PROGRAM REPORT
29 - 30 APRIL 2019

RESILIENT HOSPITAL PULAU PINANG:
Community Emergency Response Team (CERT) Training

BUILDING RESILIENT COMMUNITIES

Resilient Health Infrastructure (RHI) is part of MERCY Malaysia's Building Resilient Communities (BRC) initiative. It is a program focusing on advocating a planned preparation in strengthening hospitals' and the other capacity of health infrastructure in order to respond effectively during disasters as well as fast recovery from the impact of extreme events. The objectives of this program is to help reduce vulnerabilities of critical assets, systems, and networks; and mitigate the potential consequences to critical infrastructure of disaster incidents.

BUILDING A RESILIENT PULAU PINANG:
Community Emergency Response Team
Training and Disaster Simulation Exercise

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CHAPTER 1: INTRODUCTION

1.1 Background

Considering hospital and health infrastructure as a complex service organization; building, infrastructure and environmental environment as well as its human resource management systems need to be designed and designed with adequate resilience.

According to National Security Council's (MKN) Directive No.20, a disaster can be defined as an event that occurs suddenly and of complex nature which results in the loss of life or injury, destruction of property or environment and disruption in the daily lives of communities. It is also likely to spread to larger areas. The aftermath of any disaster inflicted upon the hospital and the health infrastructure will be compounded if the hospital management does not have a disaster action plan in place for activation when needed. Critical systems such as electricity, water supply and sanitation, waste management and disposal are still expected to function during a crisis and should be taken into consideration while establishing a comprehensive plan of action. The effort to create a resilient hospital is a preparatory step designed to strengthen hospital capacity to respond effectively in disaster situations and ensures a rapid recovery process.

The department of Building Resilient Communities in MERCY Malaysia practices a holistic framework which also encompasses a program targeting the hospital system. The Resilient Infrastructure program aims to increase the culture of disaster resiliency and disaster risk reduction (DRR) practices among hospital staff. The reason being is that most hospitals in Malaysia are not designed, constructed and developed with the consideration of impacts of disaster. Failure to design hospitals to absorb and cope with stress when catastrophic events will cause impairment of service performance and health services at the hospital. A hospital should be able to operate in unexpected conditions such as disasters and able to accommodate resulting changes/difficulties such as influx of patients.

On the 5th of November 2017, after the incessant rainfall for 17 hours, several areas in the Penang General Hospital were flooded. The areas affected at the hospital were the transport unit and lower floors of Block C and D, including four patient wards and the Neonatal Intensive Care Unit. An evacuation order was issued and carried out, involving the transfer of 104 patients and 4 newborn babies. Fortunately, no casualties were reported.

Thus, MERCY Malaysia has conducted the “Resilient Hospital Infrastructure (RHI) and Community Emergency Response Training (CERT) Workshop” on April 29 and 30, 2019. In addition to the RHI program structure, this workshop involved a novel concept that is Community Emergency Responder Training (CERT). In recognition that the local community is an important component of a society, communities

possess deeper knowledge of their own communities and resources, and should be positioned as vital actors in preparing for a disaster and also reducing the risks of it.

Through this program, it is hoped that the concept, frameworks and practice of DRR can be emulated and practiced by this diverse group of workshop participants' among their respective organizations and communities. This report was prepared to document the activities, group presentations and DRR measures that were discussed during the two-day workshop.

1.2 Building Resilient Communities (BRC) and Resilient Hospital Infrastructure (RHI) and Community Emergency Response Training (CERT)

Resilience is the ability to adapt and remain firm in unexpected and difficult circumstances. The ability of being resilient is an indispensable quality that enables an individual to be more flexible in fluctuating environment.

A resilient community can overcome the effects of disasters and be able to get their normal life back faster. To achieve this, all levels of society - governments, academic institutions, the private sector, civil society, community-based organizations, and the general public must be involved. Building community resilience requires direct involvement at the grassroots level at all stages of the implementation of the DRR concept.

From the design phase to the monitoring and evaluation phase, extra efforts should be taken to take into account of the most vulnerable in communities. DRR is a systematic approach to identify, assess and mitigate the risk of disaster. It aims to reduce the socioeconomic disadvantages caused by disasters as well as environmental hazards and other things. DRR is a concept and practice of reducing risk and the catastrophic after effects through systematic efforts in analyzing and managing disaster-related factors, which include, but are not limited to:

1. Reduce threats and hazards

2. Reduce threats to humans and property

3. Environmental planning policy

4. Improve disaster preparedness

MERCY Malaysia has established the Building Resilient Communities (BRC) department that focuses on the dissemination and implementation of DRR. Therefore, the BRC program is developed as a way of addressing and responding to issues, building ideas and establishing a framework of action that aids in enhancing the resilience of the community and its environment through the engagement of focal contact points such as the local community, educational sector, hospitals, private sector and governmental units.

The BRC framework is a holistic approach that encompasses various segments in a society through stakeholder engagement, to enhance their capacity and capabilities towards facing a disaster. BRC and MERCY Malaysia are committed to building resilient communities in the form of social equity and wellbeing, environmental management and growth in economic development in Malaysia.

Due to the fact that the hospital as a very complex organization - the relationships between building structure, infrastructure and the physical (physical aspect) and hospital management (human) management and operation, this program aims to support the adoption of four criteria in making a hospital more resilient. The four main criteria of a resilient hospital are:

1. Strength (robustness)

2. Excess (redundancy)

3. Resources (resourcefulness)

4. Speed (rapidity)

Most hospitals designed and constructed are less likely to take into account the possibility of a disaster.

Hospital design failure to absorb and cope with stress during disasters will result in a decrease in hospital healthcare performance. Experience from the Tsunami of the Indian Ocean at Aceh (2004) and the Nias earthquake (2005) have seen some hospitals failed to function as expected. The recovery and rehabilitation of hospitals from the stress and impacts of a disaster can take from months to even years.

Thus, it is imperative to establish resilient hospitals because:

1. The hospital itself may be a disaster victim

2. Hospital failure will increase the number of patients and disaster victims.

3. During the disaster there is an increased need for emergency care.

4. The loss or lack of hospital workforce during the disaster will reduce the hospital's ability to respond to the disaster.

5. Hospital critical systems such as electricity, water supply and sanitation, waste management and disrupted disposal can suppress the hospital's ability.

Resilient hospitals are a combination of the ability of a hospital and human resources system to be ready and responsive to face stress during the disaster and recover back in time. This can be achieved through increased hospital and human resource / user capacity as a disaster preparedness measure, and through reducing hospital and human resource / user risk factors. In essence, the objectives of creating a resilient hospital are:

1. So that the hospital does not have a bad impact on the disaster
2. So that the hospital still has the ability to function during the disaster

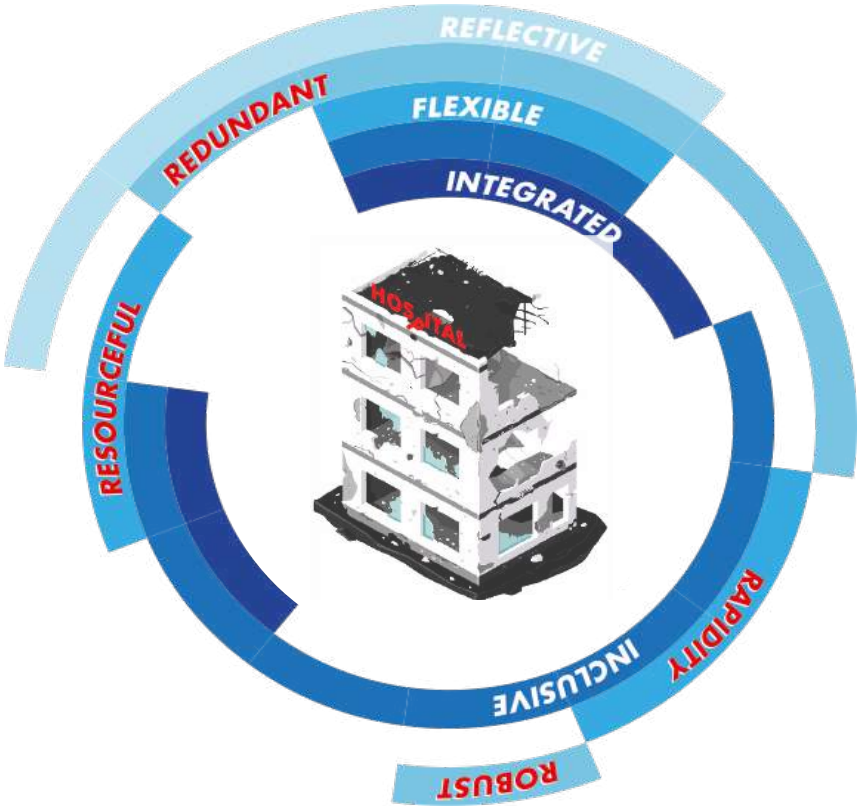


Diagram: Four main criteria of a resilient hospital: robustness, redundancy, resourcefulness and rapidity

1.3 PREPARATIONS AND WORKSHOP STRUCTURE

Early discussion

MERCY Malaysia conducted a meeting with the representatives from Penang General Hospital to discuss the concept of the workshop as well as regarding the technical aspect of the infrastructural modifications.

Workshop venue and module development

1. The workshop was held for two days at the auditorium of Lam Wah Ee Nursing College, Penang
2. Specialized specialist DRR and professional consultants who have been involved in designing and developing hospitals from MERCY Malaysia technical group have

discussed modules on disaster risk reduction as well as the preparation of the Penang Hospital in the face of the disaster

3. Specifically designed simulation exercises to ensure preparation of a disaster preparedness plan which involves the participation of various agencies and its usage during emergencies.
   The concept of the classroom has been applied to the semantic session seminars while group discussions and presentations were conducted using roundtable discussion style. Disaster simulation exercises have been conducted to illustrate the ambiance or probability that will occur during a disaster.

Method of workshop and Hospital Watching

MERCY Malaysia has employed the concept of seminar sessions with the use of standard power point presentations for learning purposes.

To gauge the level of resiliency and comprehension of concepts taught, a questionnaire was distributed to attendees of the workshop attended. This was followed by hospital watching activity where participants were asked to examine satellite images of two flood prone areas and identify the capacities and vulnerabilities present in the areas; Masjid Negeri and Thean Teik Highway.

Detailed explanation for each activity is included in the following pages.

Photo: During the Participatory, Vulnerability, Capacity and Assessment (PVCA1) session, the respective facilitator, En. Viveganathan was explaining the activity to the participants, whom were assigned to one of the 7 groups.

Photo: Group members were having an active and engaging discussion during the group activities. A representative from each group was picked to present and explain their group findings to everyone.

Photo: En. Hafiz Amirrol, Head of BRC presented several sessions and took questions from the audience.

CHAPTER 2: PROGRAM SESSIONS AND GROUP ACTIVITY PRESENTATION

1st session: Disaster preparedness and role of community in an emergency response

This session was presented by En. Norazam Ab Samah, Ex-officio member of MERCY Malaysia. Disaster risk management is guided by 2 key concepts; Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM). The former concept involves identifying and analyzing disaster related risks and hazards and then addresses them through mitigation programs in order to minimize the effects on human life and properties. In terms of a hospital setting, the amenities and material and labor support should not only be able to support daily hospital needs but also function and operate at the standard level, in the event of a disaster/emergency.

The Total Disaster Risk Management (TDRM) approach further contextualizes the concept above into 4 key components, which is as follows; emergency response and recovery, reconstruction and rehabilitation, prevention and mitigation and preparedness. The approach acts as a tool guide for an effective disaster response. An ideal/optimal disaster response can be reflected in a higher emphasis on preparation phase and this then reduces the provision of resources and time on the response and recovery phase, hence a vital indication of high resilient culture.

Diagram: Four phases of Total Disaster Risk Management (TDRM) framework

The most visible example of DRR integration into national policies is the National Security Council's (MKN) Directive No.20. A key point to note is that under the national coordination system, which is divided into district, state and center level. A further look at the district level would be another important component, which should ideally include the role and involvement of communities and civil societies, example CERT. A collective approach in problem solving is the most efficient way in facing disaster situations. In fact, social capital is the binding force on which management of disasters can be achieved in a systematic manner, as disaster management is essentially about people.

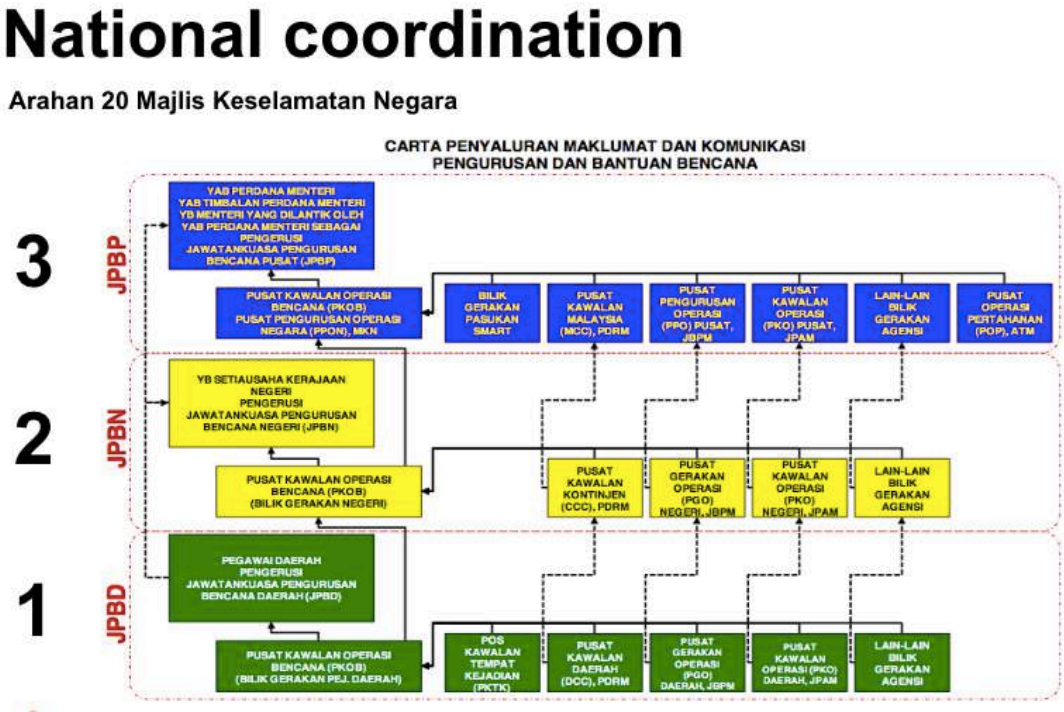


Diagram: Chart detailing the operational structure of information dissemination and disaster relief and management, available under the National Security Council's (MKN) Directive No.20

MERCY Malaysia recognizes and echoes the importance of community involvement in emergency responses, especially in disaster risk management (DRM). The speaker highlights the Building Resilient Communities (BRC) department within MERCY Malaysia and its programs that targets 5 key community hubs; schools, communities, private sector, hospitals and local governmental units, to build a culture of disaster resiliency. Specific activities include disaster simulations, risk mapping and risk mitigation, asset preparedness, technical assistance, advocacy and human development, knowledge and information management.

Session 2: Community management of emergencies through Community Emergency Response Training (CERT)

This session was presented by En. Mohammad bin Suleiman, MERCY Malaysia's Johor State Chapter Chairperson. The delineation between the definition of emergency and disaster helps put into context the scale of the incident which then dictates the scale and type of response it requires. According to the National Disaster Management Agency (NADMA) a disaster is defined as;

1. An event that causes a disruption to civil society and national operations.
2. Involves loss of life, property, financial loss and environmental disruption
3. Response beyond level of local community and requires extensive provision of varied resources.

The operational structure of disaster management is highlighted as below:

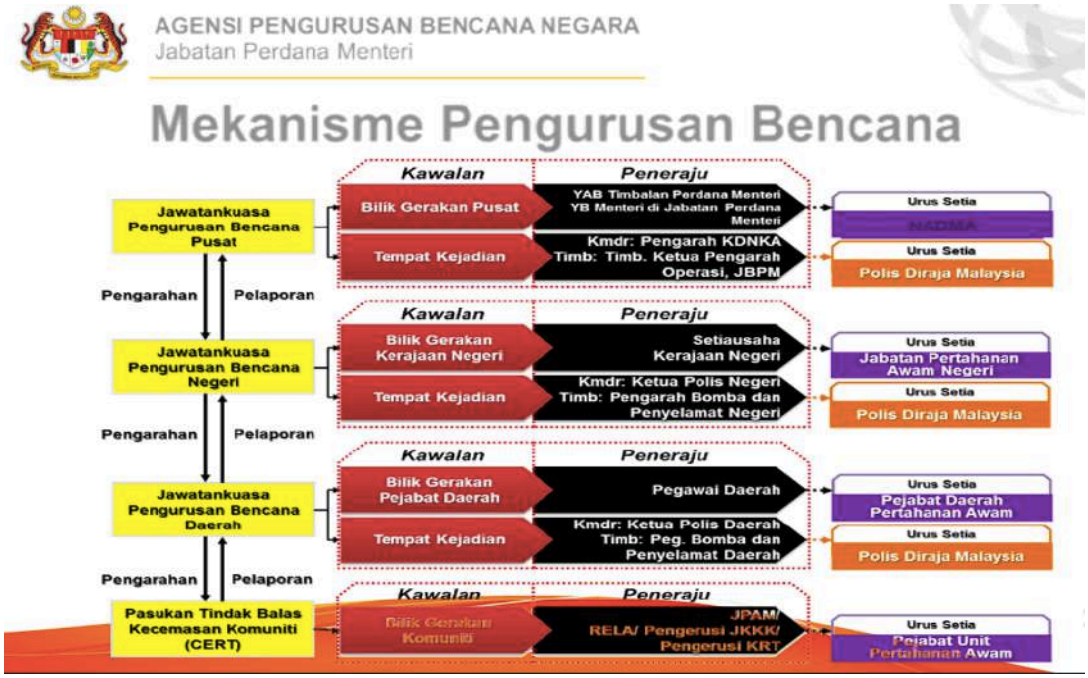


Diagram: The chart above details the disaster management mechanism that is utilised by the National Disaster Management Agency (NADMA)

The inclusion of community emergency responders training (CERT) in this mechanism, once again reverberates the importance of community involvement in disaster management mechanism. On a global scale, the cluster approach was adopted by UN Council, as a measure of coordinated response in humanitarian responses. Local responders to meet the needs of the community during a disaster, can emulate several elements of this approach such as food, temporary, shelter, early response, education, telecommunications, WASH, medical and health, logistics, health and social protection.

Emergency management, in the context of disaster, is the managerial function charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters Management of local emergency depends on factors that affect emergency response such as below:

1. Level of situation; *low, intermediate, high risk*
2. Location; *distance, access, on-site information,*
3. Safety level; *types of danger*
4. Logistic (existing); *vehicles, communication, ERT, volunteers (permanent and temporary), others*

The second portion of the session focused on first responders, whom not only are members of the local communities but also focal actors in disaster response management and their responsibilities. The role of first responders constitutes not the least;

1. Provide emergency aid if necessary

2. Become the 'First Person' on the scene

3. Serving the condition and *Completing the Area for the Easy Route of Emergency and Safety Services*

4. Provide detailed information about victims and surrounding environment

The speaker had also prepared important phonemics, which the workshop participants found useful, as a refresher on the steps a first responder can apply at the emergency site.

Sister 5S: Basic action for CERT for disaster;

Scene Safety (Area safety/stage)

Scene Size Up (Condition of the area/environment)

Send Information (Submit event information)

Set up Base (Open PKTK)

M. E. T. H. A. N. E

Mass casualty

Exact location

Type of incident

Hazard

Access

Number of casualty

EMS at location

As the first responder on the scene location, CERT play a pivotal role in controlling and communicating on the situation on hand with like police and fire department. With their adequate training and knowledge as well as by maintaining a calm and confident demeanor, CERT members are an important first point of contact with the injured victims.

Session 3: Participatory, Vulnerability, Capability and Assessment (PVCA 1)

Group Activity: Hazards Timeline and Venn diagram

A disaster timeline can help to record, identify, analyze and understand disaster, and help in reducing and managing disaster risk for local communities. Workshop participants were tasked to recapture the disaster history that has occurred in Penang or within their communities. This allows the participants to gain further knowledge of past histories of which can used as further reference.

With the Venn diagram activity, this exercise allows the participants to list the key agencies, type of assistance/resources and preparation that is required and given before(preparation), during(response) and after a disaster (recovery).

DISASTER TIMELINE

2019
Building collapse at Tanjung Bungah

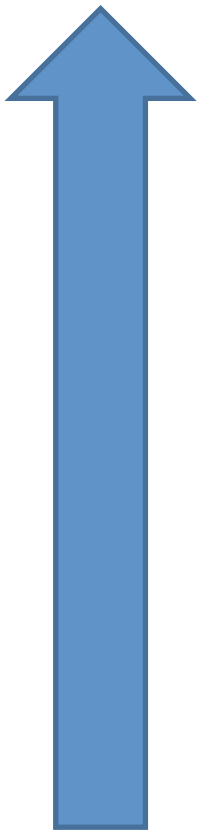
2018
Landslide at Balik Pulau,
Paya Terubong and Tanjung Bungah.
Flash flood

2017
Flash flood at Mainland and Island
Landslide at Tanjung Tokong

2016
Wild fire at Penang Hill
Factory Fire at Taman Pelangi

2014
Penang bridge ramp collapse

2013
Pylon collapse



2009

H1N1 pandemic scare

2004

Tsunami

2003

SARS

2000

Fire on Sandiland

1988

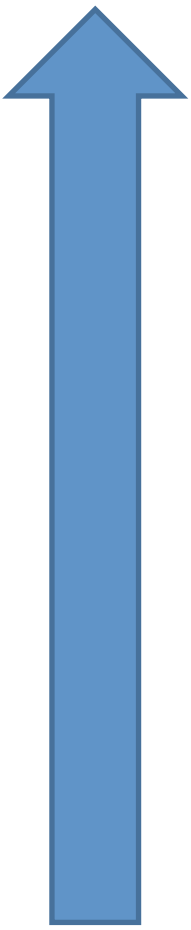
Ferry terminal collapse

1985

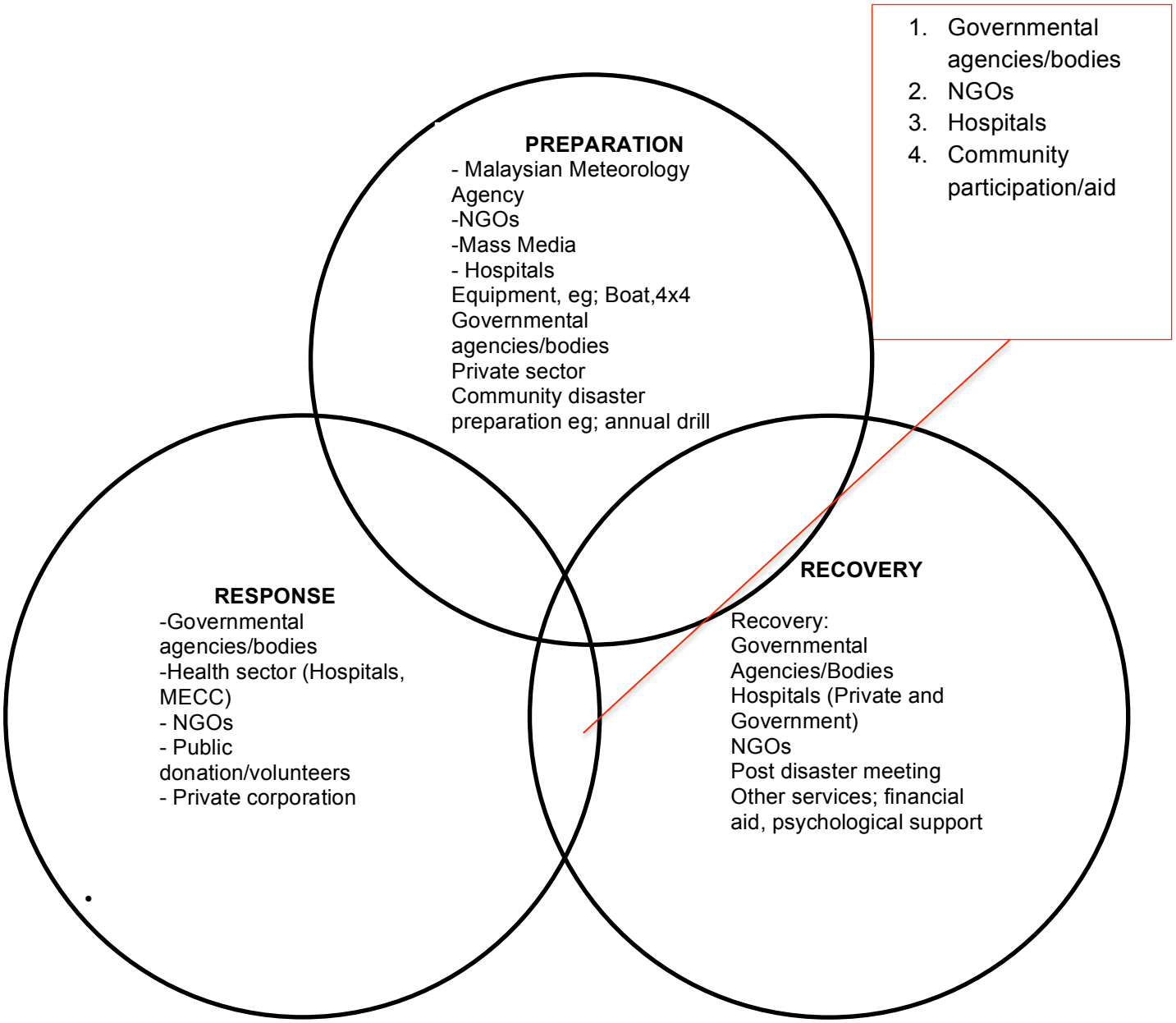
Ferry terminal collapse

1983

Fire at the Komtar Building



Venn Diagram



Session 4: Psychological First Aid

Dr Hariyati Shahrima Abdul Majid, Ex-Officio member of MERCY Malaysia presented this session. MERCY Malaysia recognizes the mental and emotional distress that one faces during an emergency/disaster can have lasting effect on a person`s wellbeing unless necessary care and support is provided.

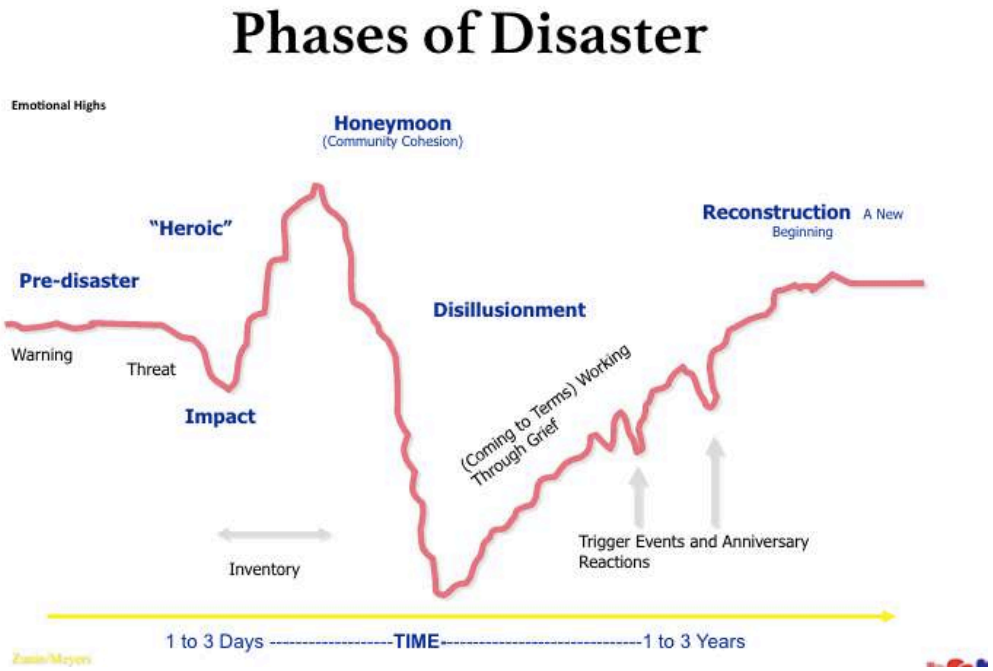


Diagram: Chart detailing the emotional phases of a disaster

Thus, the Mental Health and Psychological Support Service (MHPSS) program was borne out of this imperative need, with its primary goal to decrease the distress of an event and mitigate future problems. Early psychological intervention is best thought of means of enhancing resiliency (modify this sentence). MHPSS can also be adapted within the Total Disaster Risk Management (TDRM) framework, highlighting the sustainability of the concept

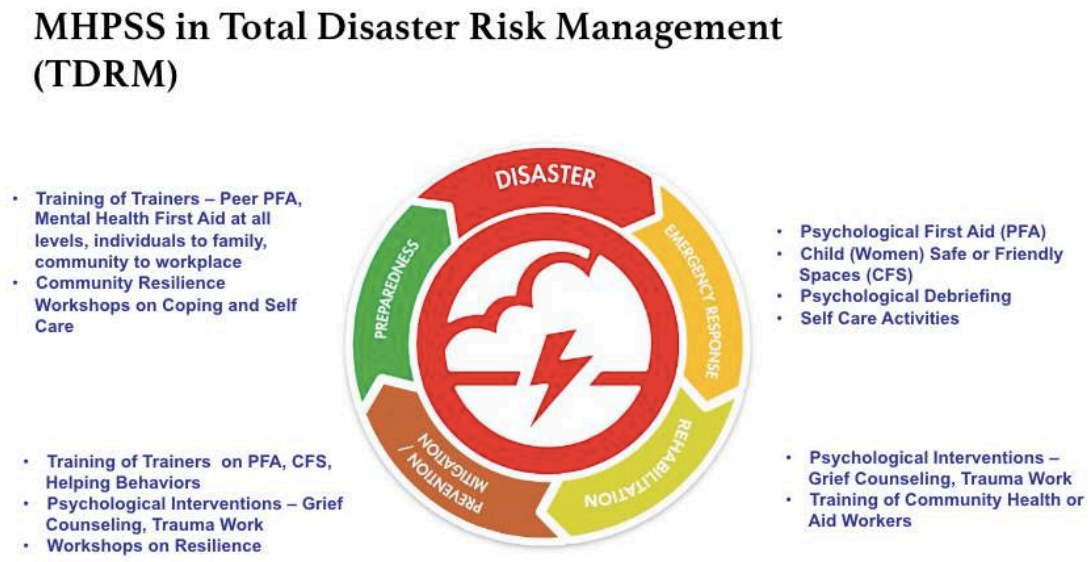


Diagram: The chart above details the examples of MHPSS practices within the TDRM Framework

According to the Red Cross, psychological first aid (PFA) is defined as a 'humane, supportive response to a fellow human being who is affected by a disaster/incident/accident and who may need support'. Essentially a supportive communication tool, PFA is designed to reduce the initial distress caused by traumatic events, to foster short and long-term adaptive functioning. It promotes natural recovery which involves helping people to feel safe, connected to others, calm and hopeful, access physical and social support and feels able to help them. PFA is a useful tool for anyone, especially emergency and medical personnel and volunteers and can be administered in diverse settings.

The crux of PFA actions is preparation. Upon entering the site, PFA administrators should be able to identify at risk populations and network with other service providers, while upholding a calm demeanor and sensitivity to cultural and religious differences. The act of preparation is then further divided into 3 essential steps; Look, Listen and Link.

- **Look:** Observe for safety, people with urgent needs and people with severe distress reactions
- **Listen:** Make contact with people who may need support, ask about people`s needs and concerns and listen to people and help them feel safe and calm.
- **Link:** Help people address basic needs and access services, help people cope with problems, Give information and connect people with loved ones and social support

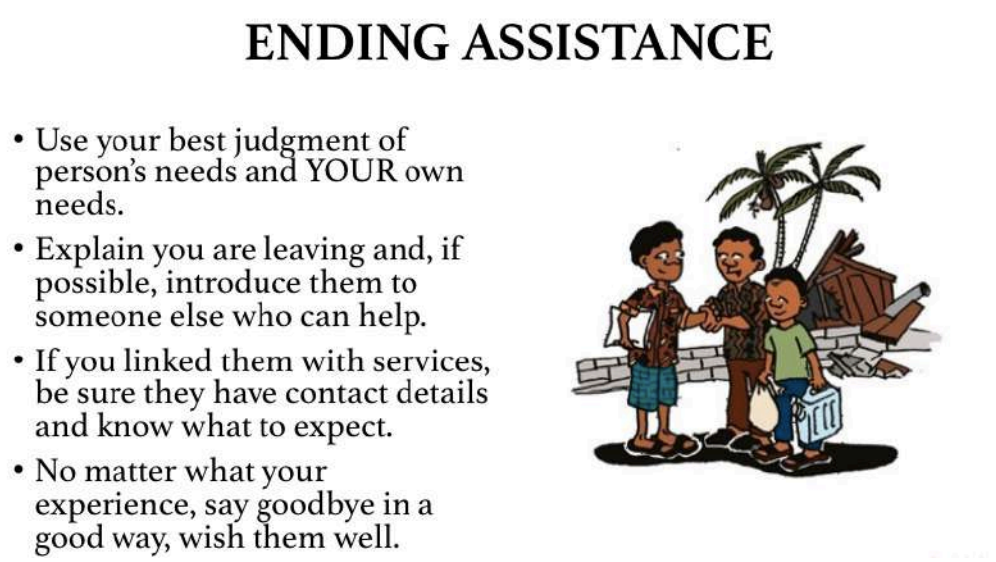


Diagram: Listed above are the steps that a psychological first aider (PFA) should take before ending assistance, which is a critical aspect of disaster response

Empathy and effective communication skills was a resounding message throughout this session as the speaker provided essential communication tips, phrases and ethical guidelines for PFA responders usage. While a PFA responder plays a prominent role in treating and knowing when to discharge assistance, one should also practice self-care to ensure their own wellbeing.

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Session 5: Risk mapping and group presentation

A hospital review/watching is an adaptation of the town's urban planning concept known as *Machizukuri* in the 1970's in Japan. A community or organization will obtain different type of information through this method such as:

1. Understanding the concept of disaster risk reduction
2. Understanding of history, surrounding areas and local issues
3. Doing the process of mapping the area
4. Preparing the framework and disaster preparedness plan

Participants should identify components such as the surrounding, buildings, infrastructures, equipments/ tools and determine as to whether it acts as a danger/advantage, vulnerability/capacity and what action could be taken. In this workshop, hospital watching was instead performed using satellite images of two flood prone areas; Masjid Negeri and Thean Teik Highway.

Presentation sessions ended with discussions and comments from MERCY Malaysia's technical facilitators and technical teams. The team comprises architects, hospital planners, civil engineers and structures, mechanical and electrical engineers and BRC program staff.

Group presentation from "Hospital Watching"

Group 1: VULNERABILITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Danger	Vulnerability	Action
V1		Old building			Short circuit No fire prevention system	Fire No assembly point	Annual check by TNB and local fire department
V2			Narrow roads		EMS delay	Increased risk of mortality	Police and public works department should curb side parking, in order to reduce traffic congestion
V3	Fire crackers during festive season				Explosion	Fire accident	Awareness campaign Issue fines
V4	Poor drainage system				Flood	Risk of water borne disease	Irrigation and Drainage Department to conduct routine checks and maintenance

V5	Highly population density				Mass panic, secondary disease	Delay in evacuation process	Designate open space for assembly point

Group 1: CAPACITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1			Health clinic		Roofed area/ Enclosed area	Medical base	
C2		Mosque			Enclosed area	Evacuation center	
C3	Bandar Baru Air Itam				Open area	Assembly site	
C4			School		Helipad launch site	Assembly site	Designated as emergency medivac point
C5	Carpark				Open area	Evacuation area	
C6	Open area				Open area	Assembly site	
C7				Fire station	Boat	Used during evacuation	

Group 2: VULNERABILITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Danger	Vulnerability	Action
V1	River				Flood	Drowning Exposed to dirty river water	Early warning system Community training Local community to liaise with hospital and fire department in preparation of emergency response
V2			Building		Potential collapse	Victims are trapped	Routine emergency evacuation drills to be held within communities

Group 2: CAPACITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1	Football field				Open area	Assembly site	
C2		Mosque			Entry and exit pathway	Evacuation route during disaster	
C3			Car park		Open area	Evacuation area Helipad landing	
C4				PA System	Early warning system	Information dissemination	
C5				Kitchen	Site and equipment available for food preparation	Evacuation center Food preparation site	

Group 3: VULNERABILITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Danger	Vulnerability	Action
V1	Tall and big trees				Branches broken/ trees falling during heavy rains/wind	Access to road/certain pathway will be blocked	City council of Pulau Pinang to conduct routine tree pruning

Group 3: CAPACITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1		International Islamic Technological University			Open area	Assembly point	Designate as evacuation center

C2		Chung Hwa Primary School			Open area	Assembly point	Designate as evacuation center
C3	Open field near housing area				Open area/space	Helipad launching area	
C4	Basketball field				Open area	Assembly point	

Group 4: VULNERABILITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Danger	Vulnerability	Action
V1	Air Itam River				Flood – Overflow of water due during heavy rainfall		Deepen river bed Irrigation and drainage department to conduct routine checks
V2	Traffic congestion at Taman Abdul Rahman				Flood		Place sandbags around identified zones
V3			Lorong Batu Lancang		Flood	Disconnected communication	Prepare boat beforehand
V4			SMK Teknik School Field		Flood	Wild animals	Place warning sign around the area
V5			Little Sisters of the Poor – Home for Aged		Flood	Safety of residents and staff Public property damage	Prepare a risk plan beforehand to ensure safe evacuation of residents

Group 4: CAPACITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1		SMK Teknik Tunku Abdul Rahman			Enclosed are	Relief center	Designate as evacuation center

C2	SMK Teknik Field				Open space	Assembly point Helipad area Site for community trainings	Designate as safe zone
C3			Little Sister of Poor – Home for the Aged			Medical center	
C4	Air Itam river					Water supply	
C5				Street lights at Lorong Batu Loncang		Access point for transport	

Group 5: VULNERABILITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Danger	Vulnerability	Action
V1			Jalan Simpang 3		Accident prone area	Traffic congestion during disaster	Provide additional traffic lights or alternative routes during disaster
V2			Thean Teik Highway		Traffic congestion	Delay in emergency care and response	Provide an emergency lane
V3		Desa Baiduri Apartments			Collapse	Debris Inhalation of debris, thus possible risk of respiratory health issues	Regular checks on building structure

Group 5: CAPACITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1	Field				Open area	Assembly point	Designated as safe zone during a disaster
C2		Multi-level carpark of Fardin Business Centre			High, enclosed area	Evacuation center	Designated as transformational area

C3	Field of Desa Baiduri Apartment				Open area	Assembly point	
C4			Jalan Paya Terubong		Route to fire and rescue station	Primary evacuation pathway	Cannot park on the right side
C5			Desa Masjid Clinic		Enclosed area (roofed)	Evacuation center	Designate as safe zone

Group 6: VULNERABILITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Danger	Vulnerability	Action
V1	River		Thean Teik Highway		Flood	High risk	
V2		Apartment			Fire Collapse	Low to medium risk	
V3		Fartin Complex			Bomb threat	Low risk	
V4	River				Toxicity	Low risk	
V5			Road		Access blocked	Medium risk	

Group 6: CAPACITY

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1		Apartments and flats			High rise	Assembly point during flood	Inform public to assemble at designated area
C2				CCTV		Monitoring purpose	Obtain permission from authority, to be used as logistic tool during disaster
C3	High density residential area				Source of manpower	Abundant human resources	Can be utilized to organize clean up after a disaster

Group 7: CAPACITY

(Note: This group did not list down any vulnerability)

No	Surrounding	Building	Infrastructure	Equipment/ Tools	Advantage	Capacity	Action
C1		Red Cross Office			Enclosed area	Evacuation center	Area with transformation function
C2		St John			Enclosed area	Evacuation center	Area with transformation function
C3	Field				Open space	Assembly area	Designate as safe zone
C4		Housing area			Shelter, water and food	Evacuation center	

Session 5: Disaster Risk Communication

This session was presented by En. Hafiz Amirrol, Head of Building Resilient Communities (BRC) department. The ability to communicate critical and complex information from varying conflicts and disasters occurring worldwide is faced with a multitude of challenges including but not limited to, fake information, technology and poor management. Information can available in the form of tacit, implicit or explicit knowledge, which require effective coordination. The speaker then states an acute observation whereby Malaysia has relative expertise in both tacit and implicit knowledge and information, however still requires improvement in explicit knowledge and information domain. Coordination is a critical success factor for organizing adequate disaster response and recovery as well as successful disaster risk reduction. An effective coordination process is participatory, impartial, transparent and useful.

When the magnitude of a disaster exceeds beyond the capacity of the government of a country, upon the request for international assistance and authorization of the country, the international body, United Nations Office for the Coordination of Humanitarian Affairs (OCHA) will be in charge of the coordination of the response. At the regional level, a legally binding document, the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) is available. It acts as a legal framework for all 10 ASEAN member states and serves as a common platform in responding to disasters within ASEAN. As previously mentioned, on the national front, ArahanNo.20 under the National Security Council, details the policy and mechanism on disaster and relief management. At the ground level, local coordination is of key importance and members of any communities are the focal contact points in initiating this coordination.

At the international level, a cluster approach, under the coordination of UN agencies is applied during emergency response and recovery phase to both natural and man-made disasters. Grouping of the type of assistance into specific clusters and assign specific roles to specific agencies. The approach is utilized to improve predictability, timeliness and effectiveness of response to humanitarian crises. It is the primary mechanism for inter-agency coordination of humanitarian assistance to support national governments. NADMA has emulated this approach and will soon be released for public notice.

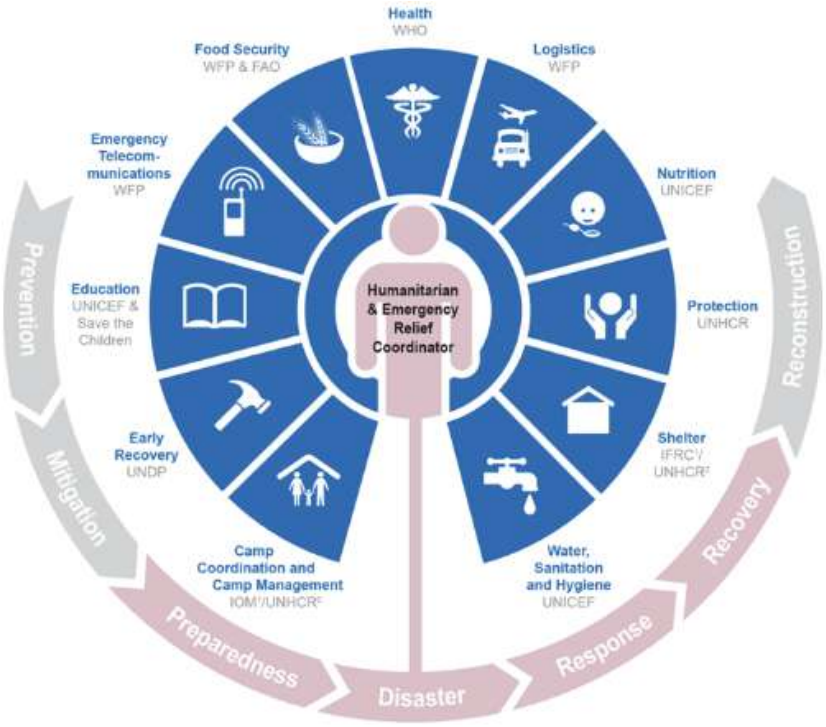


Diagram: Above are the 9 clusters and to which are respectively assigned agencies, that acts as a guideline for humanitarian and emergency relief coordination?

Type of response preparedness includes shared resources, capacity development, continuous improvements and regional standards, sustainable intervention/TDRM approach and coordinated responses. In order to achieve response preparedness, requires information database on disaster impact, needs analysis, response capacity analysis, planning, technical and advocacy.

These are the steps to developing a disaster response preparedness plan.

Step 1: Institutional disaster planning

Step 2: Hazard, vulnerability, capacity and risk analyses

Step 3: Resource identification and mobilization

Step 4: Early warning, alert system and triggers

Step 5: Linkages and communications

Step 6: Sectoral responsibilities.

The speaker had also suggested three best practices of disaster risk communication; social networking service/system, community based DRR/DRM and national platform for DRR (eg; myDRR). Community based programs, more programs, more the message is instituted. Have to liberate perception that communication goes beyond telecommunications.

Before ending his session, the speaker once again emphasized that collaboration/cooperation is not an option but it is a necessity for no single humanitarian agency can cover all the humanitarian needs.

Session 6: Code of Conduct in Humanitarian Action and Support

Chan Li Jin, Head of Communications department of MERCY Malaysia, presented this session. Volunteerism or being a volunteer has various definitions, dependent on the context of the actor. Volunteering is the commitment of time and expertise or experience to improve the situation and capability of the society and to influence and shape development of people and organizations at multiple levels. On the other hand, a volunteer is a person who is willing to sacrifice their time for the common good of others because they care about the people in communities and share a deep motivation to extend a helping hand.

Humanitarian principles, like volunteering also require professionalism. Thus humanitarian principles provide fundamental underpinning humanitarian action. It ensures respect and is an essential element of effective coordination of humanitarian actions and operating in accordance with humanitarian principles is the basis for establishing acceptance by all relevant parties for humanitarian activities to be carried out. Humanitarian principles are thus central to establishing and maintaining access to affected populations. The humanitarian principles are:

Humanity: The purpose of humanitarian action is to protect life and health and to ensure respect for the human being.

Impartiality: Priority to the most urgent cases and no distinctions on the basis of nationality, race, religious beliefs, class or political opinions.

Neutrality: Humanitarian actors must not take sides in hostilities or engage in controversies of a political, racial, religious or ideological nature.

Independence: Humanitarian action must be autonomous from the political, economic, military or other objectives that any actor may hold with regard to areas where humanitarian action is being implemented.

DAY 2: 30 April 2019

7th session: Speech by YB. Dr. Afif Bahardin

The first session of the day began with an honorary speech from the esteemed guest, YB Dr. Afif Bahardin, State EXCO member for the portfolio of Agriculture, Agro Based Industries, Rural Development and Health.

He was very grateful for the emergency assistance MERCY had provided during the eventful and unexpected 2017 flood. Recollecting his personal experience to the audience, due to the scale and unexpected element of this event, the state of Penang had been served with a critical wake up call. Challenges ranged from, limited to no food and necessary items supply and slow response of first responders in the first 24 hours due to poor communication lines. A community hall was converted to an evacuation center and makeshift beds and blankets were made from items available, to accommodate citizens finding shelter from their flooded homes. The after effects of the flood had also left its mark on the decreased agricultural production of the state.

Hence, he expressed his gratitude to MERCY Malaysia for organizing .Mah Sing Foundation for supporting and to the participants for attending this workshop. Preparation is of the utmost importance and "Prevention is better than cure", as remarked by the YB.

He had also mentioned that the state of Penang had taken an exemplary lead in promoting initiatives such as the Penang Save Heart program and also on flood mitigation. The Penang Hear Save program, with its huge support and contribution by Dr Aik Teo Howe of Penang General Hospital, aimed to implement the installation of automated external defibrillators (AEDs) in public spaces. Launched in 2015, the program also includes trainings on AED usage and CPR trainings to a wide audience, ranging from teenagers to adults and an estimated 30,000 of the population in Penang had received these trainings. In fact, the motion of AED public installations is currently in the process of being legislated.

In parallel with the efforts taken up by first responders, the state government is also committed in adopting initiatives and will require further support from various actors, such as the private sector. With the lessons learnt from this workshop, the participants will also play a vital role in fulfilling the vision of a resilient state of Penang.

Picture: Seated from Left (L) to Right(R), Ir Hanafi Mohd Ramli (EXCO MERCYMalaysia), YB Dr Afif Bin Bahardin (EXCO Penang), En.Lai Kok Soon (Senior General Manager of Northern Region of Mah Sing), Dr Mohamad Al-Hadi (Lam Wah Ee Hospital) and Dr Aik Teo Howe (Penang General Hospital)

8th session: Tabletop Disaster Simulation Exercise

This disaster simulation exercise aims to train participants to face an unexpected disaster situation. Participants needed to understand the information provided before planning the reactions needed for each group.

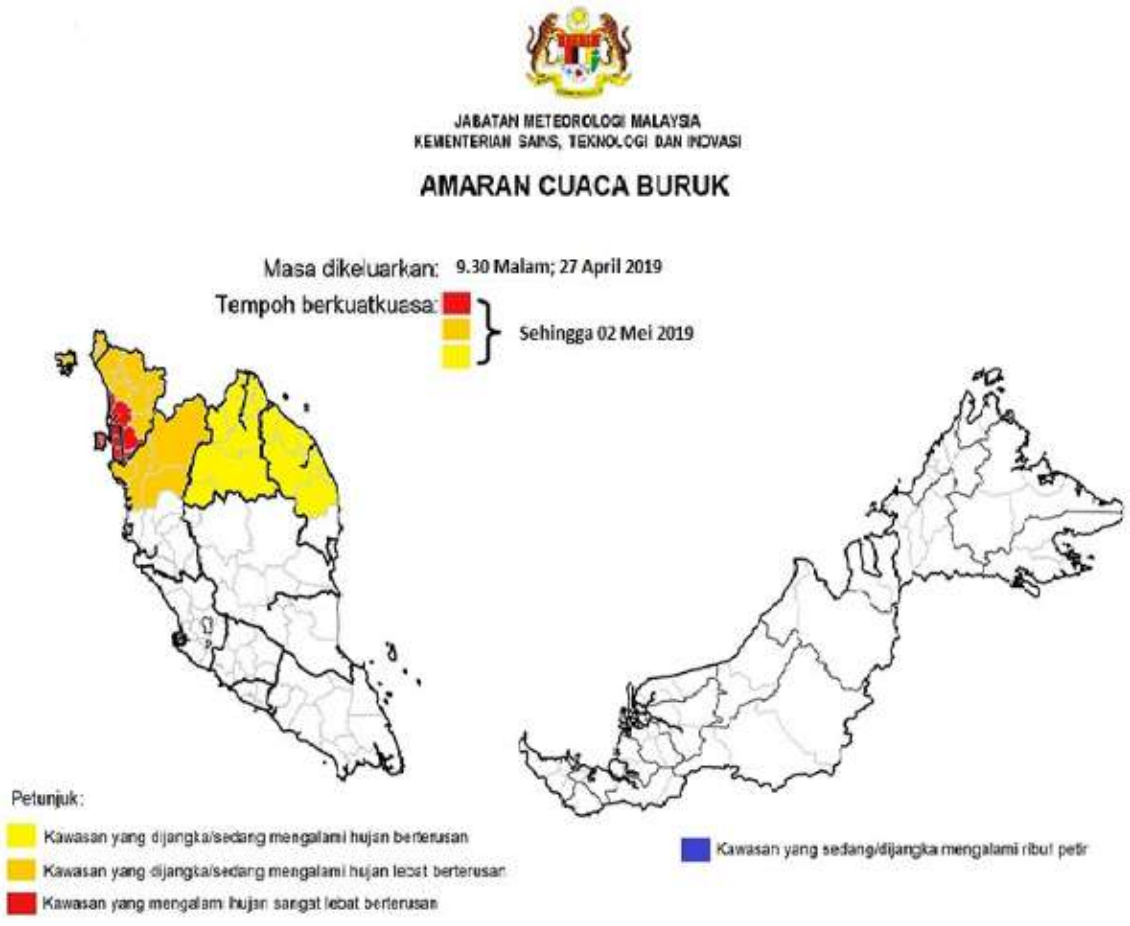
Diagram: Four key aspects to be taken into account in a disaster response plan during simulation

Group	Role
1	Food
2	Shelter
3	Non- food items (NFI)
4	Telecommunications & Logistics
5	Water, sanitation & hygiene (WASH)
6	Medical
7	Safety and early recovery

Table: Group distribution based on emergency response clusters and roles

Simulation No 1: A large-scale disaster scenario involving both mainland and the island

WEATHER WARNING by Department of Meteorology Malaysia



1st injection:

09.00 pm, 29 April 2019 (Monday)

- The continuous 3 hours of heavy rain starting at 07:00 pm has resulted in increased water reservoir quantities in several rainfalls in Penang and Seberang Perai.
- The sudden rise in water levels due to the main waterways and drainage systems being blocked with debris and rubbish.
- It is estimated that a total of 100,000 residents are feared to be affected by this situation. This situation is rare and it is beyond normal circumstances.
- A guardian advice has also been issued to residents in the area that are expected to be affected by local authorities.

Note: Directions from the Chief Minister's Office to all relief teams to prepare for this situation

2nd injection:

05.30 am, 30 April 2019 (Tuesday)

- The weather is getting worse. The rain continues to fall and the water level is rising to a dangerous level.
- Some areas in Georgetown have been flooded and reported that a number of homes and vehicles have started to sink into the waist.
- Residents are more resentful and worried and some have begun to move to safe areas. However, there are also people who refuse to move because they are worried about the safety of their property that may be lost.
- Some reports of "Landfall" have occurred in Jesselton near the horse racing club.
- At the same time, the Water Dam's water level has reached a dangerous level. The dam water was released and caused flooding across the northern rim. It is estimated that 70,000 people are affected by this situation

08.00m, 30 April 2019 (Tuesday)

- The rain has yet to show signs of reducing and causing more areas in Pulau Pinang to be affected and sunk.
- Several injuries and deaths have also been reported. Lam Wah Ee's hospital has begun to receive victims due to this situation.
- The situation is getting worse when TNB has to decide on electricity supply for security reasons resulting in access to all facilities and communications.
- Action of transfer and rescue of trapped population due to the level high water has been started by the rescue agency. However, difficulties arise from limited access and communication.

Note: Instructions from the Chief Minister's Office to activate the "Emergency Response".

GROUP DISCUSSION OUTCOME:

Group 1: Food	
Preparation before disaster	**Action to be taken during a disaster**
Obtain verified information on number of affected people and age groups Locate warehouse and evacuation centers Network with food suppliers such as Tesco and Giant if they are willing to donate packaged food items	Prepare dry and packaged food items
Coordination: Identify person in charge (PIC) of relevant agencies that can assist in disseminating food packages Establish a local committee and delegate tasks such as distribution, venue for food collection, preparation of cooking equipment and food preparation responsibilities.	
Backup plan: If scale of disaster is bigger than resources available, request for resources and assistance from nearby states.	

Group 2: Shelter	
Preparation before disaster	**Action to be taken during a disaster**
	Coordination with agencies 14 schools on island, University Science of Malaysia (USM), Padang Youth Park, Botanical garden, Penang State Sports Council 14,000 families. Hence 3000 at each shelter Coordination between various rescue centers to prevent overcrowding

Group 3: Non Food Items (NFI)	
Preparation before disaster	**Action to be taken during a disaster**
Blankets, pillows, mats , mattress, torchlight, essential clothes, raincoat	Assess the situation 6 Evacuation centers, 2 teams, whom respectively have 2 shifts Base center: University Science Malaysia

	Transportation: a.5 lorries; 3 dispatched to Penang and remaining to Seberang Perai Utara b. 4x4 drives= 2 units to be mobilized for rescuing and transporting flood victims
	Storage location for NFI: Nicole David training center and University Science Malaysia Communicate and coordinate with agencies and NGOs through WhatsApp
	60 Team members Total budget : RM360,000

Group : Telecommunications & Logistics	
Preparation before disaster	**Action to be taken during a disaster**
Alert systems: 1.Siren 2. Broadcast at mosque and surau 3. Send alerts through WhatsApp	Transportation: 4 Wheel drives, lorry and boat Can mobilize local 4x4 association To support evacuation operations; utilize assets of agencies at both island and mainland Tzu Chi organization – has 4 wheel drive units Fire station, Malaysian Armed Forces (ATM), Malaysian Civil Forces (APM), RELA and Fishery Association – Has boats which can be used as transportation
Communication team: NGO, governmental agencies, etc. Compile data	Escalator – Cleaning the red zone
Compile contractors contact details	Budget: RM500,00
Media broadcasting: Advance announcement	Response; activation system, WhatsApp group and set up communication and command center
RM 250,000	

Group 5: Water, Sanitation & Hygiene (WASH)	
Preparation before disaster	**Action to be taken during a disaster**
Location to store water: University Science Malaysia Department of Water Supply (JBA) to dispatch 3 tankers to supply water for both the island and mainland Request assistance from corporations such as SYABAS and JBA Johor	12,000 people
Request for mineral water supply from private companies, NGOs,	
Portable toilet: 15 toilets per center Total: 45 portable toilets	
Hygiene kits which include pampers and sanitary pads Total; 12,000 sets	
Determine location to dispose trash	
Total budget: RM 340,000	

Group 6: Medical	
Preparation before disaster	**Action to be taken during a disaster**
Network and coordinate with hospitals (private and government) and clinics on both mainland and island. Prepare list of assets required/equipment available	Form static clinics at: Schools, Dewan Rakyat, mosque, church, multi-level carpark, sports complex Form mobile clinics
Transportation through ambulance	Set up a field hospital at a suitable location
Medication: Source from local pharmacies	Communicate through WhatsApp and handheld walkie-talkie
	Potential hazards: Skin disease, trauma, diseases such as cholera, food poisoning.

Group 7: Safety and Early Recovery	
Preparation before disaster	**Action to be taken during a disaster**
-Assemble NGOs and leaders - Information on emergency zones - 72,000 victims - 10 Shelters - No electricity + generators - Establish early warning system - Safety for special needs community	
-Safe transportation (4x4, boats) - Planning for temp warehouse + safe areas - Distribution of resources - Medical standby Post: -Ensure availability and assign accordingly to the assigned Safe Zone - communicate with BG - get help/assistance and send feedback to BG - Gather resources= distribute accordingly - Field hospital	1.Assemble NGO + Volunteers 2. Establish communication 3. Staff PPE 4. Instructions to communities – poster on evacuation/weddings 5. Info on safe zones 6. Establish base + backup 7. Involved PDRM/APM 8. Safe transportation 9. Limit media exposure
Establish communication (PDRM+ APM) -Engage with PKOB - Determine manpower - Liaise with local community - Dealing with media - Education Post: -Communication - MARES-BG -Medical asset - Health and child education	1.Elect leader- disseminate information 2. MARES- information to operational room 3. ADL ensured 4. Education 5. Field Hospital – Emergency crisis

Simulation No 2:

An informal simulation was then enacted to gauge the level of community resilience among the participants. In any disaster, prior to the activation and mobilization of governmental agencies, a community is the first actor in the critical first hours during a disaster. Due to their deeper knowledge on the resources available and capacity of their community, thus through collaboration and networking, this information would be available to a wider range of stakeholders within the state of Penang.

In this simulation, the participants were reorganized based on their respective organizations and Air Itam was selected as the area of focus due to its flood prone status and also is a central zone within the island.

Injection No 1:

- The continuous downpour becomes heavier and by 7 pm of 30th April 2019, two big areas of island has flooded (entire Jalan Masjid Negeri Intersection (Jalan Data Keramat, Scotland Road, Jalan Air Itam) (Leburaya Tean Teik). Under 5 feet of water in these areas. Meanwhile in Jalan P Ramlee, the water level has quickly reached around 8 feet
- Staff of the fire department and JPAM has been mobilized and dispatched to Jalan P Ramlee and Sungai Pinang area.
- Similarly, staffs at the Penang General Hospital and Seberang Perai Jaya Hospital have been mobilized. However, there is a shortage of staff as a number of doctors are unable to reach here due to access blocked.
- Alert to St John and Red Crescent to activate has been done.
- There are 10 unattended ambulance calls in island. Cases as such below have been reported:
  - Chest pain at Sungai Pinang,
  - Two asthma cases at Lumba kuda Air Itam,
  - Ambulance stuck at Air Itam with woman in labor.

The participants were tasked to discuss the below:

1. How can information transfer be conducted with other people/organizations that have not been activated? Members of the organizations present in the workshop are currently stuck at where they are.

Group Discussion Findings:

Organization	Response
MECC	1. Have to notify the director. Then this information is alerted to all the members via a WhatsApp group. 2. Notification on the unattended 10 ambulance calls 3. After this, local committee can be activated and request them to attend to calls. Access by boat or 4x4. Alternative: Can also ask nearby clinics at Air Itam to respond, if they are open. Ask CERT or St John if they have boat or 4x4 for mobilization. 4. Also ask for extra assistance via fire department and JPAM. 5. Call HPP to be on standby to receive the patients from the unattended calls and provide the list of patients to them
Penang General Hospital	1. Once received information, director will be alerted and a command room will be set up as standby 2. Issue: People do not have access or can`t reach hospitals. 3. First, access the situation. Then list down the list of patients according to priorities and location. Check access to the location of the ambulance calls. If no access is available, have to set up the nearest and safe pick up point. Then, transfer patient from that location to HPP 4. Pregnant lady at Air Itam case : can redirect to the nearest private hospital; Lam Wah Ee and also inform LWE
Lam Wah Ee Hospital	1. Once GH has notified them, will issue our protocol and prepare to receive patient. 2. In ½ hour, can mobilize 2 ambulances to safety point to collect patients 3. Since we are secondary response, we will wait for notice from MECC
Malaysian Red Crescent (Penang)	1. Have a 4x4 drive
Fire department	1. Access to helicopter at Kepala Batas 2. Disaster operation control center will be the primary communication channel.

Other resources:

1. Penang 4x4 ranger club
2. Goodsam App (Smartphone activated Medics) -. People are CPR-trained can register on this database.
3. USHAHIDI – WHO based app. It is a web-based platform whereby community responders can alert about the disaster that struck their location and specify the resources needed. Responders whom may consist of civil society organizations or even CERT members are able to use this data to design an effective and coordinated response.

Injection No 2:

Now at 8pm, 10 ambulance calls still unattended. Now activate local responders. First hours are important hence role of community is imperative here.

Organization	Response
Community Emergency Response Team (CERT) Georgetown	1. Have members throughout Penang (around 100 people) and also rely on social media 2. Have one member in Sg Pinang and three in Air Itam 3. Resources available: first aid kit, medical bags, oxygen tanks and 4x4 vehicles. 4. One member in Paya Terubong. This member has the oxygen tank and can assist with Air Itam case. 5. Main base is at at Air Itam 6. Affiliated with an academy to provide basic qualifications on trainings. Recruitment through social media or word of mouth
District Health Officer	1. Have a disaster response team; which consist of doctor, pharmacist and paramedic 2. Have set up a WhatsApp group for the disaster team. District health officer will notify the team. 3. Team members are dispersed throughout the Island 4. Air Itam is a very specific flood prone area and needs special attention. Need a special team there. 5. Need to activate staff of KK that is staying near there must be open and able to accept patients for basic emergency care. Need to obtain confirmation as to which KK has the bencana team and activation of staff.
Adventist Hospital	1. Centre located at Tanjung Tokong. 2. Call for action will be submitted to Administrative council. Then the latter will inform the senior managers and supervisors. 3. Have 2 ambulances. Meanwhile internally, modification of spaces and activation of internal team will be carried out. 4. Alternative patient transport option: Can land helicopter at Ramanathan field and then set up a tent and transport patients to the hospital
Lam Wah Ee Hospital	1. Have pledged their services upon receiving the secondary call from Penang General Hospital 2. Under their disaster management plan, a surgical command team will be activated. Consultants whom are staying nearby will be recruited into this team after the commander approved. 3. Can do on call consultations. 4. Doctors can report themselves to any nearby hospitals to offer their assistance.
Note: Last year, the hospitals in Penang had committed to a certain number of patients and beds and ambu used during a disaster response.	

Injection No 3:

At 12 midnight, a landslide had occurred thus resulting in a declaration of a state of disaster throughout the island. External assistance has been requested. MKN Directive No. 20 has been activated.

Organization	Response
MERCY Malaysia	1. In the first 12 hours, if the situation is supported by local agencies, then MERCY will assist in desk research and request for information from state chapter. 2. If situation escalates, then will dispatch help from HQ via helicopter (from Subang or Klang). A medical team may also be dispatched if necessary. 3. This is only carried out after the Penang chapter has been notified and received the request for critical assistance as beyond capacity. 4. Penang chapter can mobilize resources when accurate information on what is required, is obtained.

CHAPTER 3: RESILIENCE SCORECARD

3.1 Resilience Scorecard Guidelines

This survey scorecard was made with reference to the Torrens Resilience Institute's Community Disaster Resilience Toolkit, an Australian government initiative. This scorecard includes the needs of the community system and the Resilient Community Building program. It is useful to assess the resilience of a system of government bodies, communities, institutions, hospitals, schools and the private sector in an effort to attract the public in forming resilient societies.

The completed scorecard filled by the respondents will provide a point-in-time overview of the various angles that are important in improving resilience and ability and reducing the risk of a hospital. The results of this scorecard analysis will show the aspects that need to be emphasized and improved for a hospital to become more resilient.

This scorecard consists of four main categories; Connectivity, Risk and Threats, Measures and Capabilities and Resources. The final analysis will show the average resiliency level of the workshop participants within the following categories; **Hazard Zone**, **Alert Zone** or **Safe Zone.**

3.2 Resilient Scorecard questionnaire

1. Keterhubungan:

Bagaimana tahap keterhubungan organisasi anda?

	Pertanyaan	Skor					Bukti
1.1	Berapa peratuskah penglibatan organisasi anda dengan pengurusan bencana?	1 <20%	2 21 - 40%	3 41- 60%	4 61-80%	5 >81%	
1.2	Apakah organisasi anda mempunyai pelbagai sistem komunikasi bagi mendapatkan informasi termasuk sewaktu kecemasan bagi pengurusan bencana?	1 Tidak ada/ akses yang sangat terbatas	2 Memiliki akses terbatas ke pelbagai komunikasi	3 Memiliki akses yang baik ke pelbagai komunikasi tetapi ketahanan terhadap kerusakan tidak diketahui	4 Memiliki akses yang baik ke pelbagai komunikasi tetapi ketahanan terhadap kerosakan adalah sederhana	5 Memiliki pelbagai akses ke komunikasi yang mempunyai ketahanan terhadap kerosakan	
1.3	Bagaimana tahap komunikasi antara organisasi anda dengan pihak kerajaan tempatan?	1 Pasif	2 Perbincangan	3 Keterlibatan	4 Kerjasama	5 Penglibatan aktif dari kedua belah pihak	
1.4	Bagaimana hubungan antara organisasi anda dengan kerajaan negeri/pusat?	1 Hubungan tidak formal	2 Representasi rendah pada peringkat negeri	3 Beberapa wakil di peringkat negeri	4 Perancangan dan kegiatan dengan bandar/daerah lain	5 Kerjasama dan penglibatan aktif dengan bandar/ daerah lain	
1.5	Bagaimana tahap keterhubungan/ kerjasama dengan hospital?	1 Sedikit/tiada kerjasama	2 Penglibatan yang rendah dalam kerjasama	3 Kerjasama biasa	4 Kerjasama aktif	5 Kerjasama dan keterlibatan aktif dalam perencanaan kegiatan tahunan	
1.6	Bagaimana tahap keterhubungan antara organisasi anda dalam inisiatif kesiapsiagaan, semasa kecemasan dan fasa pemulihan (setelah bencana)?	1 Sedikit/tiada kerjasama	2 Penglibatan yang rendah dalam kerjasama	3 Kerjasama biasa	4 Kerjasama aktif	5 Kerjasama dan keterlibatan aktif dalam perencanaan kegiatan tahunan	

2. Risiko / Keterancaman:

Bagaimana tahap risiko dan keterancaman di kawasan anda? (tempat tinggal/tempat kerja)

Pertanyaan		Skor					Bukti
2.1	Apakah risiko yang sudah dikenalpasti di kawasan anda?	1 Tidak ada pemetaan risiko dilakukan	2 Fokus pada risiko tunggal (misalnya: banjir) tapi tidak ada pemetaan	3 Pemetaan risiko tunggal	4 Pemetaan tersedia dengan banyak dari pelbagai sumber dan potensi risiko	5 Pemetaan tersedia dengan banyak dan mencakup kemungkinan rendah / peristiwa berimpak tinggi	
2.2	Berapakah peratusan populasi masyarakat di kawasan anda (tetap dan tidak tetap)?	1 Populasi penduduk adalah < 20 % dari populasi di siang hari (populasi pekerja)	2 Populasi penduduk adalah 21 - 40 % dari populasi di siang hari (populasi pekerja)	3 Populasi penduduk adalah 41 - 60 % dari populasi di siang hari (populasi pekerja)	4 Populasi penduduk adalah 61 - 80 % dari populasi di siang hari (populasi pekerja)	5 Populasi penduduk adalah > 80 % dari populasi di siang hari (populasi pekerja)	
2.3	Berapa tahap perubahan populasi masyarakat di kawasan anda dalam tempoh 5 tahun terakhir?	1 >30%	2 20 - 29%	3 13 - 19%	4 6-12%	5 <5%	
2.4	Berapakah kadar populasi masyarakat yang memerlukan komunikasi alternatif (contohnya: masyarakat yang mempunyai masalah pendengaran dan penglihatan)	1 > 20%	2 15%	3 10%	4 <5%	5 Tidak ada	
2.6	Adakah masyarakat telah dilibatkan dalam perancangan tindakan dan pemulihan bencana?	1 Tidak ada	2 Penglibatan minimal	3 Representasi sederhana	4 Representasi yang mencukupi dengan kemungkinan maksimum penyebaran informasi	5 Penglibatan aktif dan pertimbangan diperkirakan	

3. Langkah-langkah:

Langkah-langkah apa yang menyokong pengurusan bencana, tindak balas dan pemulihan?

	Pertanyaan	Skor					Bukti
3.1	Sejauh mana organisasi anda terlibat dalam perancangan di saat kecemasan?	1 Tidak pernah	2 Tahu dan sedar	3 Terdapat kerjasama	4 Penglibatan aktif dalam perancangan tindakan bencana	5 Penglibatan yang tinggi	
3.2	Apakah terdapat program yang dirancang untuk mencapai daya tahan terhadap terhadap bahaya oleh organisasi anda?	1 Tidak ada	2 Masyarakat digalakkan melakukan program	3 ada	4 Ada dan dikongsi dengan kumpulan berisiko	5 Keupayaan ditingkatkan dari semasa ke semasa	
3.3	Apakah organisasi anda telah memenuhi langkah-langkah kesiapsiagaan bencana?	1 Tingkat kesedaran masyarakat tidak diketahui	2 Langkah-langkah untuk persediaan sudah ditetapkan tapi tidak banyak yang tahu	3 Masyarakat telah diberitahu tentang langkah-langkah persediaan secara berkala	4 Langkah-langkah dilakukan ketika perhatian diperlukan	5 Kesiapsiagaan tertanam dalam kehidupan sehari-hari	
3.4	Apakah penilaian pasca bencana dapat memberi harapan baru dalam perancangan masa depan?	1 Kehidupan seperti sebelumnya	2 Kesedaran tentang risiko	3 Membuat perancangan bersama	4 Perancangan dikoordinasikan dengan kerajaan tempatan	5 Perancangan dan simulasi tahunan bagi meningkatkan daya tahan masyarakat	
3.5	Terdapatkah langkah-langkah bagi organisasi tentang pengurusan bencana, tindak balasdan kerangka kerja pemulihan bencana?	1 Tidak ada	2 Langkah-langkah diadakan mengikut kepentingan kumpulan tertentu	3 ada	4 Langkah-langkah menitikberatkan tanggungjawab dan peranan semua pihak	5 Langkah-langkah menitikberatkan secara jelas tanggungjawab dan peranan semua pihak	

4. Keupayaan dan sumber daya:

Perancangan semasa kecemasan, tindakan dan pemulihan menurut sumber daya yang tersedia di organisasi anda?

	Pertanyaan	Skor					Bukti
4.1	Seberapa baik perancangan perlindungan persekitaran di kawasan anda?	1 Tidak ada	2 Dikenalpasti tetapi tidak ada perancangn perlindungan	3 Kebanyakan komponen fizikal persekitaran mempunyai perlindungan terutama di saat kecemasan	4 Semua komponen fizikal persekitaran mempunyai perlindungan terutama di saat kecemasan	5 Semua sistem terintegrasi dalam perancangan perlindungan komponen fizikal alam sekitar	
4.2	Berapakah peratus masyarakat dapat membantu sekiranya diperlukan (di saat kecemasan/ pemulihan)?	1 <20%	2 21 - 40%	3 41 - 60%	4 61-80%	5 >81% mewakili sub-kumpulan/unit	
4.3	Sejauh mana anggota (sukarelawan) anda terlibat dalam kesiapsiagaan bencana?	1 <20%	2 21 - 40%	3 41 - 60%	4 61-80%	5 >81%	
4.4	Bagaimana sumber daya yang tersedia dapat dilibatkan dalam pengurusan bencana?	1 Tidak tahu/ tidak mempunyai sumber daya	2 Sumber daya yang minima	3 Beberapa sumber daya tempatan terlibat dalam pengurusan bencana	4 Semua sumber daya tempatan terlibat secara aktif dalam pengurusan bencana	5 Semua sumber aktif terlibat dalam pengurusan bencana daerah	
4.5	Apakah keupayaan peralatan kecemasan (khemah, bateri, dll) yang tersedia bagi kegiatan respon dan pengurusan bencana?	1 Tidak tahu/ tidak ada	2 Mengharapkan yang sedia ada	3 Ada tapi jumlah minima	4 Ada bagi keperluan kapasiti tambahan 100 pesakit dan terkepung 3 hari	5 Ada bagi keperluan kapasiti tambahan pesakit 100 pesakit dan boleh bertahan selama 2 minggu	

	Pertanyaan	Skor					Bukti
4.6	Apakah terdapat akses masyarakat yang mudah dilalui ke hospital dan termasuk dalam strategi daya tahan?	1 Tiada	2 Beberapa jalan selamat sudah dikenalpastii	3 Pengenalpastian dilakukan di semua tempat, tapi belum dinilai untuk kesesuaian untuk dijadikan laluan evakuasi	4 Lokasi sudah tersedia tetapi belum mencukupi untuk permintaan sekarang	5 Lokasi yang baik dan mempunyai sumber air, makanan dan informasi tersedia dan sudah diwartakan serta sudah termasuk dalam perancangan	
4.7	Apakah terdapat akses alternatif (udara – helipad, air – jeti) bagi keluar masuk bantuan semasa bencana	1 Tiada	2 Beberapa alternatif bagi helipad (padang yang tidak ditenggelami) sudah dikenalpasti	3 Pengenalpastian dilakukan tapi belum dinilai untuk kesesuaian untuk dijadikan alternatif laluan (evakuasi, bantuan)	4 Lokasi sudah tersedia tetapi belum diwartakan	5 Lokasi yang baik dan mempunyai sistem sokongan tersedia dan sudah diwartakan serta sudah termasuk dalam perancangan	
4.8	Apakah ketersediaan makanan/air/petrol/ diesel untuk masyarakat dan masyarakat jika terjadi bencana?	1 Tidak tahu	2 Sebagian besar keluarga tergantung pada bantuan kerajaan	3 Sebagian besar keluarga mempunyai pengkalan hadapan selama 2 hari	4 Sebagian besar keluarga mempunyai pengkalan hadapan selama 4 hari	5 Sebagian besar keluarga mempunyai pengkalan hadapan selama seminggu	
4.9	Apakah infrastruktur kritikal (elektrik, air, gas & sistem komunikasi) bagi keperluan pengurusan bencana telah diadakan?	1 Tidak ada/ tak pernah dibincangkan	2 Cuma sistem sedia ada bagi keperluan hospital	3 Telah diambilkira dalam mesyuarat tapi belum dilaksanakan	4 Telah dinaiktaraf menurut keperluan bencana	5 Mempunyai sistem yang menjadikan hospital lestari selama 2 minggu tanpa apa-apa bantuan luar	
4.10	Apakah terdapat ruangan terbuka (padang, dataran, parkir) dan laluan yang boleh ditransformasikan bagi menampung keperluan bencana	1 Tidak pernah dibincangkan	2 Beberapa alternatif bagi sudah dikenalpasti	3 Pengenalpastian dilakukan tapi belum dinilai untuk kesesuaian	4 Lokasi sudah tersedia tetapi belum diwartakan	5 Lokasi yang baik dan mempunyai sistem sokongan tersedia dan sudah diwartakan serta sudah termasuk dalam perancangan	

3.3 Results of the Resilient Scorecard

	Zon Merah (1)	Zon Amaran (2)	Zon Selamat (3)
Skor keseluruhan	*25% (27 - 34)*	*26 - 75% (35 - 101)*	*76 - 100% (102 - 135)*
Keterhubungan	*25% (6 - 8)*	*26 - 75% (9 - 23)*	*76 - 100% (24 - 30)*
Risiko/ keterancaman	*25% (8 - 10)*	*26 - 75% (11 - 30)*	*76 - 100% (31 - 40)*
Langkah-langkah	*25% (5 - 6)*	*26 - 75% (7 - 19)*	*76 - 100% (20 - 25)*
Sumber	*25% (8 - 10)*	*26 - 75% (11 - 30)*	*76 - 100% (31 - 40)*

Zone 2: 51%

Total number of responders: 73

CHAPTER 4: APPENDIX

4.1 Workshop Itinerary:

DAY 1: 29 April 2019

Workshop Location: Auditorium Lam Wah Ee Nursing College

Time	Session/Module	Presenter
8.00 am	Arrival and registration	Secretariat (MM and HPP)
8.45 am	Opening remarks by MERCY Malaysia	Ir. Hanafi Ramli Executive Council
8.55 am	Opening remarks by Deputy State Health Director, Department of Health for the state of Penang	Dr Elizabeth A/P Anthony
9.05 am	Introduction and training objectives briefing	Hafiz Amirrol, Head of Strategic Planning
9.15 am	Module 1: Disaster preparedness and the role of community in emergency response	Norazam Ab. Samah, Executive Council
10.10 am	Module 2: Disaster medical operations, and Emergency medical team	Mat Noor, Johor Chapter Chairman
11.05 am	Group activity 1: Participatory Vulnerability Capacity Assessment (PVCA) 1 Disaster timeline Venn diagram	Facilitator: Vivegenanthan,
12.05 pm	Module 3: Psychological first aid and emotional support	Dr. Hariyati Shahrima Abdul Majid, Executive Council
1.00 pm	Module 4: Participatory Vulnerability Capacity Assessment (PVCA) 2 Introduction to risk mapping	Hafiz Amirrol
1.30 pm	**Lunch Break**	
2.30 pm	Group activity 2: Participatory Vulnerability Capacity Assessment (PVCA) 2 Risk mapping	Lead facilitator: Norazam Ab. Samah
4.00 pm	Group activity 3: Presentation on Risk mapping	Facilitator: Norazam Ab. Samah
4.30 pm	Module 5: Community-based disaster communication	Visan Chan, Deputy Head, Programs and Operations
5.00 pm	Module 6: Code of conduct in humanitarian action and support	Visan Chan
5.30 pm	Summary of Day One Briefing for Day Two	Norazam Ab. Samah / Hafiz Amirrol
6.00 pm	**End of Day One**	

DAY 1; 29 April 2019

Technical team visit

Location: Penang General Hospital

Time	Activity	Person-in-charge
9.20 am	Arrival of MERCY technical team at site	
9.30 am	Technical visit objectives briefing by MERCY Malaysia	Ir. Hanafi Ramli (team leader) EXCO
9.40 am	Security briefing by Deputy Director of Penang General Hospital	Dr. Goh Hin Kwang
10.00am	Technical visit begins	Ir. Hanafi Ramli (Electrical engineer) Ar. Azman Zainonabidin (Architect) Visan Chan, Deputy Head, Program and Operations
12.30pm	End of technical visit	
12.45 pm	Technical discussion and way forward • Setting of frameworks and priorities • Timeline for recommendation report • Others	Ir. Hanafi Ramli (MM) dan Dr Goh Hin Kwang (HPP)
1.15 pm	Lunch MERCY Malaysia Technical Team to join CERT training program	

Day 2: 30 April 2019

Time	Activity	Presenter
8.15 am	Speech by State Executive Council Member of Penang	YB Dr. Afif bin Bahardin
8.30 am	Briefing for Disaster Simulation Exercise	Radzi Redzuan, Senior Officer, Logistics, Safety and Security
9.00 am	Group activity 3: Disaster Simulation Exercise	Lead facilitator: Radzi Redzuan
11.30 am	Reflection and discussion	Facilitator: Ir. Vivegenanthan

12.30 pm	Summary of Day Two	Norazam Ab. Samah (MM) and Dr Goh Hin Kwang (HPP)
12.45 pm	Closing remarks	
1.00 pm	End of Day Two Lunch	

4.2 List of workshop participants

a. List of participants

No	Name of Participants	Organization
1	Lee Chiew Wan	CERT Georgetown
2	Ong Swee Jin	CERT Georgetown
3	Tan Cheng Guan	CERT Georgetown
4	Lim Teik Khoon	CERT Georgetown
5	Cheong Jia Jiaan	CERT Georgetown
6	Lee Tian Lin	CERT Georgetown
7	Amy Chaw Jie Xiang	CERT Georgetown
8	Pong Chow Chong	CERT Georgetown
9	Lim Lehong	CERT Georgetown
10	Chin Kai Yun	CERT Georgetown
11	Liam Thiam Chong	CERT Georgetown
12	Evelyn Kim Kar Wei	CERT Georgetown
13	Andrew Naong Libau	Penang Adventist Hospital
14	Jernih Majalu	Penang Adventist Hospital
15	Muthukumaran	Malaysian Red Crescent
16	Sithasivam A/L Maniam	Malaysian Red Crescent
17	Rayson Khoo	Malaysian Red Crescent
18	Lim Jun Bin	Malaysian Red Crescent
19	Zuryani Ayu Binti Mawani	Lam Wah Ee Hospital
20	Tresee Wan	Lam Wah Ee Hospital
21	Loh Hui Ni	Lam Wah Ee Hospital
22	Mazlinda Ahmad Zaini	Lam Wah Ee Hospital
23	Lam Kai Seng	Lam Wah Ee Hospital
24	Teoh Ing Mey	Lam Wah Ee Hospital
25	Siti Zabedah binti Alus	Lam Wah Ee Hospital
26	Ho Sheau Ching	Lam Wah Ee Hospital
27	Lim Kor Fei	Lam Wah Ee Hospital
28	Fong Teik Sum	Lam Wah Ee Hospital
29	Jeremy hung yih	Lam Wah Ee Hospital
30	31. Yeoh Ying Shi	Lam Wah Ee Hospital
31	Siti Aminah binti Shaari	Lam Wah Ee Hospital
32	Cheong Lai See	Lam Wah Ee Hospital
33	Tan Hooi Sean	Lam Wah Ee Hospital
34	Poh Huat Loong	Lam Wah Ee Hospital

35	Rokiah binti Halmi	Lam Wah Ee Hospital
36	Lian Li San	Lam Wah Ee Hospital
37	Nur Hidayu binti Haris Fabilah	Lam Wah Ee Hospital
38	Ng Say Wai	Lam Wah Ee Hospital
39	Moey Foong Yau	Lam Wah Ee Hospital
40	Looi Hong Wei	Lam Wah Ee Hospital
41	Suhana binti Mohd Rusli	Lam Wah Ee Hospital
42	Liow Koi Fong	Lam Wah Ee Hospital
43	Lim Zi Jie	Lam Wah Ee Hospital
44	Goh How Kok	Lam Wah Ee Hospital
45	Roslie bin Ahmad Omar	Penang General Hospital
46	Norazihan bin Md Baseri	Penang General Hospital
47	Senusi bin Osman	Penang General Hospital
48	Azli Ahmad	Penang General Hospital
49	Manjula Mutaiya	Penang General Hospital
50	Mohd Azly Bin Hassan	Penang General Hospital
51	Norliza	Penang General Hospital
52	Ahmad Malekki	Penang General Hospital
53	Nadirah Mat	Penang General Hospital
54	Dr Khor Chin Chuan	Bukit Mertajam Hospital
55	Mohd Saad bin Mohd Yatim	Bukit Mertajam Hospital
56	Dr Victor Lim Ban Jin	Seberang Jaya Hospital
57	En Mohd Asri Zahari	Seberang Jaya Hospital
58	En Mohd Azime Abd Ghani	Seberang Jaya Hospital
59	Mohd Faizry bin Mohd Azharry	ADEC
60	Muhd Mahfuz bin Ramli	ADEC
61	Kamil Haakimim bin Mohammad	ADEC
62	Mohd Saufi bin Jambul	ADEC
63	Nor Shila binti Mohd Noor	ADEC
64	Sharmila A/P Nadarajan	ADEC
65	Siti Nur Atiqah binti Othman	ADEC
66	Chiew Teck Hou	ADEC
67	Zulkhairi bin Mat Tanjil	Bagan Jermal police station
68	Isparizan bin Ishak	Seri Balik Pulau Police station
69	Mohd Awis Kharni bin Ab Rahman	Perai Police station
70	Mohd Yusrizal Zainul Abidin	Kepala Batas Hospital
71	Dr. Shuhaida Hanis binti Johani	Kepala Batas Hospital
72	Tan Teik Kean	St John Ambulance
73	Dr Teoh Li Ting	Penang State Health Department (JKN PP)
74	Nor Duratul Ain	Malaysia Health Clinic (KKM)
75	Adrian Yong	PBS SPK
76	Dr Amirul Adib	Sungai Bakap Hospital
77	Sn Sharmillya A/P K.Santhru	Northeast Health Clinic (PKD Timur Laut)
78	Dr Kok Fei Ping	Northeast Health Clinic (PKD Timur Laut)
79	Dr Nisha Reshu	Northeast Health Clinic (PKD Timur Laut)
80	Abdullah Sharafi Johanis	Northeast Health Clinic (PKD Timur Laut)

List of facilitators

No	Name	Facilitator
1	Norazam Ab Samah	MERCY Malaysia
2	Ir. Hanafi Ramli	MERCY Malaysia
3	Mohammad Noor Suleiman	MERCY Malaysia
4	Hafiz Amirrol	MERCY Malaysia
5	Chan Li Jin	MERCY Malaysia
6	Radzi Rezuan	MERCY Malaysia
7	Visan Chan	MERCY Malaysia
8	Wan Anis Afeeqa	MERCY Malaysia
9	Aishah Sabrina	MERCY Malaysia
10	Nur Najwa Syuhada	MERCY Malaysia
11	Dewi Kencana	MERCY Malaysia
12	Viveganathan S/O Rajangam	MERCY Malaysia
13	Mohd Nasurudin Hasbullah	MERCY Malaysia
14	Tajul Edrus Nordin	MERCY Malaysia
15	Ar. Azman Zainonabidin	MERCY Malaysia

4.3 Press Coverage:

1. Newspaper articles

Expecting the unexpected

METRO NEWS

Sunday, 5 May 2019

By **Rena Lim**
Photos By Zhafaran Nasib And Chan Boon Kai

Wake-up call: The floods that hit Penang in 2017 exposed its lack of flood mitigation and disaster preparedness.

TECHNICIAN Cheong Jia Jian found himself in a messy situation when a massive flash flood hit George Town after a heavy downpour in November 2017.

The 21-year-old was a volunteer with the Community Emergency Rescue Team (CERT) George Town, which was responsible for providing aid during flash floods.

"Honestly, I was not even sure how to react properly at that time as most of us at CERT were not prepared to handle such massive disruptions," he said.

Source:https://www.thestar.com.my/metro/metro-news/2019/05/05/expecting-the-unexpected/#mYZADcI5K6Ow4Jxp.41

Source: https://www.buletinmutiara.com/disaster-preparedness-is-important-says-exco-man/

Source: http://www.guangming.com.my/node/487311/

病人到安全的地方。

为第二届"灾难应急培训营"主持开幕的槟州政府卫生事务委员会主席阿菲夫行政议员回忆，2017年11月5日，槟城下了一场12小时长命雨，许多地区发生水患，洪水流进槟城医院。当时大家都惊慌失措，缺乏紧急疏散及施救的经验。

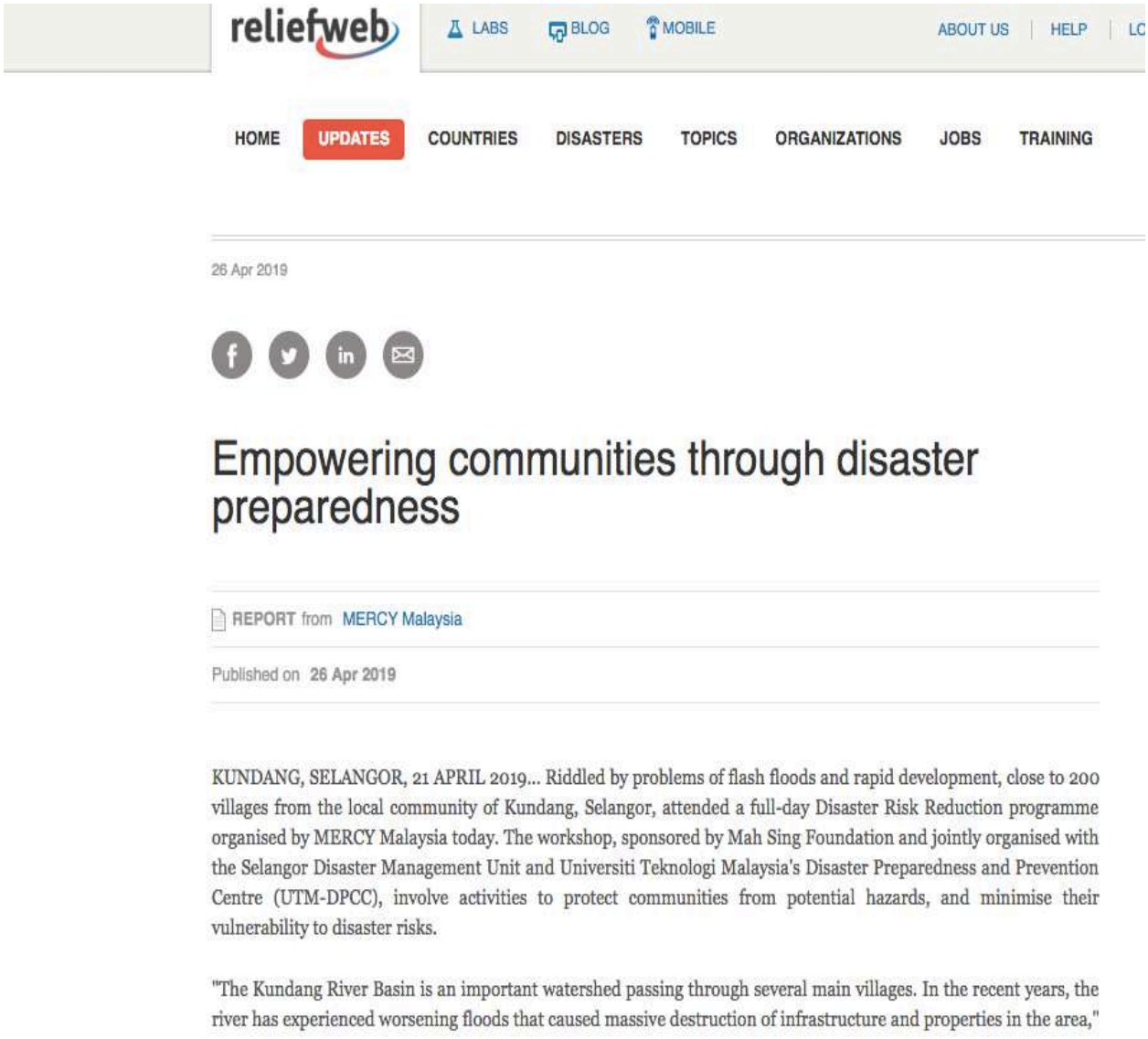
75名医院人员及主管密集培训，以防一旦水淹医院，医院人员如何分工合作，展开救援及疏散病人到安全的地方。

他赞扬主办当局亡羊补牢，在槟州大水灾过后隔年，主办首届"灾难应急培训营"，指导医务人员如何面对意外灾难，展开紧急救援及疏散工作。

阿菲夫医生说，预防胜于治疗，医院人员平时需学习如何分工合作，面对一旦发生的意外事故和灾难，特别是逢雨必灾的槟岛水患，如何展开施救及疏散工作。

Source:https://www.kwongwah.com.my/20190430

2. ReliefWeb



Source: *https://reliefweb.int/report/malaysia/empowering-communities-through-disaster-preparedness*

4.4 Additional photos

Photo: Map used during the disaster simulation exercise. The simulation scenario involves the occurrence of a landslide and flood at Jesselton and Georgetown respectively.

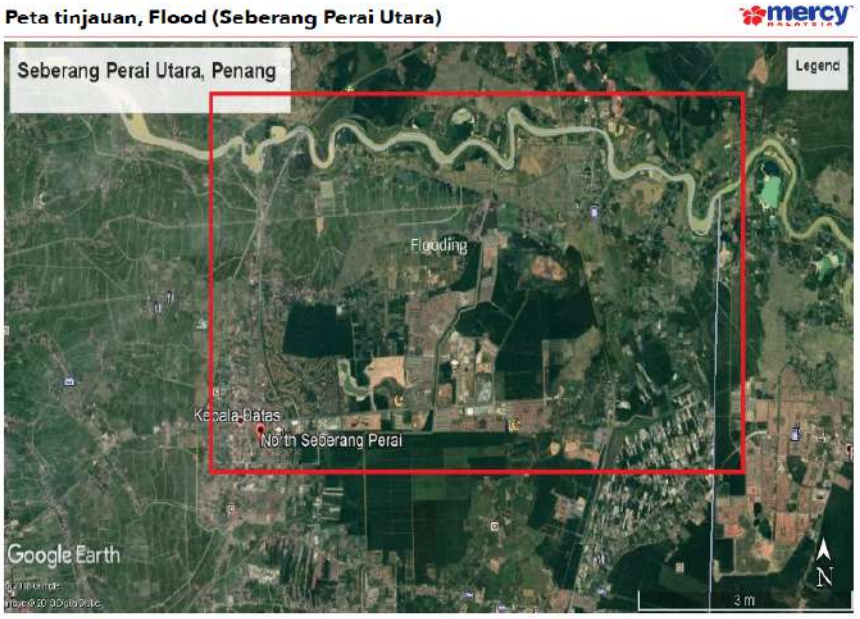


Photo: Map used during the disaster simulation exercise. The simulation scenario involves the occurrence of flood at Seberang Perai Utara.

Photo: En. Norazam Ab Samah (L) and En Hanafi Ramli (R) presented a token of appreciation to Dr Aik Teo Howe (middle) of Penang General Hospital

Photo: En. Norazam Ab Samah (L) and En Hanafi Ramli (R) presented a token of appreciation to Dr Elizabeth Anthony, Deputy, State Health Director (middle)

Photo: A group representative is presenting and explaining his group findings during the PVCA (2) activity

Photo: Two members of a group is presenting and explaining their group findings during the PVCA (2) activity.

Photo: One of the group members was active in listing down disasters of both natural and manmade causes that had occurred in Penang

Photo: Group members participated in an engaging discussion and exchanged thoughts, ideas and experience with each other and their respective facilitators.

Photo: The participants listened attentively to the instructions given during one of the group activities

Photo: A group photo, comprising of facilitators and workshop participants was taken at the end of day one of workshop.

Photo: Ir. Hanafi Ramli inspected and made observations of the grounds of Penang General Hospital, with respect to technical/infrastructural changes to increase resiliency of the hospital.

Photo: 5 members of MERCY Malaysia technical team, led by En Hanafi Ramli received a security briefing from and conducted a discussion with Penang General Hospital technical team

4.5 Program poster

RESILIENT HOSPITAL PULAU PINANG

Community Emergency Response Team Training and Disaster Simulation Exercise

Monday, 29 April 2019
8.00am - 6.00pm
Lam Wah Ee Hospital (workshop) and
Jalan Air Itam (town watching)
Georgetown, Pulau Pinang

mercy.org.my

Tuesday, 30 April 2019
8.00am - 1.00pm
Lam Wah Ee Hospital
Georgetown, Pulau Pinang

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