HADR Research Centre
UNIVERSITI PERTAHANAN NASIONAL MALAYSIA
National Defence University of Malaysia

JABATAN KESIHATAN NEGERI JOHOR

TRAINING MODULE FOR
JOHOR STATE DEPARTMENT OF HEALTH ON CONDUCTING :

CBDRM

" COMMUNITY BASED DISASTER RISK MANAGEMENT "

Foreword

Director
Johor State Health Department

In my capacity as Johor State Health Director, I am pleased to present this Training Module on Conducting Community Based Disaster Risk Management Programmes (CBDRM) for the health personnel in Johor.

Over the years we have seen multiple disasters; man-made and/or natural afflicting the state of Johor. Natural disasters such as floods, landslides, storms or fire have been yearly themes for preparedness and response. In 2019, Johor was challenged further with a chemical disaster in the Pasir Gudang area. We were also pushed further to be able to respond adequately to the Covid-19 pandemic.

The lessons learnt in most of these disasters or incidents was that whilst the agencies are building their capacity to mobilize aid to the public, the first few hours of the incident are still not within their reach. Response time can vary due to many issues such as manpower or logistics and this brought about the realization that the actual first responder is the community itself. The public will respond immediately due to our own inherent nature of 'fight or flight' response. Therefore, the best would be to provide them with adequate knowledge, skill and training to be able to detect these hazards surrounding them and take appropriate actions to respond if and when disaster strikes.

As timely as it seems, this training module will aid all health personnel in the state of Johor to replicate this training extensively amongst the community in all districts in Johor. I would like to thank all the contributors to this module who have not only managed to theoretically formulate the steps to conduct this programme in the field but also implemented a few exercises involving the community on the ground. The public has been very receptive to the exercises in the module and have actively participated during the programmes. This shows that the Community Based Disaster Risk Management Programme has opportunity for expansion to larger communities and groups to create a more resilient public in the face of disaster.

DATO' DR AMAN BIN RABU
Director
Johor State Health Department

Table of Contents

Introduction 1
Target Audience 2
Minimum standard for participants 2
Learning Objectives 2
Expected Outcome 2
Duration of the training 2
Training Methods and Time Frame 2
Training Plan 3
Course Structure and Content 4
Lecture 1: Public Health and Disaster Management 4
Lecture 2: Introduction to Community-Based Disaster Risk Management (CBDRM) 4
Lecture 3: Town-watching 4
Lecture 4: Disaster Grab Bag 4
Lecture 5: Conducting CBDRM to the community 5
Lecture 6: Community CPR / Fire extinguisher use training 6
Group work 1: Grab bag simulation and case study 6
Group work 2: Town-watching 6
Group work 3: Community CPR / Fire extinguisher 6
References / Bibliography 7
Contributors 8
Appendix 1: Public Health & Disaster Management 9
Appendix 2: Introduction to Community-based Disaster Risk Management (CBDRM) 22
Appendix 3: Town-Watching 35
Appendix 4: Disaster Grab Bag 46
Appendix 5: Conducting CBDRM to The Community 58
Appendix 6: Community CPR / Fire Extinguisher Use Training 71
Quizzes 80

Introduction

Malaysia is a country that has been involved in disaster situation. According to Majlis Keselamatan Negara, disaster is defined as:
"An event that causes disruption to community activities and State affairs, involving loss of life, damage to property, economic loss and environmental destruction that exceeds the community's ability to overcome it and requires extensive resource mobilization"

Disaster can be classified as natural, man-made and hybrid. Natural disasters are catastrophic events resulting from natural hazards which may come from beneath the Earth's surface, topographical and weather-related. Natural disasters are often termed as "Act of God" because it is beyond human control. Meanwhile, man-made disasters are catastrophic events that result from human decisions. A combination of man-made disaster and natural disaster would be known as hybrid disaster. Yet, as was seen from previous incidents, this class of disaster could often be politicized and debated which disaster is hybris, and which is not for various reasons. There were 68 natural disaster and 21 technological disasters in Malaysia recorded by EM-DAT, an international disasters database, from the year 2000 till 2021.

Natural disasters such as flood, storm, and landslide have been known to affect Malaysia since the earliest history. However, man-made disaster recently got more attention in Malaysia. The earliest Malaysian man-made disaster recorded by EM-DAT is the fire incident in Pulau Ketam in 1967 which affected three thousand people. Blogging websites about Pulau Ketam history stated that the fire destroyed all the houses and shop lots at the main road but were eventually rebuilt later. Meanwhile, Malaysia's earliest recorded industrial accident in the EM-DAT database was a port explosion that occurred in the year 1980. The incident occurred at Port Klang and was thought to be caused by chemical combustion in one of the godowns. In total, 7 godowns were razed and three lives were lost. Hundreds others were injured.

Johor State Department of Health had experienced a few disaster responses in the past years. Among them were the Vamei tropical storm in 2001, Johor massive flood in 2007 and Kim Kim River toxic pollution in 2019. Although the official mechanism for disaster response for the state health department is to follow National Security Council's Directive No. 20, there is still a need for a localized disaster response plan at the village or town level due to the fact that agencies' response might take some time or even delayed due to unforeseen circumstances or severity of the incident.

The delay in agencies' response to aid victims of disaster was seen during the 2007 flood where there were roads cut off due to inundation. On the other hand, the issue of the population unprepared for disaster response were witnessed during the 2019 Kim Kim River incident. These examples showed that there is a need for the population to take necessary steps to reduce harm brought about by such disaster instead of utter dependence on authorities' action.

Community Based Disaster Risk Management (CBDRM) is a way of analysing risks and conducting disaster risk management that both originates from, and is organised by, local communities. However, lack of community's knowledge and awareness may cause ill-advised method of localized disaster risk management. The Johor State Health Department had attempted a pilot project for disaster risk reduction program aimed at localities that may be affected by industrial accidents. Using available experience and expertise, the community were provided a platform to develop their own disaster response plan towards technological and natural disasters. This platform would also involve local government and also industrial player where the risk of industrial disaster originates.

Target Audience

This training module is targeted towards healthcare workers from the district health office which would be later tasked to conduct CBDRM program for the community. The healthcare work force intended as participant in this training includes:

- Medical officers
- Registered Nurses
- Assistant Medical Officers
- Environmental Health Officers / Assistant Environmental Health Officers
- Pharmacist
- Health Education Officers

Minimum standard for participants

Required reading prior to attending the course

1) A Training Tool Kit for Community Health Workers on Community Based Disaster Risk Management, World Health Organization, 2013
2) National Security Council's Directive No. 20
3) Manual for the Public Health Management of Chemical Incidents, World Health Organization, 2009
4) Manual CPR Untuk Komuniti. Kementerian Kesihatan Malaysia. 2019

Learning Objectives

1. Introducing the concept of CBDRM
2. Learning steps of conducting CBDRM project to communities
3. Learn to evaluate the CBDRM project
4. Suggesting steps for disaster capacity improvement

Expected Outcome

By the end of the training, the participant would be able to train communities to:

1. Enhance community's ability in survival during chemical and natural disasters
2. Reduce community reliance on rescue agencies
3. Establish a platform for interaction between industrial players and the community
4. Utilize life-saving skills

Duration of the training

2 days course

Training Methods and Time Frame

1) Lecture (60 minutes):
- Customised presentation slides will be projected on screen in seminar settings
-Training materials in form of softcopy will be provided
-Question-and-answer (Q&A)
-Quizz

2) Group work (120 minutes):

-Participants will be assigned into groups with maximum 10 participants
-Assign leader, rapporteur and presenter
-Participants will reflect and simulate issues faced in their hypothetical settings.

3) Group Presentation (15 minutes):
-Each group will need to present their group exercise in the given format
-Using interactive technique to present

Training Plan

Day 1

Time	Programme
8.00am - 8.30am	Registration
8.30am - 9.30am	Lecture 1: Public Health and Disaster Management
9.30am - 10.30am	Lecture 2: Introduction to Community-Based Disaster Risk Management (CBDRM)
10.30am - 10.45am	Break
10.45am - 11.45am	Lecture 3: Town-watching
11.45am - 12.45pm	Lecture 4: Emergency Grab Bag
12.45pm – 2.00pm	Lunch Break
2.00pm – 3.30pm	Group work 1: Grab bag simulation and case study
3.30pm – 4.30pm	Group presentation: Grab bag

Day 2

Time	Programme
8.00am - 8.30am	Registration
8.30am - 10.30am	Group work 2: Town-watching
10.30am - 10.45am	Break
10.45am - 11.45am	Group presentation: town-watching
11.45am - 12.45pm	Lecture 5: Conducting CBDRM to the community
12.45am - 2.00pm	Lunch Break
2.00pm – 2.30pm	Lecture 6: Community CPR / Fire extinguisher use training
2.30pm – 4.00pm	Group work 3: Teach -back (2 concurrent group)
4.00pm – 4.30pm	Discussion on overall program

Course Structure and Content

Lecture 1: Public Health and Disaster Management

Definition of disaster

Type of disaster

-examples of industrial disaster involving communities

4 phases of disaster management

-NSC Directive No. 20

-Agencies roles

-Disaster area zoning

Vulnerabilities and capacities

Lecture 2: Introduction to Community-Based Disaster Risk Management (CBDRM)

The concept of disaster risk

The Sendai Framework for Disaster Risk Reduction

Definition of CDBRM

"Communities are the first responders in case of a disaster"

Rationale For A CBDRM Approach

Key elements and features of CBDRM

Steps and Processes in CBDRM

Lecture 3: Town-watching

Introduction

About Town Watching

-The principles

-The objectives

-How to conduct it

Lecture 4: Disaster Grab Bag

Introduction – delay in help during disaster

What is emergency grab bag?

Examples of emergency grab bags from other nations

Grab bag content categories

-Food items

-Safety

-Survival

-Communication

-Hygiene

-Personal protection equipment

-Comfort

-Miscellaneous

Case studies

Lecture 5: Conducting CBDRM to the community

Justification for conducting CBDRM to the community

History of the CBDRM program conducted by JKN Johor

Pre- event preparation

-selection of community to be engaged (take into account site within impact zone of chemical disaster)

-engaging the community

-engaging the industrial player (identify chemical hazard present in the industry)

-engaging the local authority and responding agencies (to include them in town-watching and grab bag workshops)

Calculating community's disaster risk level

Itinerary of the program

Determination of tasks of the secretariat

-securing funding

-observers

-producing ERP for the community

Evaluating the program

-community's acceptance to the program

-testing the ERP

Lecture 6: Community CPR / Fire extinguisher use training

Adult CPR

Paediatric CPR

Choking

Fire extinguisher use

Group work 1: Grab bag simulation and case study

Table top simulation of grab bag content determination for a community based on

-existing natural disaster hazard

-existing adjacent industrial hazard

Participants to produce list of grab bag contents based on categories explained in Lecture 4

Group work 2: Town-watching

Field exercise by dividing the participant into groups by area zone

Division of roles of facilitator, team member and disaster risk management expert

Participants to mark

-safe areas

-danger areas

-favourite areas

-assets that can be used during disaster

-escape routes

Group work 3: Teach -back

Participants to practice teaching what was learnt during the 2 days course

To use original prepared slides for conducting community training

2 concurrent session – to be supervised by facilitator

i) Community-Based Disaster Risk Management (CBDRM) /Town-watching
ii) Grab Bag Content Development

References / Bibliography

Ibrahim Mohamed Shaluf, (2007),"An overview on disasters", Disaster Prevention and Management: An International Journal, Vol. 16 Iss 5 pp. 687 – 703

Anonymous. No date. Pulau Ketam : background.
https://www.pulauketam.com/v3/about/background/

Rebekah Yore, Ilan Kelman and Matalena Tofa. 2018. Community-based Disaster Risk Management (CBDRM). Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector. https://www.preventionweb.net/files/61520_communitybaseddisasterriskmanagemen[1].pdf

MacQueen KM, McLellan E, Metzger DS, Kegeles S, Strauss RP, Scotti R, Blanchard L, Trotter RT 2nd. What is community? An evidence-based definition for participatory public health. Am J Public Health. 2001 Dec;91(12):1929-38

Yuan, M., Lin, H., Wu, H. et al. Community engagement in public health: a bibliometric mapping of global research. Arch Public Health 79, 6 (2021)

Chen, LC., Liu, YC. & Chan, KC. Integrated Community-Based Disaster Management Program in Taiwan: A Case Study of Shang-An Village. Nat Hazards 37, 209 .2006.

M S S Ali, M Arsyad, A Kamaluddin, N Busthanul and A Dirpan. Community based disaster management: Indonesian experience. IOP Conf. Ser.: Earth Environ. Sci. 235 012012. IOP Publishing Ltd. 2019

M. Abul Kalam Azad, M. Salim Uddin, Sabrina Zaman, Mirza Ali Ashraf. Community-based Disaster Management and Its Salient Features: A Policy Approach to People-centred Risk Reduction in Bangladesh. Asia Pacific Journal of Rural Development. Volume: 29 issue: 2, page(s): 135-160. 2020

Matthies, Angelina. Community-Based Disaster Risk Management in the Philippines: Achievements and Challenges of the Purok System. Advances in Southeast Asian Studies 10 (1):101-8. 2017.

Christina Goulding, Mihaela Kelemen, Toru Kiyomiya. Community based response to the Japanese tsunami: A bottom-up approach. European Journal of Operational Research, Volume 268, Issue 3,2018.

Sim, Timothy, Lena Dominelli, and Jocelyn Lau. "A pathway to initiate bottom-up community-based disaster risk reduction within a top-down system: The case of China." (2017): 283-293.

Krummacher, Andre. "Community Based Disaster Risk Management (CBDRM)-Panel Remarks by Andre Krummacher. 2014.

Maria M. Sarabia, Alfredo Kägi, Anthony C. Davison, Nicola Banwell, Carlos Montes, Christina Aebischer, Silvia Hostettler. The challenges of impact evaluation: Attempting to measure the effectiveness of community-based disaster risk management, International Journal of Disaster Risk Reduction,Volume 49, 2020.

Rebekah Yore, Ilan Kelman and Matalena Tofa. Community Based Disaster Risk Management. Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector. 2020

Salajegheh, Sanjar, and Nasrin Pirmoradi. "Community-based disaster risk management (CBDRM) and providing a model for Iran." International Journal of Engineering Research and Development 7.9 (2013): 60-9.

Christine M. Kenney, Suzanne Phibbs. A Māori love story:Community-led disaster management in response to the Ōtautahi (Christchurch) earthquakes as a framework for action. International Journal of Disaster Risk Reduction. Volume 14, Part 1, 2015.

Contributors

Dr Haidar Rizal bin Toha, Public Health Medical Specialist
Dr. Rashdan Bin Rahmat, Emergency Physician
Dr Jeyanthini Sathasivam, Public Health Medical Specialist
Dr Nurazimah Md Aris, Medical Officer
Dr Loganatahan Selvaraji, Medical Officer
Dr Suriya Kumareswaran, Medical Officer
Dr Mohd Faiz Ibrahim, Medical Officer
Dr Ainulbariah Abd Wahid, Medical Officer
Dr Nor Hazimah binti Rosle Medical Officer
Dr Muhammad 'Afif Farhan bin Mohd Noh, Medical Officer

Special thanks to:
-Dr Shaharom Nor Azian Binti Che Mat Din, Deputy Health Director (Public Health), Johor State Department of Health
-Occupational and Environmental Health Unit, Johor State Department of Health
-Johor Bahru District Health Office
-Pontian District Health Office
-Dr. Badrul Hisham bin Abd Samad, Research Fellow, Humanitarian Assistance and Disaster Relief Research Centre (HADR), National Defence University of Malaysia

LECTURE 1: PUBLIC HEALTH & DISASTER MANAGEMENT

Outline of Presentation

- Introduction
- Impact of disaster
- Stages of disaster management & Public Health response

Intro: Definition of Disaster

- An occurrence that has resulted in property damage, deaths, and/or injuries to a community. (**FEMA**)
- A situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering. (**Centre for Research on the Epidemiology of Disasters**)

Functional Definition for Disaster in Malaysia

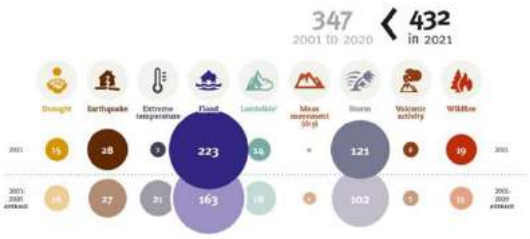
- An event that causes interference to society activity and State affairs, involving loss of life, property damage, economic losses and environmental destruction beyond the ability of the community to overcome them and require extensive resource mustering

Source: Directive No 20, NSC 2013

Types of Disaster

- Natural
  - Geophysical
  - Hydrological
  - Biological‘
  - Climatological
- Man-made
  - Industrial
  - Transport accidents
- Hybrid
  - Technical failure
  - Sabotage

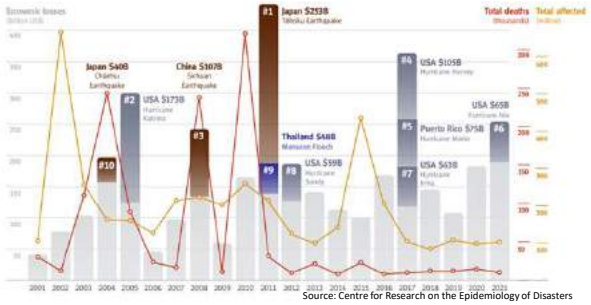
Occurrence by disaster type: 2021 compared to 2001-2020 annual average



Source: CRED Crunch No 66, April 2022

Impact of Disaster

Top 10 economic losses and disaster trends (2001-2021)

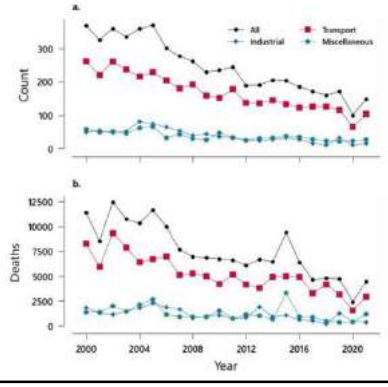


Source: Centre for Research on the Epidemiology of Disasters 2022

Technological Disasters (2000-2021)

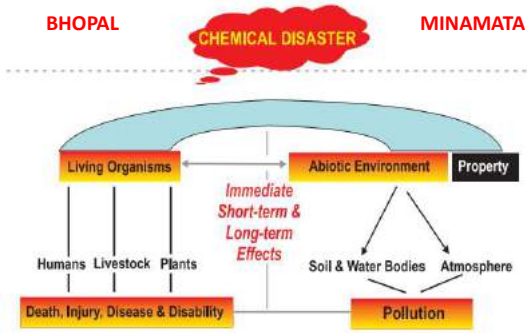
(a) Occurrence

(b) Reported deaths



Source: CRED Crunch No 66, March2022

Impacts of a Chemical Disaster



Source: National Institute Of Disaster Management, Ministry Of Home Affairs, India

Examples of Chemical Incidents Worldwide

Year	Location	Description of incident	Consequences
1976	Seveso, Italy	Airborne release of dioxin from an industrial plant	• No immediate human deaths • 3 300 animal deaths • 80 000 animals slaughtered
1984	Bhopal, India	Methyl isocyanate (MIC) leak from a tank	• 3800 immediate deaths • 15 000 to 20 000 premature deaths • 500 000 exposed to the gas
1984	Mexico City, Mexico	Explosion of liquefied petroleum gas (LPG) terminal	• 500 deaths • 6400 injuries
1995	Tokyo, Japan	Deliberate release of a warfare agent	• 12 deaths • 54 critical casualties • Thousands of people affected
2000	Enschede, The Netherlands	Explosion of a fireworks factory	• 20 deaths, 562 casualties • Hundreds of houses destroyed • 2000 people evacuated
2001	Toulouse, France	Explosion of 300–400 tonnes of ammonium nitrate in a fertilizer facility	• 30 deaths • 2500 casualties • 500 homes uninhabitable
2002	Galicia, Spain	Shipwreck of the *Prestige*, causing the release of 77 000 tonnes of fuel	• Estimated clean-up costs of US$ 2.3 billion
2002	Jabalpur, India	Mass poisoning due to the use of pesticide containers as kitchen utensils	• Three deaths • At least 10 hospitalizations
2003	Baton Rouge, USA	Release of chlorine gas from a facility	• No human deaths

11

Examples of Chemical Incidents Worldwide

Year	Location	Description of incident	Consequences
2004	Neyshabur, Iran	Train explosion due to mixing of incompatible chemicals	• Hundreds of deaths and casualties among emergency responders and onlookers
2005	Songhua River, China	Plant explosion releasing 100 tonnes of pollutants in the Songhua River	• Five deaths • Millions of people without water for several days
2005	Bohol, The Philippines	Inadvertent use of an insecticide in the preparation of sweets	• 29 deaths • 104 hospitalizations
2005	Hemel Hempstead, England	Three explosions in an oil storage facility (Buncefield depot)	• 43 reported injuries • 2000 persons evacuated
2006	Abidjan, Côte d'Ivoire	Dumping of toxic waste in the city of Abidjan	• 10 deaths, thousands made ill
2006	Panama	Diethylene glycol in a cough syrup	• At least 100 deaths
2007	Angola	Sodium bromide confused with table salt	• At least 460 people ill, most of them children
2008	Senegal	Lead from informal battery recycling	• People exposed with many children showing symptoms of lead intoxication

12

Malaysia's 1st Recorded Industrial Accident in EM-DAT database

THE STAR, Friday, June 6, 1980

FIREBALL IN THE NIGHT

THREE PEOPLE died and at least 200 were injured when powerful explosions ripped through godowns in Port Klang, startling fires that devastated the South Port yesterday.

PORT DISASTER 3

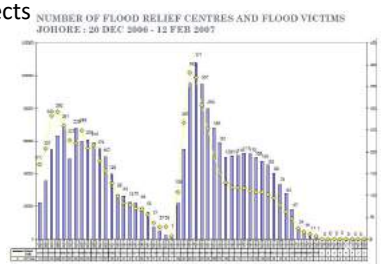
STAR NEWS TEAM

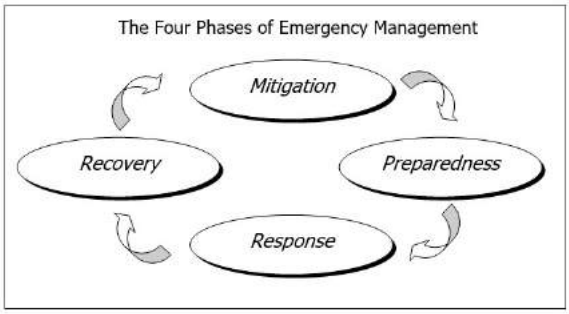
Reports: S.F. Yong, P.K. Katharason, Ng Kee Seng, T. Selva, Chua Wee Poh, and Johnny Chang

Pictures: Victor Ng, Andrew Chong, and David Khoo

Public Health Professionals' Concern

- Surge Capacity
- Post-disaster epidemics
- Further health effects





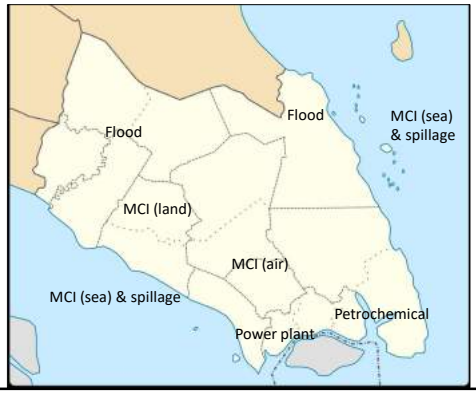
Source: FEMA

The Four Phases of Emergency Management	
Mitigation Preventing future emergencies or minimizing their effects	: Includes any activities that prevent an emergency, reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies. : Buying flood and fire insurance for your home is a mitigation activity. : Mitigation activities take place **before** and **after** emergencies.
Preparedness Preparing to handle an emergency	: Includes plans or preparations made to save lives and to help response and rescue operations. : Evacuation plans and stocking food and water are both examples of preparedness. : Preparedness activities take place **before** an emergency occurs.

The Four Phases of Emergency Management	
Response Responding safely to an emergency	: Includes actions taken to save lives and prevent further property damage in an emergency situation. Response is putting your preparedness plans into action. : Seeking shelter from a tornado or turning off gas valves in an earthquake are both response activities. : Response activities take place **during** an emergency.
Recovery Recovering from an emergency	: Includes actions taken to return to a normal or an even safer situation following an emergency. : Recovery includes getting financial assistance to help pay for the repairs. : Recovery activities take place **after** an emergency.

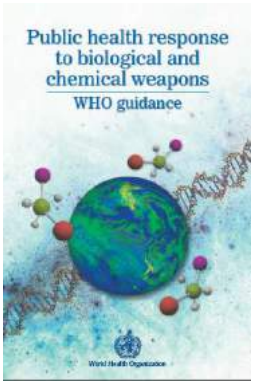
Source: FEMA

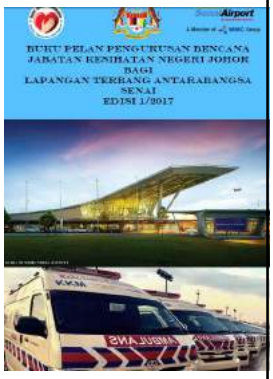
Preparedness Phase: Identifying Disasters' Risk in Johor



Training & Building Partnerships

Developing Response Plans (& reading them)



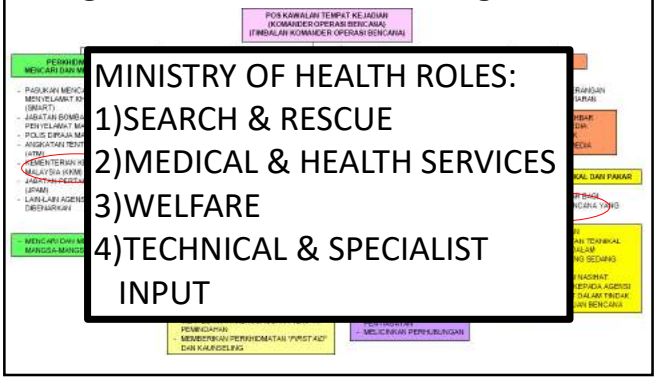


Public Empowerment & Training

CPR training

Water Rescue

Response Phase: Role(s) of Agencies in Disaster Management



MINISTRY OF HEALTH ROLES:
1)SEARCH & RESCUE
2)MEDICAL & HEALTH SERVICES
3)WELFARE
4)TECHNICAL & SPECIALIST INPUT

KEMENTERIAN KESIHATAN MALAYSIA

ARAHAN-ARAHAN MKN

National Security Council Orders by Prime Minister
No 18, 20, 21

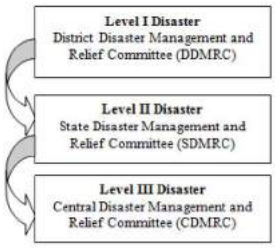
ORDER NO 20 DISASTER

Crisis management Orders (by NSC / NADMA)

ORDER NO 18 TERRORISM

ORDER NO 21 PUBLIC ORDER DISTURBANCE

Disaster Management Level /Executive Committee

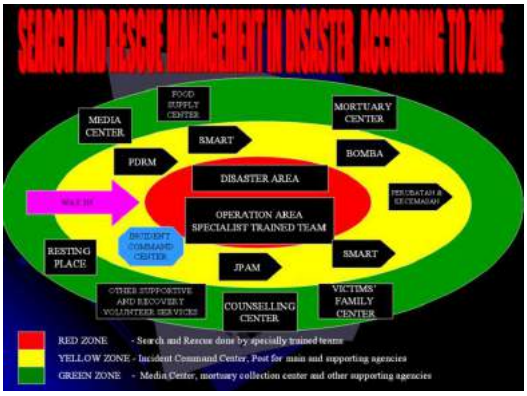


Source: Mohd Sukeri & Shazwani (2015)

The Philosophy of "Military Mindset' in Disaster Management

- In the event of disaster, all health staff MUST convert their mind/ thinking process to military mindset
- All orders to be followed without question – just like military orders.
- All orders to be carried out immediately without feeling of resentment.
- The purpose of 'Military Mindset' is to ensure operations is swift, smooth, orderly and in the context of 'control and command'.

Source: Kuala Lumpur Hospital Disaster Plan 2011



Source: Malaysian Civil Defence Dept

Medical Evacuation by Air

Medical Evacuation by River/Sea

VVIP VISITS

Things That Were Unexpected

Health Facilities - Unplanned Relief Centers

Had To Provide Food For The Flood Victim

Klinik Kesihatan Manek Urai - 600 Flood Victiims

Source: Kelantan State Health Director (2016)

Recovery Phase: Returning Life to Normal

Mitigation Phase: Preventing & Minimizing Future Disaster


PASIR MAS, RANTAU PANJANG, TUMPAT

Bina benteng banjir tahun depan

Sepanjang 120km, dibatkan kos RM1.2 bilion

Vulnerable Cities in Peninsular Malaysia

Source: National Physical Plan 3, JPBD

Disaster Risk = Hazard[1] x Vulnerability[2] / Capacity[3]

- [1] **Hazard** is defined as "*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*"
- [2] **Vulnerability** is defined as: "*The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard*".
- [3] **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*".

LECTURE 2: INTRODUCTION TO COMMUNITY-BASED DISASTER RISK MANAGEMENT (CBDRM)

Outline

- The concept of disaster risk
- Definition of CDBRM
- "Communities are the first responders in case of a disaster"
- Rationale For A CBDRM Approach
- Key elements and features of CBDRM
- Steps and Processes in CBDRM

Source: Directive No 20, NSC 2013

Disaster Risk = Hazard[1] x Vulnerability[2] / Capacity[3]

- [1] **Hazard** is defined as *"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"*
- [2] **Vulnerability** is defined as: *"The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard".*
- [3] **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".*

Other Ways To Determine Risk

Risk = Likelihood x Severity

Risk = Hazard potential x Intensity of consequence

Risk = (Hazard x Vulnerability) / Coping capacity

Risk = Hazard x Exposure x Vulnerability

Risiko = Potensi kejadian hazad x Keterukan akibat

Managing Disaster Risk

- *Sendai Framework for Disaster Risk Reduction*
  - reduce catastrophic deaths
  - reduce morbidities and mortalities

- MySED II
  - *Focus Area 1: Public Health Emergency Preparedness*
    - *STRATEGY 3: Ensure there is an ongoing and coordinated process for planning, management and response*

The Sendai Framework for Disaster Risk Reduction 2015-2030

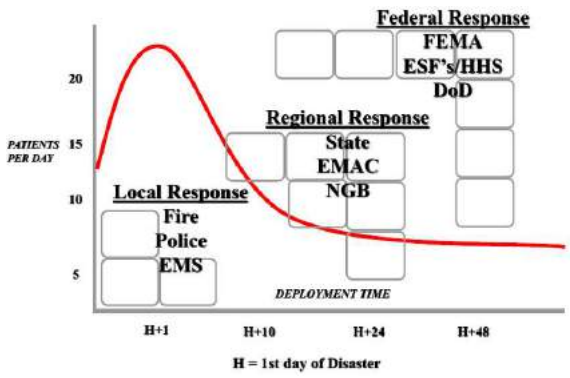
- Adopted at the Third United Nations World Conference on Disaster Risk Reduction,2015 Sendai, Miyagi, Japan
- Outlines four priorities for action to prevent new and reduce existing disaster risks:

(i) Understanding disaster risk

(ii) Strengthening disaster risk governance to manage disaster risk;

(iii) Investing in disaster reduction for resilience and;

(iv) Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction.



Sumber: FEMA

What is CBDRM?

- Part of Building Resilient Communities concept
- A process of disaster risk management in which at risk communities are actively engaged to reduce their vulnerabilities and enhance their capacities through;
  - Identification
  - Analysis
  - Treatment
  - Monitoring
  - Evaluation of disaster risks

*Source: WHO 2013

"Communities are the first responders in case of a disaster"

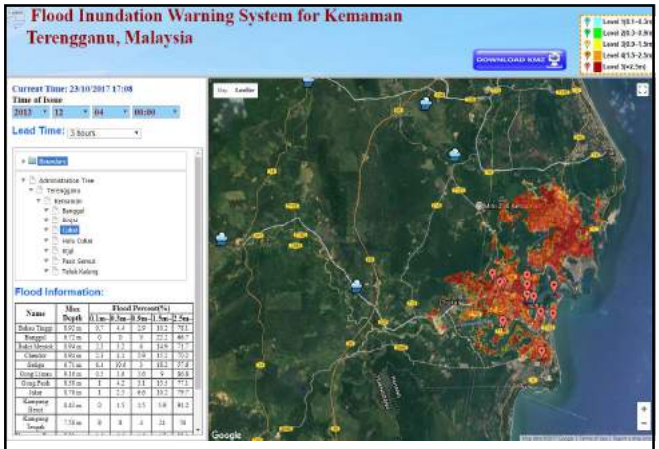
- responds to local problems and needs
- capitalizes on local knowledge and expertise
- improves the likelihood of sustainability through genuine 'ownership'
- strengthens community technical and organizational capacities
- empowers people by enabling them to tackle challenges.
- Bottom – up program

Example of Disaster Risk Reduction Involving Community - TEMPLAT KEMAMAN

Pelan Pengurusan Banjir Kemaman Bakal Jadi Model SOP Banjir - PM

5 TERBAIK DUNIA SEMASA PERSIDANGAN *WORLD SUMMIT INFORMATION SOCIETY* (WSIS) DI GENEVA, SWITZERLAND PADA 2 – 6 MEI 2016

PENGLIBATAN KOMUNITI DALAM PENGURUSAN BENCANA – TEMPLAT KEMAMAN



FLOOD PREDICTION IN KEMAMAN BY NAHRIM

Community Training & Empowerment

Community CPR

Water rescue

TOP DOWN Program?

Community based ?

Rationale For A CBDRM Approach

- Local communities are the first in responding to disaster
  - immediate hours after a disaster, search and rescue, assistance to the injured are almost entirely carried out by family members
  - If the local people are sensitized about the precautions & preventive actions to be taken, the loss of life and damage to property can be drastically reduced
- Top-down disaster risk reduction programmes often fail to address the specific vulnerabilities, needs and demands of at-risk communities
- Even the most vulnerable communities possess skills, knowledge, resources and capacities needed

The key elements and features of CBDRM (1)

People's participation is important

- Community members are the main actors, involved not only in the process but its content.
- They share the benefit or gain through improved disaster risk reduction and development.
- Ultimately, this will lead to safer conditions, security of livelihood, and sustainable development.

Priorities are set for the most vulnerable groups, families, & people in community

- Participation from all sectors is required, but priority is given to most vulnerable groups (urban poor, informal settlers, rural farmers, fisherfolk, and indigenous people)
- Also include the elderly, the disabled, children, and women

Shaw, R. (2012). *Community based disaster risk reduction*. Bingley, UK: Emerald Publisher.
Victoria, L. (2002). Community based approaches to disaster mitigation. Paper presented at Regional Workshop on Best Practices in Disaster Mitigation, Bangkok

The key elements and features of CBDRM (2)

Risk reduction measures are community-specific

- Measures provided for risk reduction are mainly community-specific, which are identified after an analysis of the community's disaster risk (hazards, vulnerabilities, and capacities and perceptions of disaster risk).

Existing capacities & coping mechanism are recognized

- The strength of CBDRM is in the existing capacities and coping mechanism of the community
- Maybe has lack of material assets but offsets by traditional wisdom, local knowledge and resources, social organizations, close family ties, and resourcefulness.

The key elements and features of CBDRM (3)

Disaster risk reduction is linked with development

- Reduce people's vulnerabilities (poverty, social inequalities, and environmental resource depletion and degradation) by strengthening the capacities of individuals, families, and communities.
- The idea is to develop a people-centered development as well as equitable and sustainable development - a resilient community.

Outsiders have supporting and facilitating roles

- NGOs support community members,
- Government role is integral to the institutionalization of the CBDRM process.
- Partnerships with less vulnerable groups and other communities are forged in the interest of disaster risk reduction.

Changing Concepts

1. People affected by disasters are helpless victims
2. Victims are passive recipients of external aid
3. Damage and needs assessment are rapidly done by external experts

1. People affected by disasters are active actors in rebuilding lives and livelihood
2. People capacities are used and built on through their participation.
3. Damage, needs and capacity assessment done with people participation

Changing Concepts

4. Focus on physical & material aid and technical solutions
5. Focus on individual households
6. Donors decide what the victims need.

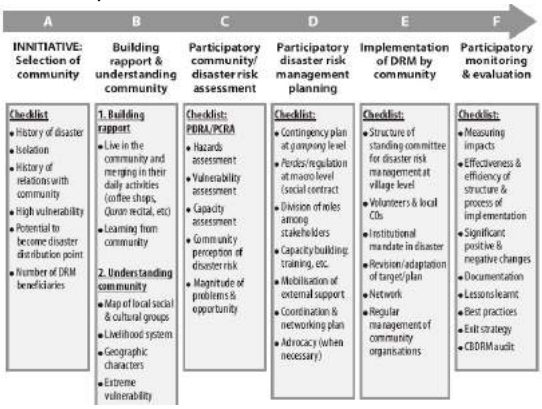
4. Assistance include material aid / organizational to address root causes of vulnerabilities
5. Focus on community and strengthening its organization
6. Community members participate in decision – making to prioritize needs

Changing Concepts

7. Providing aid is the responsibility of the disaster agency
8. Goal is to meet emergency needs, and to bring things back to normal

7. Disaster management is everybody's responsibility. Disaster agencies have supportive role
8. Goal is to reduce long– term vulnerabilities and to increase people's capacities to better cope with disasters.

Steps and Processes in CBDRM



Incorporation of Hazards & Vulnerability Info in the Program

Source: The World Bank: Building Resilient Communities

Vulnerabilities and Capacities Analysis

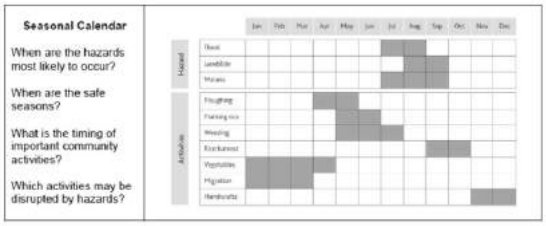
Originally developed in the 1980s to make relief interventions more developmental, this model has been used widely in other disaster and development contexts, and many other VCA methods have built on it. The basis of the VCA framework is a simple matrix for viewing people's vulnerabilities and capacities in three broad, interrelated areas. Five other factors can be added to the basic matrix to make it reflect complex reality: disaggregation by gender, disaggregation by other differences (e.g., economic status), changes over time, interaction between the categories, and different scales or levels of application (e.g., village or national levels).

Source: Anderson and Woodrow, 1998 in Benson and Twigg, 2007, p. 107.

	Vulnerabilities	Capacities
Physical/material What productive resources, skills and hazards exist? (i.e., land, climate, environment, health, skills/ labor, infrastructure, housing, finance, technologies)		
Social/organizational What relations and organization exist among people? (Includes formal political structures and informal social systems)		
Motivational/attitudinal How does the community view its ability to create change? (Includes ideologies, beliefs, motivations, experiences of collaboration)		

Source: The World Bank: Building Resilient Communities

Seasonal calendar



DRR tools

(Community Based Disaster Risk Management)

- Hazard mapping
- Evacuation road
- Evacuation centre (School, church, mosque, temple…)
- Early warning system (Bell, Radio, TV, sms…)
- Emergency drill
- Grab / Go bag
- Mitigation such as bridge, dyke, sand bags…
- Food bank
- Medicine bank
- Seasonal calendar
- Others

Town Watching

Example of Mapping

Kredit: Amirzudi Hashim

DON'T FORGET: Vulnerable groups

Disaster Preparedness for People With Disabilities

General Information

Many people will have a disability, either short-term or permanent, that will limit their ability to move around.

Disabilities manifest themselves in varying degrees. Everyone needs to have a plan to be able to evacuate a building, regardless of his or her physical condition. When preparing for a disaster, we must consider carefully all aspects and categories of disabilities.

The Five General Categories of Disabilities

- Mobility Impairments
- Visual Impairments
- Hearing Impairments
- Speech Impairments
- Cognitive Impairments

Advice For Persons with Disabilities

- If you are in a wheelchair when the earthquake begins, lock your wheels.
- Keep your service animals with you in a safe place at home, or take them with you to a shelter. (SERVICE ANIMALS ARE THE ONLY ANIMALS ALLOWED IN A SHELTER)
- If you are taking your service animal to an Emergency Shelter, remember, these places, cannot care for your animal. Do not forget to take a collar, harness, identification tags, records of vaccinations, medications, and food for your service animal with you.
- Install at least one smoke detector on each level of your home, outside sleeping areas. Install a system with flashing strobe lights for the hearing impaired. Replace batteries in detectors at least once a year, such as on your birthday, New Year's Day, or an easily remembered day. Test smoke detectors once a month by pushing the test button.
- Find the location of and learn how and when to disconnect main utility cutoff valves and switches in your home during an emergency. Try to do this yourself, or arrange for help.
- When traveling, know the types of disasters that threaten the area you will be visiting. Let the hotel or motel front desk know of your possible needs in case of an emergency. Describe the type of help you may need. Inform friends, family and/or your network members of your travel plans, whom you will leave and when you will return.

COMMUNITY Disaster Preparedness GUIDE

CBDRM & Chemical incident

Town Watching Kampung Tanjung Langsat (18 Ogos 2019)

Town Watching Kampung Perigi Aceh (27 Sept 2020)



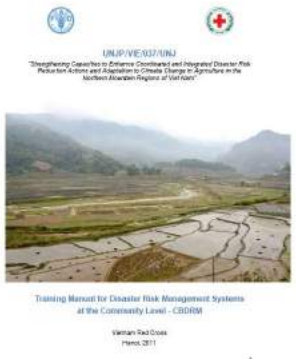

Artikel ini disiarkan pada : Isnin, 8 Februari 2016 @ 9:39 AM

Empowerment of Targeted Population




Disaster *Grab Bag Workshop*

CBDRM Training Modules



Challenges of CBDRM

- The bottom-up CBDRM approach needs to be plugged into/linked with the top-down government/national DRR approach.
- Ensuring a large scale role-out/replication of what are often micro-projects or pilot initiatives capacity as well as resources need to be available
- Sustainability of program
- Limited institutionalization of the approach often due to lack of
  a) policy state and community level
  b) insufficient buy-in
  c) lack of capacity and resources

Take home message

- Communities have skills, knowledge, resources and capacities to engage in DRM, especially when it comes to small scale-localized and recurrent disasters.
- There is no blueprint to CBDRM and there are many challenges, especially in regards to upscaling and linking with the 'official' national-level DRM system

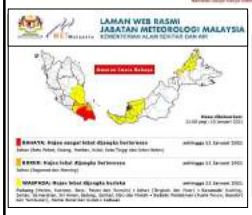
THANK YOU

LECTURE 3:
TOWN-WATCHING

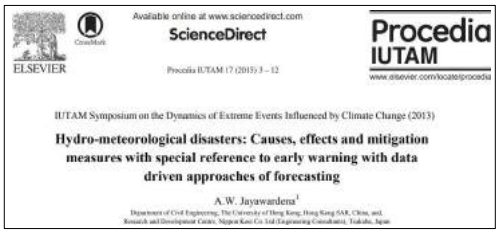
Contents

- Introduction
- About Town Watching
  - The principles
  - The objectives
  - How to conduct it
- Discussion

PUBLIC INFO

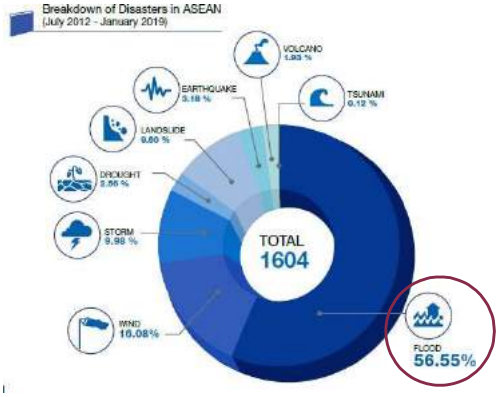


PUBLICATION



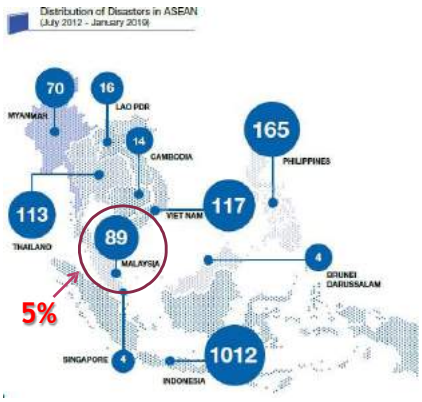
Of the 3 main types of natural disasters in the world, geological, hydro-meteorological, and biological, **hydrometeorological disasters** account for **over 75%** in terms of the damages including casualties, economic losses, infrastructure damage and disruption to normal life. They include **floods, droughts, cyclones of all types, landslides, avalanches, heat waves, cold waves, and debris flow.** Of the hydro-meteorological disasters, **floods** account for the majority of disasters followed by wind storms. Regionally, **Asia** suffers the most compared to other continents.

DISASTERS IN ASEAN



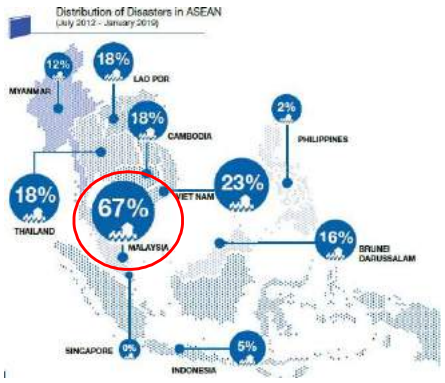
Breakdown of Disasters in ASEAN (by type) shows that the overwhelming majority of occurrences are **hydro-meteorological** in nature - hazards that can be **mitigated and prepared for** (ADINet, 2019).

DISASTERS IN ASEAN



Breakdown Distribution of Disasters in ASEAN (by country) show that majority, or 63% of all disasters, occurred in Indonesia. The Philippines follows with a 10% share, while the remaining 27% is divided among the rest of the region (ADINet, 2019).

FLOODS IN ASEAN



Percentage of Population Exposed to **Floods** (by country) is highest in Member States located in **the central areas** of the ASEAN region - **Malaysia,** Viet Nam, Cambodia, Lao PDR, Thailand, and Brunei Darussalam.

CBDRM

Community Based Disaster Risk Management

A process of disaster risk management in which **at risk communities** are actively engaged to **enhance their capacities** and **reduce their vulnerabilities** through:

- **Identification,** → Town watching
- Analysis,
- Treatment,
- Monitoring, *and*
- Evaluation of disaster risks

Who 2013

DRR

REACTIVE TO PROACTIVE

- DRR involves every part of:
  - The society
  - The government
  - The professional
  - The private sector
- Investing in Disaster Risk Reduction **saves lives, protects assets and builds resilience**

TOWN WATCHING

It is a participatory process in which community members and local government record disaster information in their community.

Information collected is then used to create a community-based **hazard map and evacuation map.**

Community-based hazard mapping has 3 key objectives:

i. Involve local residents in developing the hazard map for their community;
ii. Reflect the opinions of local residents in policies made by their local government, and
iii. Foster common understanding of risks among local residents, government officials and experts



THE PRINCIPLES

- Should not be done in isolation
  - It needs to be linked to lectures, experiential learning, and seminar / workshops.
- The process enhances participant's visual and analytical skills
  - Helps in generating innovative actions along with family, community and neighbours.
- The key to town watching is **collective watching,** with different groups of people.
  - The community and local government officers watch the same thing, which will encourage them to find problems and solutions in the field.
- The participants need to appreciate both positive and negative aspects of the community and neighbourhood.

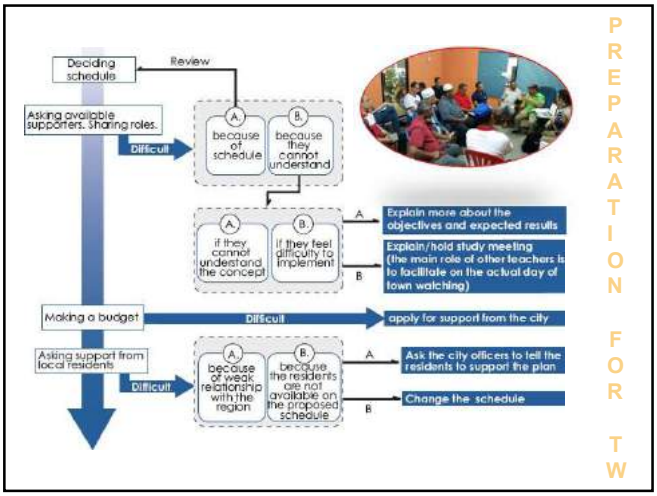
1. Knowing the current situation of the area, thus increasing the awareness of disaster preparation and prevention.
2. Cultivating participant's comprehensive skills and abilities of information collection, thinking, judgment, expression, and communication pertaining to disaster risk reduction and management.
3. Pointing out regional problems and suggesting solutions.
4. Establishing cooperation system whenever disaster occurs.
5. Becoming a trigger for participants to be important leaders in disaster prevention within the area.

THE OBJECTIVES

Comprehensive Learning System in TW Program

LEARNING SYSTEM

THE FLOW OF TW



INDIVIDUAL ROLES

- **Facilitator**
  - To coordinate, time keeping and answering questions
- **Team members and volunteers (Main Players)**
  - Identifying areas / spots (safe / danger / favourites)
  - Mark on the map **(blue)** safe, **(red)** danger, and **(green)** favourite spots
  - Writing notes and taking photos for each identified spot
- **Disaster Risk Management (DRM) Expert**
  - To support by giving technical inputs and information
  - Giving comments for the identified spots

COLLECTING INFO

- Story telling by disaster victims in the region
- Interview with the residents / victims / rescuers
- Places which were affected by the past disasters
- Consider the inputs from the children

Water level in 2014 big flood (Rantau Panjang, Kelantan)

Along the way, focus on:
- access to and from the evacuation center
- prominent spots / areas, e.g. past event of flood, infrastructures (drainage, reservoir etc), public buildings, river, pond etc

GATHERING THE INFO

Identify and mark over the map:

- **Safe** areas / spots *(blue marks)* X
- **Danger** areas / spots *(red marks)* X
- **Favourite** areas / spots *(green marks)* X
- Escape route during incidents / events of disaster
- Assets or locations (spots) that will be useful during disaster

I think it is dangerous ⟷ I think it is safe

EX: MAP & NOTES

Peta dan nota anda

Religous center. double storey houses, high-rise buildings



Boat making activity, restaurant, grocery shops



Schools, community halls - evacuation center


SAFE AREAS

Low-lying areas, unstable structures, abandoned buildings



Non-gated railway tract, high voltage cables, hillside area



Pool, mines, along the river banks


DANGER AREAS

Football field, grazing field


Fishpond, restaurant


FAVOURITE AREAS

Describe what you learned in town watching

DISCUSSION

Divide the answers into several categories:

1. Description about the past disasters
2. Description about useful things to prevent disasters
3. Description about dangerous spots
4. Description about safe evacuation places
5. Description about countermeasures against disasters
6. Description about disasters in general
7. Description about the area

Others

DISCUSSION

Walk & Observe

Outdoor / field discussion (going in groups)

Indoor group discussion, do the hazard & evacuation mapping

PRESENTATION

- Presented by community leader / representative / volunteers
- DRM expert will support and give comments
- Other groups will listen, and allowed to ask questions or clarify the information given by the presenter

Present about:

- Whatever you found
- Whatever you thought about your residential areas
- Impression

How to present ?

- Use the given map and explain the identified spots
- Try to simplify the findings into the area/zone profiles
- Present by focusing on the disaster event(s) – types, causes, impacts and response or countermeasures (if any)

10 - 15 mins

PRESENTATION

Groups presentation

Input / feedback from DRM Expert

MAPPING EXAMPLES

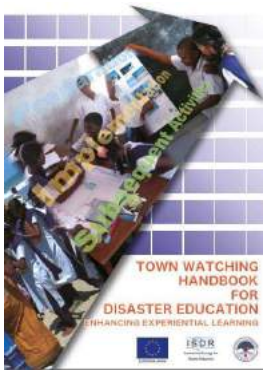
Credit: Mr. Amirzudi Bin Hashim

MAPPING EXAMPLES

TW Program in Pasir Gudang by HSIJB PPW

ASEAN RISK MONITOR AND DISASTER MANAGEMENT REVIEW (2018)

(2016)



(2009)

REFERENCES

THANK YOU

"Disaster Risk Reduction is everyone's business"

LECTURE 4:
DISASTER GRAB BAG

Contents

- Introduction – delay in help during disaster
- What is emergency grab bag?
- Examples of emergency grab bags from other nations
- Grab bag content categories
- Case studies

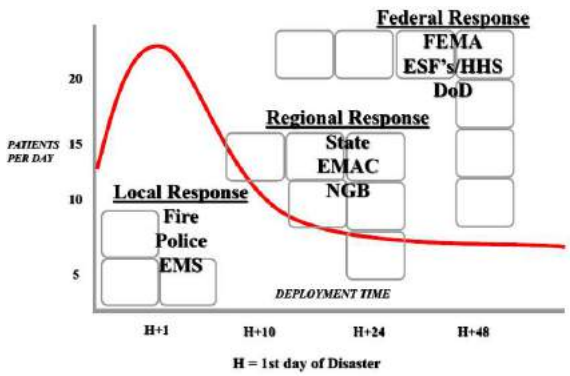
Delay in Agencies' Response
Pengalaman Kelewatan Bantuan

MONDAY, OCTOBER 1, 2007

BANJIR DI KOTA TINGGI

Banjir di Kota Tinggi sebelum itu juga telah banyak mendatangkan kerugian kepada banyak pihak. Pada masa itu Batu Pahat, Johor Bahru, Kluang, Kota Tinggi, Mersing, Muar, Muar, Pontian, dan Segamat telah dilanda banjir. Hubungan ke Kota Tinggi dan Segamat telah terputus terus. Antara sehingga 90,000 orang telah dipindahkan dan bekalan makanan di pusat pemindahan dilaporkan terhad. Sesetengah sekolah turut dibanjiri, namun musim persekolahan 2007 akan berjalan seperti biasa dan kerajaan Malaysia akan mendermakan uniform sekolah kepada mereka yang terlibat. Kebanyakan mangsa telah tidak mendapat air bersih dan elektrik.

http://demoamri-amri.blogspot.com/2007/10/tinggi.html



Sumber: FEMA

DRR tools

(Community Based Disaster Risk Management)

- Hazard mapping
- Evacuation road
- Evacuation centre (School, church, mosque, temple…)
- Early warning system (Bell, Radio, TV, sms…)
- Emergency drill
- Grab / Go bag
- Mitigation such as bridge, dyke, sand bags…
- Food bank
- Medicine bank
- Seasonal calendar
- Others

Apa Itu *Grab Bag*?

- Sebuah beg yang mengandungi keperluan menghadapi kecemasan dalam bentuk mudah dibawa
- Juga dikenali sebagai
  - Kit kecemasan
  - Survival kit
  - Grab and go bag
  - Disaster bag
- Sebagai persediaan kecukupan kendiri (*self-sufficiency*)
- Digunakan semasa pengungsian tempat tinggal akibat bencana
- *Community-specific*

PLOS | CURRENTS DISASTERS

Home Aims & Scope Review Board Authors ↓ Resources About

The Promotion of 'Grab Bags' as a Disaster Risk Reduction Strategy

JULY 6, 2016 · RESEARCH ARTICLE

Print or Save PDF Citation XML Email Tweet Like 2

AUTHORS

Christina J. Pickering, Tracey L. O'Sullivan, Alessia Morris, Carmen Mark, David McQuirk, Emily YY Chan, Emily Guy, Gloria KW Chan, Karen Reddin, Ralph Throp, Shinya Tsuzuki, Tiffany Yeung, Virginia Murray

ABSTRACT

Introduction: An all-of-society approach to disaster risk reduction emphasizes inclusion and engagement in preparedness activities. A common recommendation is to promote household preparedness through the preparation of a 'grab bag' or 'disaster kit', that can be used to shelter-in-place or evacuate. However, there are knowledge gaps related to how this strategy is being used around the world as a disaster risk reduction strategy, and what evidence there is to support recommendations.

Methods: In this paper, we present an exploratory study undertaken to provide insight into how grab bag guidelines are used to promote preparedness in Canada, China, England, Japan, and Scotland, and supplemented by a literature review to understand existing evidence for this strategy.

Masalah logistik dalam membekalkan keperluan mangsa bencana

Getting the total amount of relief goods needed for 1 day

Description of formula	Formula
Formula milk needed by infants (0 week - 6 months old) to meet their energy and nutrient requirement	$a \times 110$ grams = amount of formula milk in grams for a infants
Formula milk needed by infants (6 months to 12 months old) to meet their energy and nutrient requirement	$b \times 200$ grams = amount of formula milk in grams for b infants
Diapers that infants (0 week to 12 months old) need	$(a + b) \times 12$ = number of diapers needed for a and b infants in pieces
Bottle feeders that infants (0 week to 12 months old0 need	$(a + b) \times 1$ = number of bottle feeders needed for a and b infants in pieces
Diapers that children 2-3 years old need	$c \times 6$ = number of diapers needed for c children in pieces
Adult diapers that elderly (60 years old and above with incontinence, amnesia, or other related problems) need	$g \times 6$ = number of adult diapers needed for g elderly in pieces
Water for a & b to meet their energy and nutrient requirements	$(a + b) \times 1$ = amount of water in liters for a & b
Water for d, e, f, h to meet their energy and nutrient requirements	$(d + e + f + h) \times 2$ = amount of water in liters for d, e, f, & h
Rice for d to meet their energy and nutrient requirements	$d \times 0.2$ = amount of rice in kg for d children
Rice for e, f, & h to meet their energy and nutrient requirements	$(e + f + h) \times 0.5$ = amount of rice in kg e, f, & h persons

Instant noodles for d & e to meet their energy and nutrient requirements	$(d + e) \times 3$ = number of instant noodles in pieces for d and e persons
Instant noodles for f to meet their energy and nutrient requirements	$f \times 1$ = number of instant noodles in pieces for f adults
Instant noodles for h to meet their energy and nutrient requirements	$h \times 5$ = number of instant noodles in pieces for h women
Canned sardines for d, e, & h to meet their energy and nutrient requirements	$(d + e + h) \times 1$ = number of canned sardines in pieces for d, e children and h women
Canned sardines for f to meet their energy and nutrient requirements	$f \times 2$ = number of canned sardines in pieces for f adults
Powdered milk for d, e, f, & h to meet their energy and nutrient requirements	$(d + e + f + h) \times 30$ = amount of powdered milk for d, e, f, & h persons in grams

where: a = number of infants 0-6 months
b = number of infants 7-12 months
c = number of children 1-3 years old needing diapers
d = number of children 1-6 years old
e = number of children 7-12 years old
f = number of adults 13 years old and above including elderly
g = number of elderly needing adult diapers; usually 60 years old and above
h = number of pregnant and lactating women

CREATING A COMMUNITY BASED DISASTER RISK MANAGEMENT SYSTEM THAT HIGHLIGHTS RESPONSE METHODS AND RESOURCE ALLOCATION

1) Kemungkinan tiada bekalan oleh agensi pada hari-hari pertama
2) Komuniti menyediakan sendiri

Peralatan yang disarankan semasa bencana di Filipina

The Promotion of 'Grab Bags' as a Disaster Risk Reduction Strategy

JULY 6, 2010 · RESEARCH ARTICLE

Fig. 1: Grab bag and contents distributed to rural villages in China by CCOUC

http://currents.plos.org/disasters/index.html%3Fp=36857.html

Fig. 2: Go-bag display in the Volcanoes and Earthquakes Exhibition at the Natural History Museum in London, England.

http://currents.plos.org/disasters/index.html%3Fp=36857.html

Peralatan disarankan semasa bencana di UK

- Air
- Makanan
- Topeng muka
- Lampu
- Radio
- Baju
- Pertolongan cemas
- Komunikasi
- Dokumen
- Lain-lain

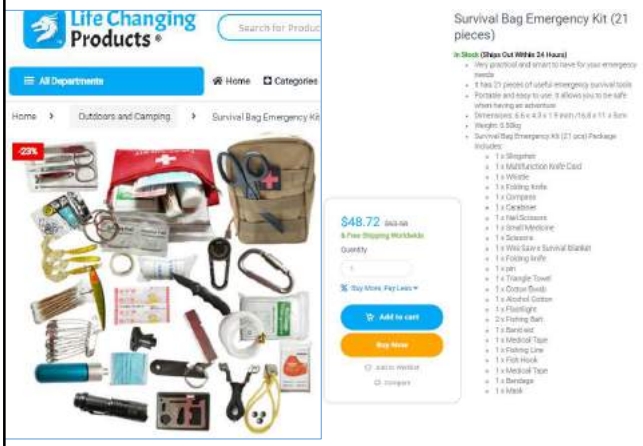
https://evaq8.co.uk/How-to-build-your-own-kit.html

Contoh Penyenaraian dari Jepun

http://peaceboat.jp/relief/wp-content/uploads/2017/01/Emergency-Stockpile-and-Emergency-Bag-List.pdf

Peralatan disarankan semasa bencana di Jepun

Kit –kit Komersial



Perkara Perlu Diambilkira Dalam Penyediaan Kendiri *Grab Bag* Bencana

- Saiz beg
- Berat beg
- Kalis air
- Boleh bertahan 3 hari
- Keperluan utk ahli keluarga lain
- Disimpan di tempat mudah dicapai
- Pemeriksaan barang luput setiap bulan

Kategori Keperluan Peralatan *Grab Bag Bencana*

- Makanan dan minuman
- Keperluan ikhtiar hidup
- Keselamatan
- Komunikasi
- Kebersihan / *hygiene*
- Perlindungan keselamatan
- Keselesaan
- Lain-lain

Makanan dan Minuman

- Makanan kering dan tahan lama
- Air dibotolkan (7.5 liter utk seorang – 3 hari)
- Pembuka tin
- ? Ubat-ubatan

Straw penapis air mentah

Keperluan Ikhtiar Hidup

- Lampu suluh
- Mancis / pemetik api
- Pisau
- Tali
- ? Cangkul

Komunikasi

- Wisel
- Radio
- *Walkie talkie*
- Telefon bimbit

Kebersihan

- Tuala wanita
- Berus gigi
- Pemotong kuku
- Tuala muka
- Sanitizer tangan
- *Toilet absorbent powder*

Toilet Absorbent Powder

Perlindungan Keselamatan

- Topeng muka (R 95, respirator)
- Alat pengapungan diri
- Kasut
- Peralatan pertolongan cemas
- Sarung tangan

Topeng muka N95 dan R 95

Keselesaan

- Pakaian
- *Travel pillow*
- Selimut / kain pelikat
- Helaian plastik (?plastic sampah)
- Peralatan kalis air

Lain-lain

- Dokumen (kad pengenalan, kad rawatan, kad ibu mengandung)
- Senarai nombor penting
- Wang
- Keperluan orang tanggungan (anak, ibu bapa uzur)
- Powerbank

Self made air tight bag

Case Study 1: Grab bag for Kg Tg Langsat

1. Air mineral
2. Alat komunikasi
   -Telefon bimbit, power bank dan senarai nombor telefon
3. Alat pelindung diri (PPE)
   - Jaket keselamatan, Kasut getah, sarung tangan, baju hujan, topeng muka (N95 / R 95)
4. Alat pembersih diri
   - sabun, berus gigi, ubat gigi, tisu / tisu basah dan tuala kecil, pengetip kuku, tuala wanita
5. Bateri
6. ~~Beg kalis air~~
7. Belerang
8. First aid kit
9. Kelengkapan tidur
   - Bantal angin, beg tidur (sleeping bag) dan selimut
10. Lampin
11. ~~Lampu suluh~~
12. Lilin
13. Losyen halau nyamuk
14. Makanan tahan lama
    - Mi segera, biskut, buah-buahan kering (kurma), sardin dalam tin, susu pekat, gula-gula & makanan ringan
15. Minyak angin
16. Pakaian
    - Pakaian persalinan, stoking, selipar, Kain pelekat/batik
17. Pemetik api
18. Pisau lipat
19. Plastik sampah
20. Plastik ziplock
21. Salinan dokumen pengenalan diri

Case Study 2: Grab bag for Kg Perigi Acheh

1.	Air mineral
2.	Alat komunikasi -Telefon bimbit, power bank dan senarai nombor telefon
3.	Alat pelindung diri (PPE) - Jaket keselamatan, Kasut getah, sarung tangan, baju hujan, topeng muka
4.	Alat pembersih diri - sabun, berus gigi, ubat gigi, tisu / hand sanitizer, pengetip kuku, tuala wanita
5.	Bateri
6.	Beg kalis air
7.	First aid kit
8.	Kelengkapan tidur - Bantal angin, beg tidur (sleeping bag) dan selimut
9.	Lampu suluh
10.	Tali untuk canvas
11.	Makanan tahan lama - Mi segera, biskut, buah-buahan kering (kurma), sardin dalam tin, susu pekat, gula-gula & makanan ringan
12.	Minyak angin
13.	Pakaian - Pakaian persalinan, stoking, selipar, Kain pelekat/batik
14.	Pemetik api
15.	Pisau lipat
16.	Plastik sampah
17.	kad perubatan
18.	Kad ibu mengandung
19.	Salinan dokumen pengenalan diri dan surat beranak
20.	Wang

Previous Experience Conducting Disaster Grab Bag Workshop

THANK YOU

LECTURE 5: CONDUCTING CBDRM TO THE COMMUNITY

Content

- Justification & objectives for conducting CBDRM to the community
- History of the CBDRM program conducted by JKNJ
- Steps for Organizing CBDRM
- How to:
  - calculate community's disaster risk level
  - decide content of the program
  - evaluate the program – pre/post test
  - produce ERP document

Justification for Conducting CBDRM to the Community

- Presence of delay in agencies' response to aid victims of disaster
  - seen at 2007 Johor flood -roads submerged
- Population unprepared for disaster response
  - during the 2019 Kim Kim River incident

Objectives of the Program

- To enhance community's ability in survival during chemical and natural disasters
- To reduce community reliance on rescue agencies
- To help to establish a platform for interaction between industrial players and the community

History of the CBDRM Program Conducted by JKN Johor

- 2019 – proof of concept – Kg Tg Langsat, Pasir Gudang
- 2020 – pilot – Kg Perigi Acheh, , Pasir Gudang
- 2022 – three sites
  - Kg Sg Cengkeh, Serkat, Pontian
  - Kg Tg Adang, Tanjung Kupang, JB
  - Kg Lepau, Kota Tinggi

Case Study 1: Kampung Tanjung Langsat (2019)

Reasons for the village selection:
- The village location is near industrial area
- Previously occurred chemical incident
- An established good connection with the community (presence of community clinic in the village)

Source : Tanjung Langsat Port Terminal Sdn Bhd

6

Findings

A total of 47 participants were involved including the villagers and relevant agencies. The participating agencies were Fire and Service Department, Royal Malaysian Police, Department of Civil Defense, Meteorology Department, Education District Office, City Council Office , State Department of Occupational Safety & Health , State Department of Environment and representatives from the nearby industry.

Town Watching Program

The village was divided into three zones and three groups of participants assigned to each zone. Each group consists of villagers and representatives from different agencies.

Among the hazards identified by the villagers during the walk-through survey and hazard mapping were risk of **chemical pollution** from the nearby industry, **flood from tsunami** and risk of **airplane crash**.

There are **three escape routes** identified; two ground routes and one water route.

There are mosques, football field and a hill that could become **assembly sites** for the villagers in the event of disaster.

Grab Bag Workshop

The participants divided into five groups and each group being assigned to discuss on five different categories that could become contents of a disaster grab bag

The categories were **Food, Communication, Survival , Comfort** and **Miscellaneous**

At the end of the session, the villagers were able to produce ideas of the contents of a disaster grab bag that they felt would be sufficient for a 3-day survival.

7

Case Study 2: Kampung Perigi Acheh (2020)

Reasons for the village selection:

- The village is basically an island with single road
- Previously occurred natural disaster causing isolation of the population
- Potential as chemical incident victim
- PKD was requested by the villagers

8

Case Study 2 Results

46 participants were involved including the villagers and relevant agencies. Also involved were observers from other districts to be exposed to the program to learn how to conduct such programme in the future and also to give outsider view of improvement. **Pre & post test** were introduced in this session (pre 58.3%, post 80% marks)

Town Watching Program

The village was divided into three zones and three groups of participants assigned to each zone. Each group consists of villagers and representatives from different agencies.

Among the hazards identified by the villagers during the walk-through survey and hazard mapping were risk of **flood inundation, storm** and **chemical pollution** from the nearby industry.

There are **one land escape route** identified and two water route.

There are risk of land route cut off in this village hence more strategy to hold- out on site in case of natural disaster

Grab Bag Workshop

At the end of the session, the villagers were able to produce ideas of the contents of a disaster grab bag that they felt would be sufficient for a 3-day survival using categories of **Food, Communication, Survival, Comfort** and **Miscellaneous**

Additional: Community CPR and Fire extinguisher use

Addition of fire-fighting lesson in the program itinerary and Community CPR

10

Steps for Organizing CBDRM: 1) Pre- event Preparation (1)

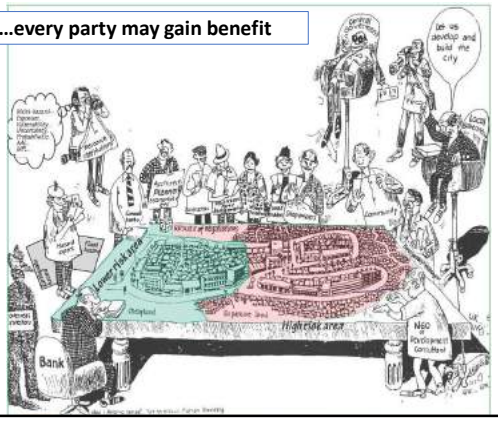
- Refer to the Environmental Health Risk Inventory (EHRI)
- Identify hazards and vulnerabilities
- Community location selection – justify
  - frequency of disasters caused by human activity / natural disasters / hybrid
- Preparation of paperwork / finances
- Identify stakeholders / partners
- Hold a preliminary meetings if necessary

Steps for Organizing CBDRM: 1) Pre- event Preparation (2)

- Communicate and build relationships with industry stakeholders
  - Meet with local govt representatives, industry rep and industrial park rep
- Communicate and build relationships with the targeted community
  - Meet with the head of the population / head of the community
  - Meet with disaster responder agencies (JBPM. APM, ATM, PDRM)
  - Meet with NGOs (if any)
  - Site visit
  - Mutual agreement to hold a program

Stakeholders' Involvement

…every party may gain benefit



Engagement to Local Govt and Industrial Player

Engagement to Community

Steps for Organizing CBDRM: 2) Implementing the program

- Appoint observer / evaluator
- Program content
  - Determination of community's disaster risk level
  - Town watching
  - Risk mapping / escape route
  - Grab bag training and content
  - Added value program – community CPR / water rescue / fire fighting / first aid
- Include local authority and responding agencies in town-watching and grab bag workshops

DON'T FORGET: Vulnerable groups

Disaster Preparedness for People With Disabilities

General Information

Many people will have a disability, either short-term or permanent, that will limit their ability to move around.

Disabilities manifest themselves in varying degrees. Everyone needs to have a plan to be able to evacuate a building, regardless of his or her physical condition. When preparing for a disaster, we must consider carefully all aspects and categories of disabilities.

The Five General Categories of Disabilities

- Mobility Impairments
- Visual Impairments
- Hearing Impairments
- Speech Impairments
- Cognitive Impairments

Advice For Persons with Disabilities

- If you are in a wheelchair when the earthquake begins, lock your wheels.
- Keep your service animals with you in a safe place at home, or take them with you to a shelter. (SERVICE ANIMALS ARE THE ONLY ANIMALS ALLOWED IN A SHELTER)
- If you are taking your service animal to an Emergency Shelter, remember, these places, cannot care for your animal. Do not forget to take a collar, harness, identification tags, records of vaccinations, medications, and food for your service animal with you.
- Install at least one smoke detector on each level of your home, outside sleeping areas. Install a system with flashing strobe lights for the hearing impaired. Replace batteries in detectors at least once a year, such as on your birthday, New Year's Day, or an easily remembered day. Test smoke detectors once a month by pushing the test button.
- Find the location of and learn how and when to disconnect main utility cutoff valves and switches in your home during an emergency. Try to do this yourself, or arrange for help.
- When traveling, know the types of disasters that threaten the area you will be visiting. Let the hotel or motel front desk know of your possible needs in case of an emergency. Describe the type of help you may need. Inform friends, family and/or your network members of your travel plans, whom you will leave and when you will return.

Types of Disabilities and Warning Systems

Types of Disabilities	Warning Systems
Visual disabilities	• Auditory signal system/alarms • Announcements • Posters written with large characters and color contrast
Hearing disabilities	• Visual signal systems – red flag, symbols • Pictures
Intellectual disabilities	• Turn lights off and on frequently • Special signals – red flag, symbols • Clear and brief announcements by rescue workers
Physical disabilities	• Auditory signals system/alarms • Announcements

* Kabir, F. (2008), *Mainstreaming Disability Issues in Disaster Risk Reduction*, Dakha, 3rd APDF General Assembly, http://www.nfowd.com/APDF_Papers.html (accessed July 25, 2008).

Source: The World Bank: Building Resilient Communities

Steps for Organizing CBDRM: 3) Evaluation & Follow-up

- Evaluation
  - Pre – post test
  - Quizzes
  - Feedback
- Follow –up
  - Formation of ERP document
  - After action review
  - Simulation / training
  - Program sustainability / regular meet up

How to...

1) calculate community's disaster risk level
2) decide content of the program
3) evaluate the program – pre/post test
4) produce ERP document

1) Calculating Community's Disaster Risk Level

Risk = Likelihood x Severity

Risk = Hazard potential x Intensity of consequence

Risk = (Hazard x Vulnerability) / Coping capacity

Risk = Hazard x Exposure x Vulnerability

Risiko = Potensi kejadian hazad x Keterukan akibat

POTENSI KEJADIAN HAZAD

Skala Penilaian	Kekerapan	Indikasi
5	Kerap	Sekali dalam masa kurang 2 tahun
4	Kemungkinan besar	Sekali dalam 2 hingga 25 tahun
3	Mungkin	Sekali dalam 25 hingga 50 tahun
2	Tidak mungkin	Sekali dalam 50 hingga 100 tahun
1	Jarang	Sekali dalam masa lebih 100 tahun

KETERUKAN AKIBAT

Skala Penilaian	Tahap Keterukan	Kriteria*	
		Kematian	Kecederaan
5	Malapetaka	Kematian terus lebih dari 10% orang penduduk	Kecederaan terus lebih dari 10% orang penduduk
4	Besar	Kematian terus lebih dari 5% hingga 10% penduduk	Kecederaan terus lebih dari 5% hingga 10% penduduk
3	Sederhana	Kematian terus lebih dari 1% hingga 5% penduduk	Kecederaan terus lebih dari 1% hingga 5% penduduk
2	Kecil	Kematian terus kurang dari dari 1% penduduk	Kecederaan terus kurang dari dari 1% penduduk
1	Tidak Penting	Tiada kematian terus kepada penduduk	Tiada kecederaan terus kepada penduduk

*Skala penilaian akan dipilih berdasarkan yang mana lebih tinggi di antara "kematian" dan "kecederaan"

TAHAP RISIKO

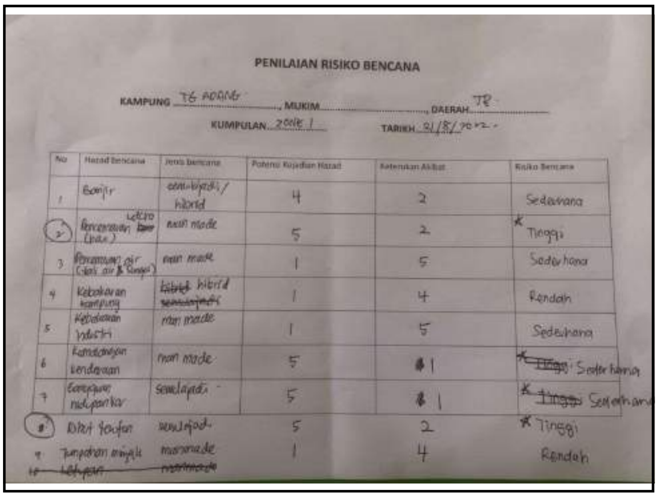
	Keterukan Akibat				
Potensi Kejadian Hazad	1	2	3	4	5
5	Sederhana	Tinggi	Tinggi	Sangat Tinggi	Sangat Tinggi
4	Rendah	Sederhana	Tinggi	Tinggi	Sangat Tinggi
3	Rendah	Rendah	Sederhana	Tinggi	Tinggi
2	Sangat rendah	Rendah	Rendah	Sederhana	Tinggi
1	Sangat rendah	Sangat rendah	Rendah	Rendah	Sederhana

Contoh Pengiraan "Tahap Risiko"

bencana	Jenis	Potensi Kejadian Hazad	Keterukan Akibat	Tahap risiko
Banjir	Bencana alam	Mungkin (3)	Sederhana (3)	Sederhana
Tsunami	Bencana alam	Tak mungkin (2)	Malapetaka (5)	Tinggi
Kapal berlanggar	Buatan manusia	kemungkinan besar (4)	Tidak penting (1)	Rendah
Kapal terbang terhempas	Buatan manusia	Jarang (1)	Besar (4)	Rendah

Tindakan berasaskan “Tahap Risiko”

Tahap Risiko	Tindakan
Sangat tinggi	Perlu tindakan serta merta untuk mengawal hazad bencana ini dengan bantuan agensi
Tinggi	Perlu tindakan segera untuk mengawal hazad bencana ini dengan /tanpa bantuan agensi
Sederhana	Perlu tindakan terancang untuk mengatasinya dan jika perlu, tindakan sementara boleh diambil
Rendah	Risiko yang boleh diterima penduduk dan tindakan pengurangan risiko boleh diambil
Sangat Rendah	Risiko yang boleh diterima penduduk dan tidak perlu tindakan lanjut



2) Content of the Program Day 1

Masa	Tajuk	Incaj
8.30pg-9.00pg	Pendaftaran	Urusetia
9.00pg-9.15pg	Pembentangan Profil Kampung Tanjung Adang	Ketua Kampung
9.15pg-9.45pg	Community-Based Disaster Risk Management (CBDRM)	Pakar DRM
9.45pg-11.30pg	1) Kerja kumpulan - bergerak ke kawasan	Zon 1: Fasilitatior 1
11.30pg-1.00tgh	2) Kerja kumpulan – perbincangan dan pemetaan risiko	Zon 2: Fasilitatior 2 Zon 3: Fasilitatior 3 Zon 4: Fasilitatior 4
1.00tgh-2.00ptg	Makan Tengahari	
2.00ptg-5.00ptg	Pembentangan kumpulan	Pakar DRM

Content of the Program Day 2

Masa	Tajuk	Incaj
8.30pg-9.00pg	Pendaftaran	Urusetia
8.30 pg – 10.00 pg	Taklimat Dan Amali CPR	Fasilitator
10.00 pg – 1.00 ptg	Taklimat & Bengkel Penghasilan Kandungan *Grab Bag*	Pakar DRM
1.00 ptg – 2.00 ptg	Rehat / Makan Tengah Hari	
2.00 ptg – 3.30 ptg	*Fire Safety Training*	Jabatan Bomba & Penyelamat
3.30 ptg – 4.30 ptg	Penilaian Program	Urusetia

Materials the Secretariat Needed to Conduct the Training

- Laptop
- Printer
- LCD Projector
- Portable projector screen
- Speaker system
- Microphone
- White board
- A4 paper
- Majong paper
- Pen
- Marker pens
- Sticky notes
- Masking tape

3) Evaluation of the Program

- Evaluation
- Pre – post test
- Quizzes
- Feedback

Pre & Post Program Test

1. Apakah tanda tanda bencana kimia dan biologi?
   I. Titisan lapisan minyak atas permukaan
   II. Bilangan orang ramai yang pengsan
   III. Bau yang luar biasa
   IV. Renjisan atau wap cecair yang luar biasa

   A. I dan III
   B. I, dan II
   C. I, II dan III
   D. Semua diatas

2. Apakah yang perlu dilakukan selepas bencana kimia?
   I. Bersihkan tangan anda dengan sabun dan air
   II. Alirkan air yang banyak pada mata
   III. Salin dengan pakaian yang bersih yang tersimpan dalam laci atau almari tertutup
   IV. Dapatkan bantuan perubatan untuk pemeriksaan

   A. I dan III
   B. I, dan II
   C. I ,II dan III
   D. Semua diatas

3. Jika anda diluar rumah, apakah yang perlu anda lakukan semasa tanah runtuh?
   I. Lari ke tanah yang rendah
   II. Jauhi laluan dan Kawasan tanah runtuh
   III. Berlindung disebalik rimbunan pokok
   IV. Jika tiada pilihan, segera peluk tubuh,membongkok seperti bola lindungi kepala

   A. I dan II
   B. II dan III
   C. II, III dan IV
   D. Semua diatas

Pre & Post Program Test

4. Apakah yang perlu dilakukan selepas banjir kecuali
   A. Terus memasuki rumah yang masih dibanjiri air untuk mencari barang berharga
   B. Beri bantuan kepada jiran anda atau golongan kurang upaya dan istimewa
   C. Dengar pengumunan radio atau tunggu arahan pihalk berkuasa
   D. Periksa rumah anda,lihat tanda-tanda rekahan atau mendapan

5. Apakah yang perlu dilakukan semasa bencana banjir?
   I. Dengar pengumunan radio
   II. Bersedia dengan peralatan kecemasan
   III. Letakkan peralatan elektrik ditempat yang tinggi
   IV. Bawa masuk perabot atau perkakasan luar rumah

   A. I dan III
   B. I, dan II
   C. I ,II dan III
   D. Semua diatas

6. Bilakah Grab Bag akan digunakan?
   A. Digunakan semasa pengungsian tempat tinggal akibat bencana
   B. Digunakan semasa dirumah sendiri semasa banjir
   C. Digunakan di hospital selepas masuk ward untuk kegunaan sendiri
   D. Digunakan semasa penghantaran makanan

Pre & Post Program Test

7. Grab Bag juga dikenali sebagai
   I. Kit kecemasan
   II. Survival kit
   III. Grab and go bag
   IV. Disaster bag

   A. I dan III
   B. I, dan II
   C. I ,II dan III
   D. Semua diatas

8. Apakah perkara yang perlu diambil kira dalam penyediaan Kendiri Grab Bag semasa bencana?
   I. Jenama beg
   II. Berat beg
   III. Kalis air
   IV. Saiz beg

   A. I dan III
   B. II,III dan IV
   C. I, II, dan III
   D. Semua diatas

Pre & Post Program Test

9. Apakah jenis makanan dan minuman yang perlu ada dalam Grab Bag?

   I. Makanan kering dan tahan lama
   II. Air dibotolkan
   III. Pembuka tin
   IV. Makanan basah

   A. I dan III
   B. I, dan II
   C. I ,II dan III
   D. Semua diatas

10. Apakah alat perlindungan keselamatan yang perlu ada Grab Bag?
   I. Topeng muka (*facemask*)
   II. Kasut
   III. Steteskop
   IV. Topi keselamatan

   A. I dan III
   B. II,III dan IV
   C. I, II, dan IV
   D. Semua diatas

4) Producing Community's ERP Document

- As a standard plan to be used by the whole community
- In time of crisis, to be used as guide
- To engage the community member while producing
- The ERP needs to be tested / simulation
- The idea is for each house, 1 document

Suggested Content of Community's ERP Document

1) Introduction
   - About the community / village
   - Hazard profile of nearby industry
2) List of disaster risk in accordance by severity (as decided during workshop)
3) Findings from town-watching
   - Escape route
   - Safe areas
   - Location of assests

Suggested Content of Community's ERP Document

4) List of grab bag content unique for the village / community
5) Suggestion for the improvement of community's capacity for better survival (can be forwarded to local authority)
6) Short notes for community CPR / first aid / fire fighting

Thank You

LECTURE 6: COMMUNITY CPR / FIRE EXTINGUISHER USE TRAINING

Contents

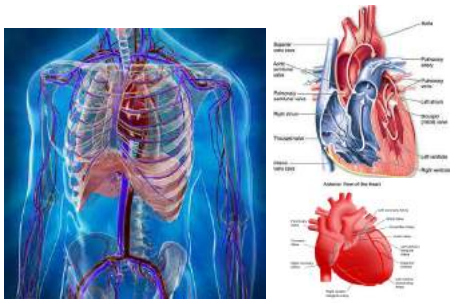
- Pre-amble
- Community CPR
  - Adult CPR
  - Paediatric CPR
  - Managing choking individual
- Fire extinguisher use

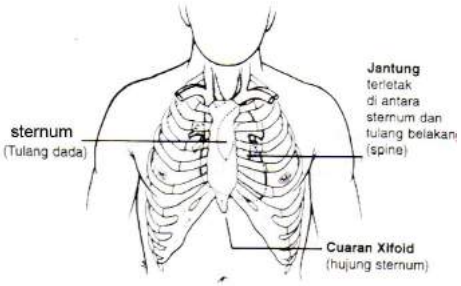
Pre-amble

- This session is to expose the course participants to CBDRM added value content of life-saving procedures
- In the actual community training, CPR / Fire extinguisher use would be performed by certified trainers such as certified CPR instructors and actual firefighters from Jabatan Bomba dan Penyelamat Malaysia

Community CPR

ANATOMI DAN PHYSIOLOGY





Punca-punca Mangsa Tidak Sedarkan Diri atau Kematian Mengejut

- Serangan Jantung
- Stroke/ Angin Ahmar
- Tercekik
- Lemas
- Renjatan/Shock – kehilangan darah/ alahan yang teruk/ serangan jantung
- Penggunaan dadah berlebihan

DEFINASI CARDIOPULMONARY RESUSCITATION

Kaedah untuk menyelamatkan nyawa seseorang dengan cara menekan dada dengan kaedah tertentu dan memberikan bantuan pernafasan samada melalui pernafasan mulut ke mulut atau menggunakan peralatan yang sesuai

BILA PERLU CPR

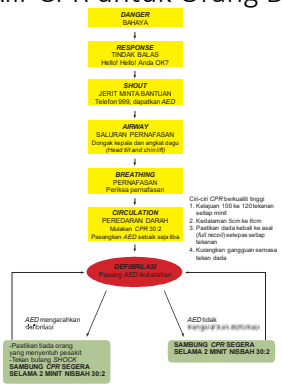
Apabila seseorang itu didapati tidak sedarkan diri dan tiada tanda-tanda bernafas atau pernafasan tidak normal dan tidak bernyawa

CPR perlu dilakukan dalam **tempoh 4 minit** kerana dalam selepas dari tempoh tersebut, otak kekurangan oksigen dan akan mati (brain death)

CPR UNTUK ORANG DEWASA

DANGER	**BAHAYA** Pastikan keadaan mangsa, anda dan persekitaran selamat Jauhi tumpahan darah, objek tajam, wayar elektrik, dan sebagainya
RESPONSE	**TINDAK BALAS** Tepuk bahu mangsa. Tanya dengan jelas "Hello! Hello! Anda OK?"
SHOUT	**JERIT MINTA BANTUAN** Jerit "Tolong! Tolong! Hubungi 999! Dapatkan *AED*!"
AIRWAY	**BUKA SALURAN PERNAFASAN** Dongakkan kepala dan angkat dagu (*Head tilt- chin lift*)
BREATHING	**PERNAFASAN** Lihat sama ada mangsa bernafas atau tidak (dalam tempoh tidak melebihi 10 saat). Jika tidak, mulakan tekanan dada.
CIRCULATION	**PEREDARAN DARAH** Tekan dada dengan kualiti tinggi • Kelajuan: **100 ke 120 kali seminit** • Kedalaman: **5 ke 6 cm** • Pastikan dada ***recoil*** ke posisi asal • Kurangkan gangguan semasa tekan dada • Nisbah tekanan dada dan bantuan pernafasan **30:2** • Setiap bantuan pernafasan selama 1 saat
DEFIBRILATION	**DEFIBRILASI** Pasang *pad AED* pada dada mangsa Ikut arahan *AED* Sambung tekan dada segera selepas Defibrilasi

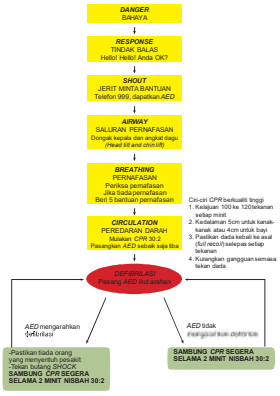
Carta Alir CPR untuk Orang Dewasa



CPR UNTUK KANAK-KANAK

DANGER	**BAHAYA** Pastikan keadaan mangsa, anda dan persekitaran selamat Jauhi tumpahan darah, objek tajam, wayar elektrik, dan sebagainya
RESPONSE	**TINDAK BALAS** Tepuk bahu mangsa. Tanya dengan jelas; "Hello! Hello! Anda OK?"
SHOUT	**JERIT MINTA BANTUAN** Jerit; "Tolong! Tolong! Hubungi 999! Dapatkan *AED*!"
AIRWAY	**SALURAN PERNAFASAN** Dongakkan kepala dan angkat dagu
BREATHING	**PERNAFASAN** Periksa sama ada pernafasan adalah normal dalam masa 10 saat. Jika tidak bernafas, berikan 5 bantuan pernafasan.
CIRCULATION	**PEREDARAN DARAH** Dalam masa 10 saat, periksa tanda-tanda mangsa hidup. Jika tiada mulakan tekan dada dengan berkualiti tinggi pada nisbah 30 tekan dada kepada 2 hembusan nafas.
DEFIBRILATION	**DEFIBRILASI** Pasang *pad AED* pada dada mangsa. Ikut arahan *AED*. Sambung tekan dada segera selepas defibrilasi

Carta Alir CPR untuk Kanak-kanak / Bayi



Rawatan Mangsa Dewasa / Kanak-kanak Yang Tercekik


Demonstration


Practice session

Fire Extinguisher Use

UNDANG-UNDANG MALAYSIA

AKTA 341

AKTA PERKHIDMATAN BOMBA 1988

26. Menyembunyikan dan menyalahgunakan pili bomba.

Mana-mana orang yang menutup, mengepung, atau menyembunyikan mana-mana pili bomba hingga menjadikan tempatnya sukar dipastikan, atau mengganggu mana-mana pili bomba, atau menggunakan pili bomba selain daripada tujuan menentang kebakaran adalah melakukan suatu kesalahan.

SAFE PLACE ASSEMBLY

1. A gathering place safe from the scene of the fire

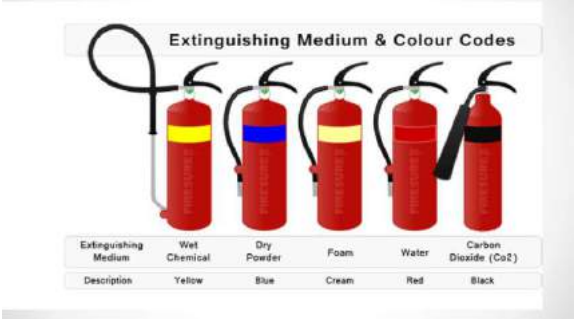
2. A safe and protected from other hazards.

3. If the self-assembled area on the premises unsafe, ask for the cooperation of the premises adjacent to converge in their area.

FIRE CLASSES

A Trash Wood Paper • wood • paper • cloth • etc.	B Liquids Grease • gasoline • oil • grease • other solvents
C Electrical Equipment • computers • fax machine • other energized electrical equip.	COMBUSTIBLE METALS • magnesium • sodium • potassium • titanium • other flammable metals

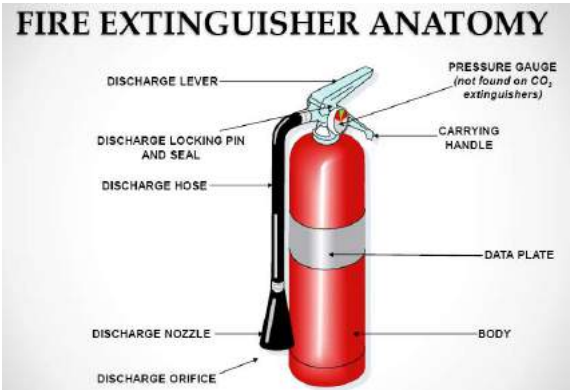
TYPES OF FIRE EXTINGUISHERS



MULITPURPOSE DRY CHEMICAL

- Class "A", "B", or "C" fires. On campus mostly Class ABC.
- dry chemical *(ammonium phosphate)* nitrogen gas
- Has pressure gauge to allow visual capacity check.
- 5-20 ft. maximum effective range.
- Extinguishes by *smothering* burning materials. This separates the fuel from the oxygen in the air.

FIRE EXTINGUISHER ANATOMY



HOW TO USE A FIRE EXTINGUISHER

Remember this easy acronym when using an extinguisher - **P.A.S.S.**

- ✓ **P**ull the pin.
- ✓ **A**im the nozzle.
- ✓ **S**queeze the handle.
- ✓ **S**weep side to side at the base of the

MOH@ 2016 Edition

Thank You

Now.. Practice session

Lecture 1 Quiz:

Option 1

1. Functional definition of disaster in Malaysia is definesd as an event that causes interference to the society activity and state affairs involving

I) Loss of life
II) Property damage
III) Economic losses and environmental destruction
IV) Require extensive resources mustering

A) I only
B) I and II
C) I, II and III
D) All of above

2. Which of the following is not a Natural disaster?

A) Coal mine explosion
B) Flood
C) Earthquake
D) Landslide

3. A disaster can affect the following:

A) People only
B) People and Asset only
C) People, Environment and Asset only
D) People, Environment, Asset and Reputation

4. What are the 4 phases of Emergency Disaster Management

A) Crisis, Preparedness, Response and Recovery
B) Preparedness, Response, Recovery and Mitigation
C) Crisis, Preparedness, Response and Mitigation
D) Preparedness, Crisis, Recovery and Mitigation

Option 2

1. Preparedness phase includes all of the following except

A) Plans and preparation to save lives
B) Evacuation plans and rescue operations plans
C) Buying a flood insurance
D) Plans to stock up essential supplies

2. What are Ministry of Health Roles in Response Phase includes

I) Search and Rescue
II) Medical & Health services
III) Welfare
IV) Technical and Specialist Input

A) II only
B) II and IV only
C) I, II and IV
D) All of above

3. Hazard is a dangerous phenomenon, substance, human activity or condition that may cause:
A) Health impacts, property and environmental damages
B) Loss of livelihoods and services, social and economic disruptions
C) All of above
D) None of above

Lecture 2 Quiz

Option 1
1. Apakah yang dimaksudkan dengan *Community Disease Risk Management*?
A) Satu proses pengurusan risiko bencana yang mana komuniti berisiko dilibatkan secara aktif untuk mengurangkan kerentanan dan meningkatkan kapasiti mereka melalui identifikasi, analisis, rawatan, pemantauan dan penilaian risiko bencana.
B) Satu proses pengurusan risiko bencana yang mana anggota kesihatan dilibatkan secara aktif untuk mengurangkan kerentanan komuniti melalui identifikasi, analisis, rawatan, pemantauan dan penilaian risiko bencana.
C) Satu proses pengurusan risiko bencana yang mana komuniti TIDAK berisiko dilibatkan secara aktif untuk mengurangkan kerentanan komuniti melalui identifikasi, analisis, rawatan, pemantauan dan penilaian risiko bencana.
D) Satu proses pengurusan risiko bencana yang mana pihak berkuasa tempatan dilibatkan secara aktif untuk mengurangkan kerentanan komuniti melalui identifikasi, analisis, rawatan, pemantauan dan penilaian risiko bencana.

2. Siapakah *first responder* di dalam bencana?
A) Polis Diraja Malaysia
B) Jabatan Bomba dan Penyelamat
C) Komuniti setempat
D) Pejabat Daerah

3. Apakah elemen penting dalam CBDRM?
A) Kepentingan penglibatan komuniti
B) Keutamaan adalah kepada keluarga dan golongan berisiko di komuniti.
C) Langkah-langkah pengurangan risiko adalah bergantung kepada komuniti setempat.
D) Semua di atas.

Option 2
1. The following are the component used to calculate disaster risk except:
A) Hazard
B) Impact
C) Vulnerability
D) Exposure

2. What are the priority for action to prevent new disaster and reduce the existing risk according to The Sendai Framework?
A) Understanding the disaster risk and strengthening the risk governance to manage the disaster risk.
B) Reduce the investment in disaster reduction
C) Reducing the resilience
D) Reconstruction only after disaster happens to reduce the cost

3. Which of the following is false about CBDRM?
A) Identification and analysis is a part of CBDRM
B) Participation from all sectors are required
C) CBDRM is a top-bottom program
D) Communities are the first responders in case of disaster

Lecture 3 Quiz

1. *Town watching* boleh dilakukan hanya dengan mendengar ceramah
A) Betul
B) Salah

2. Kunci kepada *Town Watching* adalah melalui pemerhatian secara kolektif bersama kumpulan yang terdiri daripada komuniti, pihak berkuasa tempatan dan agensi
A) Betul
B) Salah

3. Apakah objektif utama *Community-Based Hazard Mapping*?
A) Penglibatan penduduk setempat dalam membangunkan *hazard map* di dalam komuniti.
B) Menunjukkan pandangan penduduk setempat tentang polisi yang dibuat oleh kerajaan/pihak berkuasa tempatan.
C) Memupuk pemahaman tentang risiko bencana di kalangan penduduk setempat, pihak berkuasa tempatan dan agensi.
D) Semua di atas

4. Siapakah individu yang penting*(main player)* di dalam *Town Watching*?
A) Fasilitator
B) Penduduk setempat, pihak berkuasa tempatan dan agensi yang membentuk pasukan
C) *Disaster risk management expert*
D) Penceramah

Lecture 4 Quiz

1. Apakah itu GRAB BAG?
A) Sebuah beg yang mengandungi keperluan menghadapi kecemasan dalam bentuk mudah dibawa
B) Disediakan sebagai persediaan kecukupan kendiri
C) Digunakan semasa pengungsian tempat tinggal akibat bencana
D) Semua jawapan di atas

2. Apakah perkara - perkara yang perlu diambilkira dalam penyediaan kendiri Grab Bag Bencana?
A) Saiz beg, berat beg dan beg kalis air
B) Isi beg untuk keperluan yang boleh bertahan 1 bulan
C) Keperluan untuk diri sendiri sahaja
D) Disimpan di almari berpalang

3. Apakah kategori keperluan yang perlu diambil kira untuk peralatan GRAB BAG BENCANA? Sila pilih antara pilihan keperluan di bawah ini :
I) Makanan dan minuman
II) Hiburan
III_ Keperluan ikhtiar hidup

IV) Kemewahan
V) Keselamatan
VI) Keseronokan
VII) Komunikasi
VIII) Kebersihan/ hygiene
IX) Perlindungan keselamatan
X) Keselesaan

A) I, II, III, IV
B) V, VI, VII, VIII
C) V, VI, IX, X
D) VII, VIII, IX, X

Lecture 5 Quiz

1. Bagaimanakah kita menilai Risiko Bencana dalam Komuniti?
A) RISIKO = Potensi kejadian hazard X Bilangan komuniti
B) RISIKO = Keterukan akibat X Bilangan komuniti
C) RISIKO = Bilangan komuniti X Bilangan bencana
D) RISIKO = Potensi kejadian hazard X Keterukan akibat
E) RISKO = Bilangan bencana X Keterukan akibat

2. Antara Potensi Kejadian Hazad berikut yang mana adalah BENAR?
A) Skala Penilaian 1 : Kekerapan JARANG, Indikasi SEKALI dalam 2 hingga 25 tahun
B) Skala Penilaian 2 : Kekerapan TIDAK MUNGKIN, Indikasi SEKALI dalam masa lebih 100 tahun
C) Skala Penilaian 3 : Kekerapan MUNGKIN , Indikasi SEKALI dalam 50 hingga 100 tahun
D) Skala Penilaian 4 : Kekerapan KEMUNGKINAN BESAR, Indikasi SEKALI dalam 25 hingga 50 tahun
E) Skala Penilaian 5 : Kekerapan KERAP, Indikasi SEKALI dalam kurang 2 tahun

3. Apakah yang dimaksudkan dengan kriteria KETERUKAN AKIBAT pada TAHAP MALAPETAKA?
A) Tiada kematian terus kepada penduduk, Tiada kecederaan terus kepada penduduk
B) Kematian terus kurang dari dari 1% penduduk, Kecederaan terus kurang dari dari 1% penduduk
C) Kematian terus lebih dari 10% orang penduduk, Kecederaan terus lebih dari 10% orang penduduk
D) Kematian terus lebih dari 1% hingga 5% penduduk, Kecederaan terus lebih dari 1% hingga 5% penduduk
E) Kematian terus lebih dari 5% hingga 10% penduduk, Kecederaan terus lebih dari 5% hingga 10% penduduk

Lecture 6 Quiz

1. Bilakah masa yang sesuai seseorang mangsa itu diberikan bantuan CPR (Cardiopulmonary Resuscitation)?
I) Apabila seseorang itu didapati tidak sedarkan diri dan tidak bernyawa
II) Apabila seseorang itu dijumpai dengan keadaan terkulai
III) Apabila tiada tanda- tanda bernafas atau pernafasan tidak normal
IV) CPR perlu dilakukan dalam tempoh 7 minit kerana dalam selepas dari tempoh tersebut, otak kekurangan oksigen dan akan mati (brain death)

A) I dan II
B) I dan III
C) II dan IV
D) III dan IV
E) II dan III

2. Di antara berikut, yang manakah cara rawatan mangsa dewasa / kanak - kanak yang tercekik yang BETUL?
I) Periksa keadaan mangsa
II) Galakkan mangsa yang sedar untuk batuk sekiranya batuk efektif
III) Sekiranya mangsa tidak sedar, mulakan CPR
IV) Sekiranya mangsa sedar, tepuk belakang mangsa 5 kali
V) Sekiranya mangsa sedar, tekan perut mangsa 5 kali

A) I, II dan III
B) II, III dan IV
C) III, IV dan V
D) I, IV, dan V
E) Semua di atas

3. Bagaimanakah pemilihan Tempat Berkumpul yang Selamat sewaktu kebakaran?
I) Tempat berkumpul tersebut jauh dan selamat dari tempat kejadian kebakaran
II) Tempat berkumpul tersebut selamat dan terpelihara dari ancaman hazad yang lain
III) Tempat berkumpul tersebut mesti berada dalam kawasan kampung tersebut untuk memudahkan masyarakat berkumpul
IV) Tempat berkumpul tersebut perlu berada pada jarak yang berdekatan dengan akses jalan raya
V) Sekiranya tempat berkumpul yang sedia ada tidak selamat, minta kerjasama pihak premis bersebelahan untuk berkumpul di kawasan mereka

A) I, II dan III
B) II, III dan IV
C) I, II dan V
D) III, IV dan V
E) I, IV dan V