conditions occur at the same time:
- > When a hazardous phenomenon occurs, be it natural or human made.
- ➤ When people and assets are in hazardous places like, for example, close to an active volcano, on unstable slopes where landslides are likely to happen, or close to rivers that could flood.
- ➤ When the phenomenon also causes a lot of damage, especially where no preventive measures have been taken.

High-Intensity Low-Frequency Disasters

➤ Highly destructive intensive disasters are responsible for the vast majority of global mortality and direct economic loss but only occur relatively infrequently in any one place. e.g. Pakistan Earthquake 2005, Japan Earthquake.

High-frequency Low-intensity Disasters

- ➤ These are slowly evolving localized disasters, which tend to manifest themselves frequently and their effects are felt cumulatively.
- > They may account for only a small proportion of overall disaster mortality but, they are responsible for significant damage to housing, crops, livestock and local infrastructure, and particularly affect low-income households and communities. e.g. Road accidents, Rain Induced small floods.

Disaster Management

➤ Disaster Management is a collective term encompassing all aspects of planning for, preparing and responding to disasters and refers to the management of the consequences of disasters and includes all the pre and post disaster interventions.

Hazard

- ➤ A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage
- ➤ **Geo-physical** Dangerous phenomenon originating from solid earth i.e. Earthquake, volcano, Dry mass movement etc.
- ➤ **Meteorological** Dangerous phenomenon caused by short-lived or small to mass scale atmospheric processes (in the spectrum from minutes to days). i.e. Tropical cyclones, local storms, etc.
- ➤ **Hydrological** Dangerous phenomenon caused by deviations in the normal water cycle and/or overflow of bodies of water caused by wind set-up i.e. General Floods, Coastal Floods, Flash Floods, Wet mass movements, etc.
- ➤ **Climatological** Dangerous phenomenon caused by long-lived or meso-to macro-scale processes (in the spectrum from intra-seasonal to multi-decadal climate variability) i.e. heat wave, cold wave, forest fire, etc.
- ➤ **Biological** Dangerous phenomenon Caused by the exposure of living organisms to germs and toxic substances. i.e. Epidemics, Insect Infestation, Animal Stampede, etc.

Vulnerability

Vulnerability means the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard

Types:

- ➤ **Physical Vulnerability.** Physical weakness or structural drawback that makes some buildings, assets or areas susceptible to damaging impacts of disasters.
- > **Social Vulnerability.** Conflicts among communities, lack of capacities, lack of knowledge, skill or preparedness or giving in attitude of the communities make them vulnerable to negative impacts of hazards.
- **Economic Vulnerability.** Lack of economic resources or dependence on one source of livelihood because of which a community, or some part of it, becomes liable to damages in case of a disastrous event.
- **Environmental Vulnerability.** Environmental degradation, deforestation or other environment related factors which makes the surrounding areas vulnerable to losses by possible disasters.

Exposure

> By exposure we mean, proximity or closeness of the people, property, systems, or other elements to the hazard zones that are thereby subject to potential losses in case of any disasters.

Capacity

➤ Capacity is the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals or to resist and fight the negative impacts of disastrous situation. Building capacities is the key to reducing vulnerabilities and constructing disaster resilient societies because coping capacity is the ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters.

Disaster Risk

> The potential losses in lives, health status, livelihoods, assets and services, could occur to a particular community or society over some specified future period (UNISDR). The combination of the probability of an event to happen and its negative consequences determine the extent of disaster risk.

Components of Disaster Risk

Disaster Risk = <u>Hazard x Exposure x Vulnerability</u>
Capacity

Risk Treatment is a risk modification process. It includes selecting and implementing one or more treatment alternatives. Once a treatment has been implemented, it becomes a control or it adjusts the existing controls. Risk treatment alternatives comprise of retaining the risk, avoiding the risk, reducing the risk or transferring the risk.

Disaster Risk Management (DRM) emphasize its objectives in order to avoid, reduce or transfer the adverse impacts of disaster hazards on people, property and the environment through its activities and proactive measures. It is the systematic process of using standard directives and operational skills as well as capacities in implement strategies, policies and improved coping mechanism capacities in order to lessen the adversative impacts of hazards and the possibility of disaster.

Disaster Risk Reduction (DRR) is the preparation and application of policies, strategies and practices to minimize vulnerabilities and hence disaster risk throughout society. It conceptualizes standard and innovative best practices of reducing disaster risks through systematic and organized efforts. Also, it evaluates and manages the underlying factors of disasters, including through reduced contact to hazards, lessened vulnerability of people and property, efficient and effective management of land and the environment, and enhanced preparedness for adverse events.

Mitigation. All actions taken to minimize the extent of a disaster or potential disaster are called mitigation measures. It includes and incorporates physical or structural measures, non-structural interventions and steps to environmental protection and preservation.

Preparedness. Disaster preparedness involves specific measures taken before disasters strike. These methods include disaster forecasting, early warnings etc. The information and capacities are created by governments, various organizations, communities and people to viably expect, react to, and recover from, the impacts of likely, inescapable or current hazard events or conditions.

Prevention. Prevention activities are the steps to avoid the adverse impact of hazards. It contains and/or is not limited to capacity building programs, activities and projects as well as community-based disaster risk management.

Response. It consists of actions taken immediately following the impact of a disaster when exceptional measures are required to meet the basic needs of the survivors. These actions comprise of search and rescue, relief, protection, child protection and needs of vulnerable groups.

Rescue. The activities include saving and protecting human life, relieving suffering and containing the emergency in an effective manner.

Relief. It relates on keeping up or reestablishing basic activities, giving basic services at an appropriate level and advancing and encouraging self-help in affected communities.

Recovery. It basically implies restoration and advancement of the living conditions of disaster-affected communities, including practices and approaches in reducing disaster risk related factors and components.

Rehabilitation. It is the restoration of an entity to its normal or near-normal functional conditions after the occurrence of a disaster. It includes Re-establishing essential services and Reviving key economic and social activities.

Reconstruction. It is permanent measures to repair or replace damaged dwellings and infrastructure and to set the economy back on course, is categorized as Reconstruction.

Source: Asif and Iqbal. *Handbook on CBDRM for Sindh Province, Pakistan*. Bangkok, Thailand: Asian Disaster Preparedness Center. 2014.

Why is Early Warning System Important?

Early warning systems are frameworks that provide assistance to reduce or avoid losses of properties and lives and mitigate the number of casualties, by giving data that permits people and communities to safeguard their lives and property.



Early warning information helps people to take action prior to a disaster. Early warning is provided to people living in disaster prone areas through different means. Warnings are broadcast on radio and FM stations, televisions two-way handset Radio and others. Warning can also be given through various warning devices and equipment.





What's More

Activity 1. Hunt Me!

Go around in your community. Identify a certain hazard that can harm you and other people. Make a plan of action regarding that hazard. Follow the template below.

Hazard Observed	Plan of action/ recommendation	Person in-charge	Time table

Activity 2: Interview

Interview a barangay official or a Barangay Quick Response Team member. Ask the following questions below. Record your actual interview using your cellphone or a tape recorder.

- 1. Does the community experience any disaster?
- 2. How does the barangay respond to a disaster?
- 3. How does the barangay prepare for the disaster?
- 4. Is there an early warning device installed in the barangay? What are those early warning systems or devices?
- 5. Do the barangay practice safety drills or procedures on a specific disaster risk? (e.g. fire drill, earthquake drill, lockdown drill, etc...)
- 6. How do you assess the people's involvement in participating drills? Are they passive? Or active?

Activity 3: Best Practices!

Choose a particular hazard in your community. What are the best practices they are implementing of such hazard in your community? What is the impact of the activity to the people in your community?

Hazard	Best practices	Impact to the people in the community

Activity 4: Warn Me!

Give 5 early warning devices that can be found in your locality. If these are not available in your community, cite ways on how you can still prepare without these devices.

1.			
2.			
3.			
4			



Activity 1: Fill in! Say it Out!

Instructions: Fill in the statement given below about the "Community-Based Disaster Risk Management" as discussed.

I learned that knowing about Community-Based Disaster Risk Manageme plays a crucial role in							
	because						
	given the fact that						
2.	Community-Based Disaster Risk Management is very advantageous to						
	Because						
3.	Early warning device is very important in						
	because						
	It helps people to						
	during						



Instructions: Make a poster conveying the "Importance of Community-based Disaster and Risk Management" in time of the COVID-19 pandemic and post it in school, in the barangay/community or even in social media as a part of your advocacy campaign.

CATEGORY	4	3	2	1
Coverage of the Topic	Details on the poster capture the important information about the topic and increase the audience's understanding.	Details on the poster include important information but the audience may need more information to understand fully.	Details on the poster relate to the topic but are too general or incomplete. The audience needs more information to understand.	Details on the poster have little or nothing to do with main topic.
Use of Graphics	All graphics are related to the topic and make it easier to understand.	All graphics are related to the topic and most make it easier to understand.	All graphics relate to the topic.	Graphics do not relate to the topic.
Organization	Information is very organized with clear titles and subheadings.	Information is organized with titles and subheadings.	Information is organized, but titles and subheadings are missing or do not help the reader understand.	The information appears to be disorganized.
Layout and Design	All information on the poster is in focus and can be easily viewed and identified from 6 ft. away.	Most of the information on the poster is in focus and the content easily viewed and identified from 6 ft. away.	Most of the information on the poster is in focus and the content is easily viewed and identified from 4 ft. away.	Much of the information on the poster is unclear or too small.

Take Note: Rubric will be used for scoring.



Instructions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

- 1. The main strategy is to enhance the capacities and resources of most vulnerable groups and to reduce their vulnerability in the future to avoid the occurrence of disasters in future. This statement pertains to the aim of
 - a. Disaster Risk Reduction
 - b. Disaster Management
 - c. Hazard prevention
 - d. Disaster Prevention
- 2. Which of the following is CORRECT?

a.	Disaster	Risk	=	<u>Hazard</u>	-	Exposure	+	<u> Vulnerability</u>
				Capac	ity	_		-
b.	Disaster	Risk	=	Hazard	+	Exposure	+	<u>Vulnerability</u>
				Capac	ity	_		-
c.	Disaster	Risk	=	<u>Hazard</u>	X	Exposure	X	<u>Vulnerability</u>
				Capac	ity	_		-
d.	Disaster	Risk	=	Hazard	-	Exposure	-	Vulnerability
				Capac	ity			

- 3. Here, the presence of the people and most vulnerable social groups are considered at the utmost decision-making process, as well as the primal support of the least vulnerable social groups plays a crucial role in the success of implementation of disaster risk management activities.
 - a. Community-based Disaster Risk Manager
 - b. Community-basis Disaster Risk Management
 - c. Community-based Disaster Risk Management
 - d. Community-based Disastrous Risk Management
- 4. These knowledge and capacities are developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions?
 - a. Alertness
 - b. Clumsiness
 - c. Disaster Management
 - d. Preparedness
- 5. The community is the key actor as well as the primary beneficiary of the disaster risk management process. This means ______.
 - a. Community is the key to success.
 - b. Community is the key resource in disaster risk management.
 - c. Community is the key resource in disaster risk arrangement.
 - d. Community takes the lead in disaster management process.

- 6. Which of the statement pertains is NOT considered as role and function of Community-based Disaster Risk Management?
 - a. minimize human suffering
 - b. broaden the idea of the community to disaster
 - c. minimize loss and damage to life, property, and the environment
 - d. reduce vulnerabilities and increase capacities of vulnerable groups and communities to cope with
- 7. This is the restoration of an entity to its normal or near-normal functional conditions after the occurrence of a disaster. It includes Re-establishing essential services and Reviving key economic and social activities?
 - a. Reconstruction
 - b. Relief
 - c. Rescue
 - d. Risk Treatment
- 8. The probability that negative consequences may arise when hazards interact with vulnerable areas, people, property and environment is called
 - a. Reconstruction
 - b. Relief
 - c. Risk
 - d. Risk Treatment
- 9. It refers to the proximity or closeness of the people, property, systems, or other elements to the hazard zones that are thereby subject to potential losses in case of any disasters. What is this?
 - a. Closure
 - b. Exposure
 - c. Pleasure
 - d. Pressure
- 10. These are various activities, projects and programs that the communities may identify after assessing and analyzing the risks that they face.
 - a. Risk Reduction Leisure
 - b. Risk Reduction Measures
 - c. Risk Production Measures
 - d. Risk Production Pleasures
- 11. The following are types of vulnerability EXCEPT?
 - a. Social Vulnerability
 - b. Physical Vulnerability
 - c. Economic Vulnerability
 - d. Psycho-social Vulnerability
- 12. What is the key to reducing vulnerabilities and constructing disaster resilient societies because coping capacity is the ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters?
 - a. Authenticity
 - b. Capacity
 - c. Responsibility
 - d. Vulnerability

- 13. It involves selecting and implementing one or more treatment options. Once a treatment has been implemented, it becomes a control or it modifies existing controls.
 - a. Disaster Treatment
 - b. Hazard Treatment
 - c. Risk Treatment
 - d. Tricks Treatment
- 14. This is the dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage
 - a. Biohazard
 - b. Disaster
 - c. Hazard
 - d. Risk
- 15. This is a collective term encompassing all aspects of planning for, preparing and responding to disasters and refers to the management of the consequences of disasters and includes all the pre and post disaster interventions.
 - a. Disaster Management
 - b. Disaster Procurement
 - c. Risk Management
 - d. Risk Procurement



Additional Activities

Activity 1: Es-SAY It Out!

Instructions: Make a 300 word essay that explains how you understand the line given below.

"Preventive measures are most effective when they involve participation at all levels, from the local community through the national government to the regional and international level."

Source: IDNDR Conference Papers, Japan, 1994

Take Note: Rubric will be used for scoring.

Element	Needs Improvement 1	Fair 2	Strong 3	Excellent 4
Topic	Topic is unclear	Introduces the topic but the focus is unclear	Introduces the topic	Clearly introduces the topic
Explanation & Analysis	Little to no explanation or analysis of the information presented.	Explanation and analysis attempt to discuss the information but is unclear or lacks depth.	Clear explanation and analysis that discusses most of the information presented.	Clear and concise explanation and analysis that thoroughly discusses the information presented.
Conclusion	Abrupt ending. No concluding statement.	Ends with a concluding statement that does not clearly relate to the topic.	Ends with a concluding statement about the topic.	Effectively ends with a strong concluding statement.
Formal Tone and Style	Informal language present throughout.	Writing contains some informal elements (e.g., contractions).	Writing attempts to maintain a formal and objective tone.	Writing maintains a formal and objective tone throughout.
Organization & Transitions	Little to no attempt at organization.	Attempts to organize ideas, but transitional language is needed.	Organizes ideas in a logical way. Transitional language used.	Strong organization and transitional language used skillfully throu ghout.
Mechanics (Spelling & Grammar)	Distracting mechanical errors throughout.	Mechanical errors distract at times.	A couple errors present, but they do not distract.	Mechanics reflect careful editing.

 $Rubric\ developed\ with\ materials\ from\ the\ RubiStar\ Web\ site:\ http://rubistar.4 teachers.org/index.php$



1. Disaster 2. Capacity 3. Risk 4. Risk Reduction Measures 5. Hazard	1. C 2. B 3. B 4. D 12. C 13. A 14. D 12. C 13. A 14. D 12. C 2. C 6. C 6. C 6. C 7. C 8. C 6. C 7. C 8. C 6. C 6. C 6. C 6. C 6. C 6. C 6	1. A 2. C 3. C 4. C 5. B 12. B 11. D 12. B 13. C 99. B 14. C
	What I Know	Assessment A . I

References

- Alagos, Richard. "Topic 4 School Drrm and Contingency Planning New." LinkedIn SlideShare, July 8, 2015. https://www.slideshare.net/iamvadore/topic-4-school-drrm-and-contingency-planning-new.
- Banse, Tom. "Northwest States Mapping Liquefaction Susceptibility." *Northwest News Network*. OBP, July 15, 2012. https://www.opb.org/news/article/northwest_states_mapping_liquefaction_s usceptibility/.
- Coles, Tyna, Cathy Cronin, et. al. "UNITED STATES DEPARTMENT OF LABOR." Emergency Action Plan | Evacuation Elements OSHA's Interactive Floorplan Example | Occupational Safety and Health Administration. Occupational Safety and Health Administration. Accessed June 8, 2020. https://www.osha.gov/SLTC/etools/evacuation/floorplan demo.html.
- Coordinator, CartoGIS Services, and Cap.cartogis@anu.edu.au. "Metropolitan Manila." ANU. The Australian National University, February 12, 2020. https://asiapacific.anu.edu.au/mapsonline/base-maps/metropolitan-manila.
- Dransch, Doris, Jens Etter, and Ulrich Walz. "Maps for Natural Risk Management." *Mapping approaches into a changing world; A Coruna*, November 19, 2005, 3–10.
- "PHIVOLCS Continuously Checks Extent of 'Ground Rupture' in San Francisco, Surigao Del Norte." *UNTV News and Rescue*. YouTube, February 16, 2017. https://www.youtube.com/watch?v=tSeflXdLrJE.
- MsSherriMZS. "Components of a Map." LinkedIn SlideShare, August 29, 2017. https://www.slideshare.net/MsSherriMZS/components-of-a-map.
- Nelson, Bryn. "Our Tsunami Warning System Is Faulty. Can These Scientists Fix It?" NBCNews.com. NBCUniversal News Group, May 17, 2018. https://www.nbcnews.com/mach/science/our-tsunami-warning-system-faulty-can-these-scientists-fix-it-ncna874951.
- Petley, Dave. "Fenshui, China: a Fatal Landslide, Caused by Humans?" *AGU Advancing Earth and Space Science Blogosphere* (blog). blogs.agu.org, December 12, 2018. https://blogs.agu.org/landslideblog/2018/12/12/fenshui-1/.
- Science, GNS. "Types of Maps." Types of maps / General Natural Hazard Guidance / Setting the Scene / A toolbox / Risk based planning / RBP / Home GNS Science. Accessed June 8, 2020. https://www.gns.cri.nz/Home/RBP/Risk-based-planning/A-toolbox/Setting-the-Scene/General-Natural-Hazard-Guidance/Types-of-maps.
- Wilshire, H.G. "Effects of Earthquakes." Effects of Earthquakes. topex.ucsd.edu, 1989. https://topex.ucsd.edu/es10/es10.1997/lectures/lecture20/secs.with.pics/node10.html.

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph