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# **APEC Workshop on Enhancing Participation in Flood Disaster Preparedness through Community-based Hazard Mapping**

## **Manual for Training**

15 - 24 June 2021, Virtual, Malaysia

**APEC Emergency Preparedness Working Group**

October 2021

APEC Project: EPWG 02 2019A

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**Asia-Pacific  
Economic Cooperation**

**APEC Workshop on  
Enhancing Participation in  
Flood Disaster Preparedness through  
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## DISCLAIMER

This training manual and related workshop materials were compiled under APEC Project: EPWG 02 2019A based on presentations from expert speakers, trainers, facilitators and workshop participants from member economies.

The views expressed in the report do not necessarily reflect the views of APEC or of any one of the member economies. The use of any software in the manual and workshop, and boundaries and names shown, and the designations used on any maps in the manual also do not imply official endorsement or acceptance by APEC.

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# Introduction to the Manual

## Objective

The objective of this manual is to assist trainers in organising and conducting a Training for Trainers on the Town Watching approach at the economy level.

The objective of the training in the Town Watching approach is:

- To enhance the capacity of community trainers to enhance community resilience towards flood disasters, to address the issue of increasing flood risk as result of climate change and growing human settlements in flood-prone areas;
- To share and create ownership by providing tools for developing community-based maps and preparedness procedures using the Town Watching approach; and
- To empower participants to implement the methodology during the workshop and propose a plan for similar training and dissemination in their locality.

## Expected Outcomes

Participants can:

- Enhance their knowledge and skills on improving community resilience towards flood disasters through preparedness;
- Learn to conduct the Town Watching approach for flood disaster preparedness through community-based hazard mapping; and
- Develop a plan for implementation of a Town Watching approach at their community level.

## Target audience

The target audience are potential community trainers in APEC economies who would like to conduct a Training of Trainers (ToT) workshop, although the training materials are suitable for use in any community flood response programme.

## Adaptation of materials

The materials can also be repurposed for directly training community groups.

Trainers are encouraged to modify the materials according to their own situation.

Translation may also be needed to facilitate training at the local community level.

Different economies may already have websites for the local community on preparing for flood response, and these can be referred to for resources. For example,

- Chile has relevant information through the website [www.onemi.cl](http://www.onemi.cl);
- Chinese Taipei has a website at [easy2do.ncdr.nat.gov.tw/community/](http://easy2do.ncdr.nat.gov.tw/community/);
- Japan has the Town Watching information for the community at the respective local government websites; and
- Malaysia has a website at [www.civildefence.gov.my/](http://www.civildefence.gov.my/).

## Background of this manual

This manual and the related slides available on [www.mywp.org.my/apec-workshop](http://www.mywp.org.my/apec-workshop) have been developed from materials presented at the virtual APEC Workshop on Enhancing Participation in Flood Disaster Preparedness through Community-based Hazard Mapping, 15 - 24 June 2021 (APEC project EPWG 02 2019a). The workshop was conducted virtually because of the Covid-19 situation. The writers of this manual have been normally engaged in physical face-to-face workshops before the Covid-19 pandemic and so the guidance materials presented here can be used in either a virtual or a physical setting. We recommend face-to-face training if possible, and some participants of the virtual workshop have given feedback that a physical workshop would be preferable for them, especially in relation to the on-site field exercise.

The workshop materials draw upon the experience of the trainers in Town Watching in the Malaysian context (Appendix 1) and so many of the examples and the videos used for on-site exercises are, of course, for the Malaysian situation. It builds on the Flood Ranger module and trainers may also refer to the relevant website at [www.riverranger.my/FloodRanger/](http://www.riverranger.my/FloodRanger/).

Reference to the Malaysian scenario for flood disaster management and to the community Flood Ranger programme are made in the training materials. For other economies, trainers may prefer to replace this information with that for local flood response programmes in their own economy.

## Workshop materials and manual for training

All the materials from the virtual APEC Workshop are made available online at [www.mywp.org.my/apec-workshop](http://www.mywp.org.my/apec-workshop). The materials fall under two categories:

### a) Training and Implementation of Town Watching Approach

This includes presentations and slide decks which cover the steps for conducting Town Watching; briefing on the field exercise; presentation on the use of online mapping tools; step-by-step use of the Town Watching methodology and field application; guidance on implementing the Town Watching exercise, virtually or physically; group mapping exercise in



participants' locality; facilitation of groups' presentation of the local maps made; and finally explanation on of emergency survival bags including use of drinking water filtration kits. Videos formed an important part of the resource material for on-site observations, due to the virtual training mode. Videos are available upon request to the Project Overseer, Dr Zelina Ibrahim, [zelina@upm.edu.my](mailto:zelina@upm.edu.my), or to the Malaysian Water Partnership Secretariat, Ms Athirah Lim, [athirahlim@gmail.com](mailto:athirahlim@gmail.com).

b) Group Presentation and Reflection

At the end of the training, participants reviewed and presented proposals for planning and adaptation of the training modules for economy level training. This was conducted through break-out group discussion and group presentation. The maps and presentations made provide examples of facilitation for potential trainers and form part of the materials in this manual.

The workshop report provides an overview of all the presentations and exercises conducted in the virtual workshop.

This manual for training is covers the following modules:

1. Town Watching Exercise Briefing and Examples;
2. Use of Electronic Mapping Applications (E-Maps);
3. Town Watching Exercise;
4. Survival Preparation and Emergency Kits;
5. Way Forward: Planning Local Training.

## How to use this manual

The manual provides guidance on the order of presentation of information.

The slide decks of training, which was conducted in the workshop, are available on the website. Trainers should download both materials in preparation for their own training workshop. Videos are available upon request to the Project Overseer, Dr Zelina Ibrahim, [zelina@upm.edu.my](mailto:zelina@upm.edu.my), or to the Malaysian Water Partnership Secretariat, Ms Athirah Lim, [athirahlim@gmail.com](mailto:athirahlim@gmail.com).

Guidance on organising a workshop is provided in Appendix 2.

View all the different slide decks to understand the progress in description and explanations presented.

Trainers may have to modify the slide deck in order to make them relevant for their own locality.

<b>Abbreviation</b>	<b>Meaning</b>
72H	72-hour
ADB	Asian Development Bank
ADRC	Asian Disaster Reduction Center
AIDEP—ACCEDER	<i>Análisis Histórico, Investigación en terreno, Discusión de Prioridades, Elaboración de Mapa, Planificación—Alarma, Comunicación, Coordinación, Evaluación Primaria, Decisiones, Evaluación Complementaria, Readecuación del Plan</i> Analysis of the history, Investigation of the terrain, Discussion of priorities, Elaboration in maps, Planning—Alarm, Communication, Coordination, Preliminary Evaluation, Decision, Complementary Evaluation, Readjustment of the Plan
ASF	APEC Support Fund
CB4DR	Clothing Bank for Disaster Relief Project, Malaysia
CBDRM	Community-based Disaster Risk Management
CBFHM	Community-Based Flood Hazard Map
CBFRP	Community-Based Flood Response Plan
CFGC	Community Flood Gathering Centre
CSO	Civil society organisation
DID	Department of Irrigation and Drainage
DRR	Disaster Risk Reduction
E-Maps	Electronic mapping applications
EPWG	Emergency Preparedness Working Group
ERP	Emergency response plan
F	Female
GEC	Global Environment Centre
GIS	Geographic Information Systems
ICT	Information and Communication Technology
IPCC	Intergovernmental Panel on Climate Change
KML	Keyhole Markup Language
KMZ	Keyhole Markup language Zipped
LCFGC	Local community flood-evacuation gathering centre
M	Male
MPK	<i>Majlis Perbadanan Kelang</i> Klang Municipal Council

MS	Microsoft
MyWP	Malaysian Water Partnership
n.d.	Not determined
NADMA	National Disaster Management Agency, Malaysia
NCDR	National Science and Technology Center for Disaster Reduction, Chinese Taipei
NGO	Non-governmental organisation
NOAA	National Weather Service, National Oceanic and Atmospheric Administration, United States of America
NSC	National Security Council, Malaysia
ONEMI	<i>Oficina Nacional de Emergencia del Ministerio del Interior</i> Office of National Emergencies, Ministry of the Interior, Chile
PADR	Participatory Assessment of Disaster Risk
PRA	Participatory Rural Appraisal
SBDRM	School-based disaster risk management
SBT	Science Based Targets
SMS	Short Message Service
SOP	Standard Operating Procedure
ToT	Training of Trainers
TWM	Town Watching Mapping
UNDRR	United Nations Office for Disaster Risk Reduction
UNISDR	United Nations International Strategy for Disaster Reduction
UPM	Universiti Putra Malaysia
USA	United States of America
UTC	Universal Time Coordinated
WMO	World Meteorological Organization
WWP	Water Watch Penang

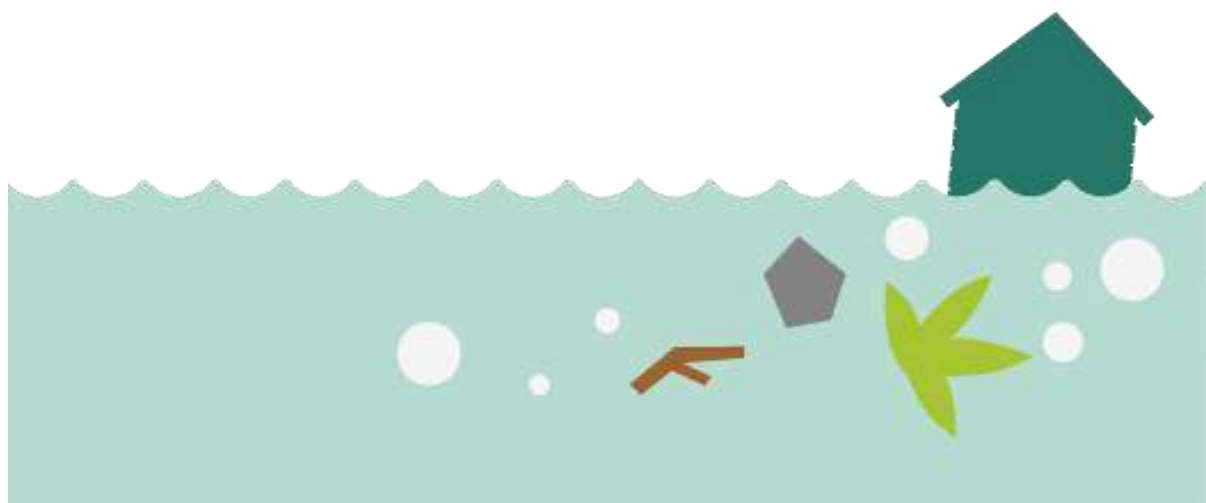
# Module 1 Town Watching Exercise Briefing and Examples

## Objective

The purpose of this module is to inform participants of the overall Town Watching approach for flood management and the steps required.

## Course Materials

The slide deck is Module1.pdf shown in Figure 1.



## 1. Outline (slide 2)

The outline of the presentation is as follows:

- A. Selection of Project Site
- B. Early Preparation
- C. Implementation of Town Watching
  - 1. Preliminary Review of the Area
  - 2. Town Watching Map Development
  - 3. Presentations and Discussions
  - 4. Submission and Sharing
- D. Follow up

## 2. What is Town Watching? (slide 3)

Town Watching activity is a simple and practical tool for efficiently implementing community-based hazard mapping in various local communities around the world. It was originally use in town planning; however, it was also used in prevention of disaster impact such as flood. It is used to identify areas prone to have risk of danger and routes safe to travel during flood in the community residential area.

The Town Watching activity focuses on two main outputs which are (i) Community Based Flood Hazard Map and (ii) Community Based Flood Response Plan.

- i. Community Based Flood Hazard Map emphasizes on how local community can develop their own map using local knowledge, experience and current condition.
- ii. Community Based Flood Response Plan is action needed to be taken to prepare the site to be a safe route during flood and emphasizes on what needs to be done beforehand by individual, community, agencies and others.

Town Watching activity focuses on two main outputs, which are:

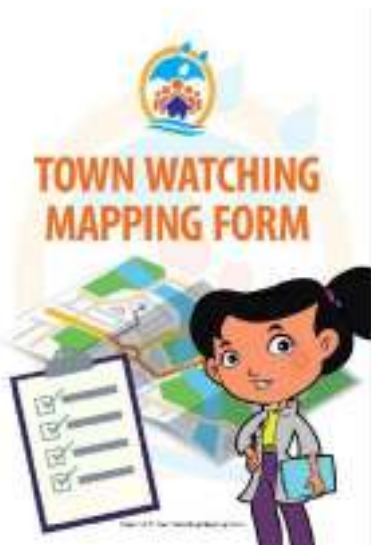
- a) Community Based Flood Hazard Map (CBFHM)
- b) Community Based Flood Response Plan (CBFRP)

### A. How Do You Select a Project Site? (slide 4)

To select a project site, the trainer may focus based on the needs such as flood prone areas and frequently affected community. Besides that, selection can be through smart partnerships, that is, with local authorities or other agencies' suggestions and recommendations or following project needs, funders and supporters.

## B. What Do You Need to Prepare? (slides 5 to 13)

In terms of early preparation, the trainer should identify the area targeted for the location for the Town Watching activity, as well as the community members and stakeholders involved. The next step is to prepare a large map of the area; preferably including the information on topography or/and street map that is clear and to be used for future reference.



The trainer should also prepare all the necessary tools needed and print out the Town Watching Mapping form. The form can be downloaded at from the Flood Ranger website [www.riverranger.my/FloodRanger](http://www.riverranger.my/FloodRanger), under the Module menu and selecting the file 'Town Watching Mapping Form (English)' ([www.riverranger.my/FloodRanger/index.cfm?&menuid=5&lang=EN](http://www.riverranger.my/FloodRanger/index.cfm?&menuid=5&lang=EN)). The focus when filling the form is identifying potential Local Community Flood Gathering Centre (LCFGC), propose safe routes to the LCFGC site from respective houses, identify all hazards and risks along proposed safe routes, collect information on related community profile and also identify any resources in that area.

In addition to that, the trainer should also identify the resource person/s, be it internally from the community or external. Some examples of the resource person are the trainer, community group leader(s), and facilitator(s). After identifying these persons, each community member should be appointed specific tasks or roles, especially during the on-site activity. The roles of the group leader(s) and facilitator(s) are given in Slide 12. The last two preparations that should be taken care of by the trainers are the insurance cover for all participating members during the activity, and a suitable place with adequate facilities should also be arranged for meetings, group discussions and presentations.

## C. How Do You Implement Town Watching Activity? (slides 14 to 24)

Trainers can refer to the document 'Guideline for Town Watching Activity' available at the Flood Ranger website [www.riverranger.my/FloodRanger](http://www.riverranger.my/FloodRanger), under the Module menu and selecting the file 'Guideline for Town Watching Activity (English)' as a reference as it covers all the four main steps in the activity, which are:

- i. preliminary review of the area,
- ii. Town Watching map development,
- iii. presentation and discussion,
- then lastly is,
- iv. submission and sharing.



### Step 1: Preliminary review of the area (slides 16 to 17)

Trainers should introduce and brief the community on the map of the area using slide presentations and videos of the area, or by using large, printed maps. Later, trainers can ask participants to divide themselves into at least two groups and appoint a few people to play roles needed during the activity. If doing the activity physically, tools needed for the activity are maps, clip files, colour pens, camera (or mobile phone with camera) to be distributed accordingly to each group. The timekeeper appointed should focus and manage time well to ensure that all aspects as per the Town Watching form and checklist are covered. The trainers should remind the participants that they are required to make notes and take photographs of any disadvantageous (hazard) and advantageous (beneficial) areas along the path that they walk along while conducting the 'watching' activity. Trainers should also guide participants to interview other local residents so as to obtain specific local information and past experiences of floods. They should identify the existence of persons who would need special assistance for evacuation. The recommended data to be collected are such as hazard areas, elements at risk, potential flood evacuation centres or shelters, evacuation routes, as well as availability of critical facilities, in addition to the community profile.

### Step 2: Town Watching map development (slides 18 to 20)

Once the on-site Town Watching activity is completed, the team trainer, leader, facilitator, resource person and members are to clean-up and compile all data to be translated into a map and plan. Each group is required to track information and observations that includes potential risk areas, hazardous obstacles, previous inundation areas, evacuation shelters and routes, location of vulnerable people, etc., as they walk around the area and conduct the field survey. Trainers should ensure that all local area observations and surveys that have been made should be recorded and sketched properly by participants.



From all this information collected during field observation, the participants have to then develop their own community-based Town Watching map that will be the Community-Based Flood Hazard Map (CBFHM) and Community-Based Flood Response Plan (CBFRP).



Community-Based Flood Hazard Map (CBFHM)

2. LIST OF HAZARD/RISK ALONG THE PROPOSED SAFE ROUTES AND COMMUNITY PROFILE

HAZARD & RISK				
No	Hazard/Risk/Community Profile	Area/Route/Coordinate	Image (no. of reference)	Detailed Description (photo)
1	shallow water	On the road side	1	
2	shallow water	On the road side	2	Water is rising and covering the road
3	shallow water	On the road	3	
4	shallow water	On the road side	4	Water is rising and covering the road
5	shallow water	On the road side	5	Water is rising and covering the road
6	shallow water	On the road side	6	Water is rising and covering the road
7	shallow water	On the road side	7	Water is rising and covering the road

Community-Based Flood Response Plan (CBFRP)



### Step 3: Presentation and discussion



After the maps are developed and ready, trainers may ask and guide all participants to discuss the overall vulnerabilities, possible counter-measures, priorities, degrees of difficulty and responsibility for implementing each proposed mitigation action, etc. The representatives from each group may present their respective group's community-based hazard map and response plan to members of the other groups.

Finally, the trainer/coordinator/leader would need to combine and merge all the sub-maps and plans into one main response plan as well as summarise

the issues, problems, proposed mitigation, and future action plans that had been developed by this Town-Watching exercise.

### Step 4: Submission and sharing

As the final step, the team trainer, leader, facilitator, resource person or members may submit and share the finished Town Watching map. The submission can be done by a hand-over to the related/relevant agencies/entities for their record and action.

Further sharing may be by placing the map in public spaces (for example at a community hall or religious centre) and by promoting its use to the community as well as constantly reminding of the response plan and map during meetings or gatherings. To make it easier and convenient for sharing, the map and details on town watching activity can also be developed into a pocket-sized brochure and shared with all the community residents.



## D. Don't Forget to Follow Up!

Along with all the main steps that has been done, a follow-up discussion with agencies should be carried out. This is to get feedback and responses from agencies, get information on any support that can be provided, or to mitigate any hazard and risks identified, supplemented with an endorsement of the proposed Community Flood Gathering Centre (CFGC) and safe evacuation routes.



Road repair after identification of possible hazard and feedback to authorities through community Town Watching exercise.

### Use of training videos

If physical on-site observation can not be carried out during the training, an alternative is to prepare a training video.

The first video for the training could explain the first three steps, which are, i) preliminary review of the area, ii) town watching map development and iii) presentations and discussion.

This could be followed by two or three exercises where participants are asked to identify the potential local community flood-evacuation gathering centre (LCFGC) through a drone video of an area in Malaysia. Trainers may prepare their own videos of local sites.


Participants should list the advantages, disadvantages, weakness, and enhancements needed of each of the proposed LCFGs. This can be followed by the third and fourth exercise which focuses on identifying a safe route, as well as mapping of hazards within the area. Answers can then be discussed and finalised during the session.

**Figure 1 Slide deck for Module 1**

 <p><b>TOWN WATCHING EXERCISE BRIEFING AND EXAMPLES</b></p> <p><b>Module 1</b></p> <p>Dr. Kalithasan Kallesam Trainer Global Environment Centre</p>	 <p><b>OUTLINE</b></p> <p>Town Watching</p> <ol style="list-style-type: none"> <li>Selection of Project Site</li> <li>Early Preparation</li> <li>Implementation of Town Watching             <ol style="list-style-type: none"> <li>Preliminary Review of the Area</li> <li>Town Watching Map Development</li> <li>Presentations and Discussions</li> <li>Submission and Sharing</li> </ol> </li> <li>Follow up</li> </ol>
 <p><b>TOWN WATCHING</b></p> <ol style="list-style-type: none"> <li>A project and additional tool for effectively implementing community-based hazard mapping to enhance local communities' disaster preparedness.</li> <li>It was developed with in-depth planning, knowledge, and experience in preparation of disaster impact such as flood.</li> <li>Try to identify areas prone to have high risk of danger and make safe to make living based on the community's observation and.</li> <li>Town watching activity should be done each year when safe.</li> </ol> <p><b>Community Based Flood Hazard Map (CBFM)</b> is a tool used to identify the areas prone to have high risk of danger and make safe to make living based on the community's observation and.</p> <p><b>Community Based Flood Response Plan (CBFRP)</b> is a plan used to identify the areas prone to have high risk of danger and make safe to make living based on the community's observation and.</p>	 <p><b>A. SELECTION OF PROJECT SITE</b></p> <ul style="list-style-type: none"> <li>Based on the need             <ul style="list-style-type: none"> <li>Flood prone areas</li> <li>Frequently affected community</li> </ul> </li> <li>Suggestion/Recommendation             <ul style="list-style-type: none"> <li>Local authority</li> <li>Agencies</li> <li>Project needs/funder/supporter</li> </ul> </li> </ul> <p>← SMART PLANNING</p>
 <p><b>B. EARLY PREPARATION</b></p> <ol style="list-style-type: none"> <li>Identifying area of concern</li> <li>Preparation of map of the area</li> <li>Preparation of necessary tools</li> <li>Prepare location Town Watching Mapping Form</li> <li>Identification of Resource Person (Internal &amp; External)</li> <li>Protection (Insurance)</li> <li>Identify meeting/discussion facility</li> </ol>	 <p><b>1. Identifying area of concern</b></p> <ol style="list-style-type: none"> <li>Identify targeted location of Town Watching activity             <ul style="list-style-type: none"> <li>Flood disaster prone area (priority)</li> <li>Indigenous community group</li> </ul> </li> <li>Identify community members             <ul style="list-style-type: none"> <li>Local leaders/organizers - eg. Residents Association</li> </ul> </li> <li>Identify stakeholder involved             <ul style="list-style-type: none"> <li>Local government, relevant agencies, NGOs, associations, etc.</li> </ul> </li> </ol>
 <p><b>2. Preparation of map of the area</b></p> <ol style="list-style-type: none"> <li>Get the targeted area map             <ul style="list-style-type: none"> <li>Topography or aerial street map</li> <li>Ensure map is very clear (if not)</li> <li>Simplify the map as reference and work sheet</li> <li>Highlight the streets and buildings</li> <li>A3 sized map</li> </ul> </li> </ol>	 <p><b>2. Preparation of map of the area</b></p> <ol style="list-style-type: none"> <li>Break the targeted area map into smaller areas</li> <li>Community can be divided into a few groups to cover all areas</li> </ol>
 <p><b>3. Preparation of necessary tools</b></p> <ol style="list-style-type: none"> <li>Paper (A3)</li> <li>Colored ink (red, blue, green, yellow)</li> <li>Colored markers</li> <li>Digital Camera/Phone camera</li> <li>GPS Navigation system</li> <li>GPS location coordinates</li> <li>Paperwork</li> <li>Drawing paper or A3 sized paper</li> </ol>	 <p><b>4. Prepare Town Watching Mapping Form</b></p> <ol style="list-style-type: none"> <li>Use the Town Watching Mapping Form for the activity</li> <li>The main focus are:             <ul style="list-style-type: none"> <li>Identify local Community Flood Watching Centre (CFCWC)</li> <li>Prepare Safe route to (CFCWC) from respective houses</li> <li>Identify all hazards &amp; risks along proposed safe routes</li> <li>Also collect information on typical community profile</li> <li>Also identify any structures in the area</li> </ul> </li> </ol>



[illegible]

<p><b>3. PRESENTATION AND DISCUSSION</b></p> <ul style="list-style-type: none"> <li>The group is then to discuss OVERALL the vulnerability, possible counter measures, policies, degree of difficulty, and responsibility for implementing each proposed mitigation etc.</li> <li>Representatives of each group present their respective group's community based hazard map and response plan to members of the other groups.</li> </ul>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>	<p><b>3. PRESENTATION AND DISCUSSION</b></p> <ul style="list-style-type: none"> <li>Finally, the trainer/coordinator/trainer lead to combine and merge all the sub-plan into one main plan</li> <li>Finally, the trainer lead to summarized the problems, proposed mitigation and future action plans that had been developed by this Town-Watching exercise.</li> </ul>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>
<p><b>21</b></p>  <p><b>23</b></p>	<p><b>4. SUBMISSION &amp; SHARING</b></p> <ul style="list-style-type: none"> <li>The finished Town Watching Map should be: <ul style="list-style-type: none"> <li>Handed over to the relevant/nearest agencies/offices for their recorded and action</li> <li>Shared in public spaces (community hall, religious centres)</li> <li>Promote its use in the community as well as commonly recorded during meetings/gathering</li> <li>Presented to leaders</li> </ul> </li> </ul>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>
<p><b>D. FOLLOW-UP</b></p> <p>Organize a follow-up discussion with agencies</p> <ul style="list-style-type: none"> <li>On the feedback and response from agencies</li> <li>What support can be provided <ul style="list-style-type: none"> <li>Signage</li> </ul> </li> <li>Mitigate hazard and risk identified</li> <li>Redevelopment of Community Flood Gathering Center (DFGC) and safe route</li> </ul>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>	<p>With the presentation and supporting documents and materials, we believe each of you will be able to conduct the FLOOD Ranger and PREPARE training as well develop your own Town Watching Map</p> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>
<p><b>NEXT</b></p> <p>Detailed sharing on actual Town Watching activities (video) and supporting materials on 21 June 2021</p> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>	<p><b>PREPARATION FOR PRACTICAL SESSION</b></p> <p>Criteria for site selection</p> <ul style="list-style-type: none"> <li>Nearest to your current location or strategic for all</li> <li>Have local knowledge of the site</li> <li>Local resource person from the site (added advantage) <ul style="list-style-type: none"> <li>Preferably community leader</li> </ul> </li> <li>Ensure site map available <ul style="list-style-type: none"> <li>Digital and photocopied</li> </ul> </li> <li>Safe to conduct activity (following SOP)</li> </ul> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p>
<p><i>healthier environment; better economy; more cohesive society</i></p> <p><b>together we achieve more</b></p> <p><b>Thank You!</b></p> <p>Dr. Kalithasan K +6510 366 9772; kalithasan@gcc.org.my</p> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training &amp; Materials to build a ready community</p> <p><b>29</b></p>	

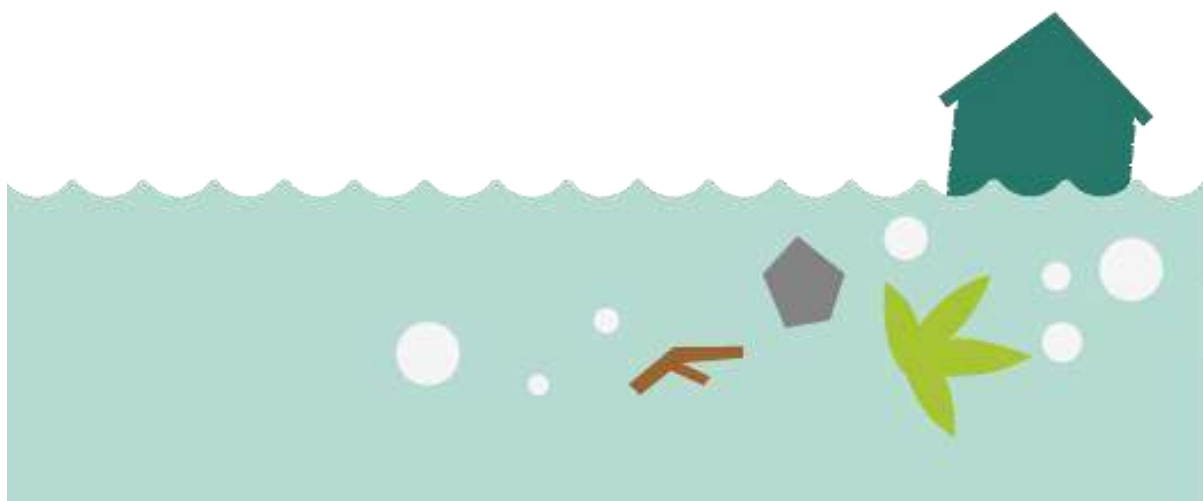
## Module 2 Use of Electronic Mapping Applications (E-Maps)

### Objective

The purpose of this module is to provide participants with tools for electronic and digital mapping for Town Watching mapping.

### Course Materials

The slide deck is Module2.pdf shown in Figure 2.



## 1. Outline (slide 2)

E-maps are electronic or digital maps which can be a easy way to share and carry out collaborative work virtually. The outline of the presentation is as follows:

1. Hand drawn map
2. Digital map using MS PowerPoint
3. Digital map in Google My Maps
4. Digital map in Google Earth Pro Desktop

## 2. How to Develop a Town Watching E-Map?

### Some basic terms and approach for digital maps (slides 3 to 6)

All mapping applications typically will have a minimum of three types of objects arranged in layers, that is:

- Points,
- Lines or polylines, and
- Polygons.

In addition, many mapping applications allow images to be added in a layer.

More sophisticated systems are known as Geographic Information Systems (GIS) and comprise mapping applications which are linked to a database. The data structure in mapping applications are of two types, raster or vector. Raster are similar to images and are normally from satellite images or aerial photographs. The other type of mapping data is vector and is similar to drawn lines. The biggest difference is in the space needed to keep these different data structures and in how calculations can be done on the map data. Many mapping applications use a combination of raster and vector data structures.

The topic of electronic or digital applications for developing maps can be done in steps.

There are four steps to progress to digital applications.

Step 1 is a hand-drawn map; step 2 is map using Microsoft PowerPoint; step 3 is using Google My Maps and step 4 is using Google Earth Pro Desktop. The trainer can emphasise that all mapping applications or “Geographic Information Systems (GIS)” will have a minimum of 3 types of objects arranged in layers. The objects are point, line/polyline and polygon. Once the basics of these objects and layers are understood then participants would be able to use any other mapping software. There are many mapping applications or GIS which will allow images and descriptive text to be added.

Present exercises which the participants could follow to create simple map drawings using the four steps; participants can be asked to draw a simple map of a room using the shapes in MS PowerPoint. After that explain how to open and use Google My

Maps. The trainer should ask participants to draw some simple objects on the My Maps application. Some examples of flood response maps made in Malaysia can be viewed through the URL links provided.

Based on feedback from participants in the virtual workshop, if there are newcomers to digital mapping applications then the trainer should allocate more time for this module to ensure that participants feel comfortable using the drawing controls.

## **Step 1 – A Hand Drawn Map (slides 7 to 9)**

Trainers may create a flood hazard map through digital mapping platforms that are accessible online. A useful mapping format is that which can be converted to a Google Earth file (kmz/kml file), for example, if using Google My Maps platform. Examples of other platforms that can be used by trainers are Google Earth Pro and ArcGIS. The ArcGIS platform may require a license and so free software applications are preferred. The choice of mapping software is up to the trainer and may be based on ICT availability.

To develop a Town Watching e-Map, the first steps on doing so are the same as preparing a physical map. The only difference is whether the map is plotting by hand drawing or by digital drawing.

The first exercise for participants is to create a hand-drawn map and an example is provided in the slide. Trainers may wish to create their own hand-drawn map example.

## **Step 2 Drawing in MS PowerPoint (slides 10 to 24)**

The next step is translating the hand-drawn map into a digital format. The easiest way to do this is by using a drawing application and a useful one to use is a slide presentation software like MS PowerPoint. The drawing tools can be used to trace the hand-drawn map which we just made.

The instructor can go through the different shapes available for drawing in MS PowerPoint.

Introduce that MS PowerPoint does have a layered structure for the different shapes which are drawn. The layers can be accessed by selecting the Selection Pane function in the 'Drawing' menu, under the 'Arrange' command. The visibility of shapes can be turned on or off by selecting the 'eye' icon in the Selection Pane. Shapes can be moved up or down layers and participants can also add an image and see it in the layer. Encourage participants to try out the different controls in the Selection Pane.



### Step 3 Google My Maps (slides 25 to 36)

The trainer can then move to the next step which is to use Google My Maps.

Explain that My Maps uses similar functions as MS PowerPoint where My Maps also has drawing tools. Participants can draw Point, Polyline, and Polygon.

Ask them to add in an image, and they can try to add in a video, or a web link.

Then ask participants to practice grouping and layering their drawing shapes. This grouping is just like what a GIS would do. Participants have to think about what they would want to be able to turn off and turn on information on the different shapes they have drawn.

Once participants have created a map they can view it in Google Maps and even share it with others to collaborate on a single map. They have to make sure that are signed into a Gmail account on the browser.

### Step 4 Google Earth Pro Desktop (slides 37 to 66)

Finally, the trainer can demonstrate the use of Google Earth. The advantages of Google Earth can be compared to My Maps. The trainer can then go through the different controls and toolbars in Google Earth and the map projects which can be developed:







1. Contents Panel,
2. Navigation Controls,
3. Tools > Options Pop-up Menu,
4. Add Place Mark Points,
5. Drawing Lines / Paths,
6. Making Polygons,
7. Folders for Saving Work,
8. Add Photos,
9. Add Image in Properties,
10. Adding Image Overlays.

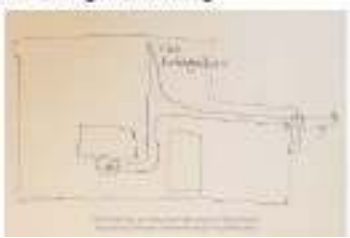

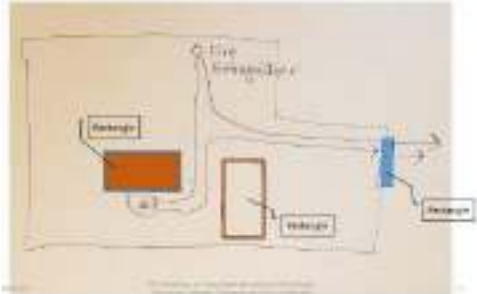

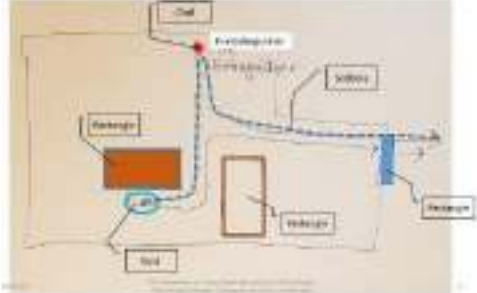





The trainer can reference to several online videos available on YouTube as listed in the slide deck. These videos provide step by step examples for a newcomer to digital applications and include drawing points, lines, polygons, organising files and folders, adding photographs and images and finally overlaying an image.

Some examples of Town Watching E-Maps are shown in the following images. The hazards symbols within images are shown in the map together with the safe routes.



**Figure 2 Slide deck for Module 2**

 <p><b>DIGITAL APPLICATIONS FOR MAPPING (E-MAPS)</b></p> <p><b>Module 2</b></p> <p>Dr. Zahira Zaiton Ibrahim Faculty of Forestry and Environment Universiti Putra Malaysia zaiton@upm.edu.my</p>	<p><b>Steps for Digital Applications</b></p>  <p>Step 1: Hand-drawn map → Step 2: Digitize map using GIS Technologies → Step 3: Upload data to Google Earth → Step 4: Upload map to Google Earth Pro Desktop</p>																																								
<p>All mapping applications or "Geographic Information Systems (GIS)" will have a minimum of <u>3 types of objects</u> arranged in layers</p> <ul style="list-style-type: none"> <li>➢ Point</li> <li>➢ Line or Polyline</li> <li>➢ Polygon</li> </ul>	<p>Many mapping applications or "Geographic Information Systems (GIS)" will allow <u>images</u> and <u>descriptive text</u> to be added</p>																																								
<p>A "Geographic Information System (GIS)" will have a database attached to each of its objects</p> <p>Each Tree may be entered into a GIS as a point object with a linked data table</p>  <table border="1"> <thead> <tr> <th>ID</th> <th>Type</th> <th>Code</th> <th>Age</th> <th>Height</th> </tr> </thead> <tbody> <tr> <td>11</td> <td>Tree</td> <td>111</td> <td>10</td> <td>12</td> </tr> <tr> <td>12</td> <td>Tree</td> <td>112</td> <td>15</td> <td>18</td> </tr> <tr> <td>13</td> <td>Tree</td> <td>113</td> <td>20</td> <td>22</td> </tr> <tr> <td>14</td> <td>Tree</td> <td>114</td> <td>25</td> <td>28</td> </tr> <tr> <td>15</td> <td>Tree</td> <td>115</td> <td>30</td> <td>35</td> </tr> <tr> <td>16</td> <td>Tree</td> <td>116</td> <td>35</td> <td>40</td> </tr> <tr> <td>17</td> <td>Tree</td> <td>117</td> <td>40</td> <td>45</td> </tr> </tbody> </table>	ID	Type	Code	Age	Height	11	Tree	111	10	12	12	Tree	112	15	18	13	Tree	113	20	22	14	Tree	114	25	28	15	Tree	115	30	35	16	Tree	116	35	40	17	Tree	117	40	45	<p><b>DATA STRUCTURES — Vector and Raster Formats</b></p> <p>The "Raster Map World" contains:</p> <ul style="list-style-type: none"> <li>POINT FEATURES</li> <li>LINE FEATURES</li> <li>POLY FEATURES</li> </ul> <p>The "GIS Map World" contains:</p> <ul style="list-style-type: none"> <li>POINT FEATURES</li> <li>LINE FEATURES</li> <li>POLY FEATURES</li> </ul> <p>DATA STRUCTURES — Vector and Raster Formats</p>
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16	Tree	116	35	40																																					
17	Tree	117	40	45																																					
<p><b>Step 1 - A Hand Drawn Map</b></p> <ul style="list-style-type: none"> <li>Let's make a map of our room</li> <li>Locate where we are at our desk or table or sofa</li> <li>Include the exit door</li> <li>Include 2 other items in the room</li> </ul> 																																									
<p>You may download my drawing from the chat link if you want to use it</p>	<p><b>Step 2</b> <b>Drawing in MS PowerPoint</b></p> <ul style="list-style-type: none"> <li>We use the Drawing tools</li> </ul> 																																								

<p>We'll use my hand drawn map from before and make a digital drawing</p>  <p>11</p>	 <p>I'm going to use the Rectangle, Oval, Scribble, Freeform, Text Box shapes to draw the room and routes.</p> <p>MS PowerPoint does not have a Point object. It just has lines, polygons and polygon shapes.</p> <p>Make sure you use at least the freeform shape to draw one route for escape.</p> <p>12</p>
 <p>13</p>	 <p>14</p>
 <p>15</p>	 <p>16</p>
 <p>17</p>	 <p>18</p>
 <p>19</p>	 <p>PowerPoint has layers of drawing objects which we can see pop out when we click on the Selection Pane.</p> <p>20</p>







31



32



33



33

Once you have created a map you can view it in Google Maps

- Make sure you are signed into your gmail account on the browser
- Open Google Maps
- Select the Menu (3 horizontal bars on the top left)
- Select Your Places
- Select MAPS
- Select the map you want to view

35

Example of a Townwatching training map in My Maps



36

Step 4  
Google Earth Pro Desktop

- |  |   |
|--|---|
| <b>Google Earth</b> <ul style="list-style-type: none"> <li>• Full satellite imagery</li> <li>• 3D terrain model</li> <li>• Measurements</li> <li>• Downloadable (Pro Desktop)</li> <li>• GIS-like, without the database</li> <li>• Video tour feature</li> </ul> | <b>Google Maps (Accessing is in My Maps)</b> <ul style="list-style-type: none"> <li>• Navigation</li> <li>• Location tracking</li> <li>• Local use</li> <li>• Lightweight</li> <li>• Web browser</li> </ul> |
|--|---|

37

Topics

- |   |   |
|---|---|
| <b>Controls and Toolbars</b> <ul style="list-style-type: none"> <li>• 1. Controls Panel</li> <li>• 2. Navigation Controls</li> <li>• 3. Tools &amp; Controls Progress Menu</li> </ul> | <b>Map Projects in Google Earth</b> <ul style="list-style-type: none"> <li>• 4. Add Place Mark Pins</li> <li>• 5. Drawing Lines / Paths</li> <li>• 6. Making Polygons</li> <li>• 7. Tutorial for Saving Work</li> <li>• 8. Add Photos</li> <li>• 9. Add Video as Properties</li> <li>• 10. Adding Image Overlays</li> </ul> |
|---|---|

38

1. Contents Panel











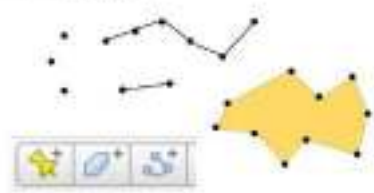


39





Search Panel








40

<p><b>Places Panel</b></p> <ul style="list-style-type: none"> <li>The information that you have entered is divided into:           <ul style="list-style-type: none"> <li>Any Place, placed by your computer internet, is added when you upload Google Earth.</li> <li>Temporary Places, only placed in the Google Earth browser meaning it is lost when Google Earth is closed.</li> </ul> </li> <li>You should always save your work by right click and <b>Save Place As...</b> to save the file which you have made into a permanent Place.</li> </ul> <p>The file will be saved as an text file for a readable file. The ".k" means "KML" and there are more than one objects in it.</p>  <p>41</p>	<p><b>Layers Panel</b></p> <ul style="list-style-type: none"> <li>Information from Google Earth</li> <li>Choose what you want to see</li> </ul> <p>On Off</p>  <p>42</p>
<p><b>2. Navigation Controls</b></p>  <p>Navigation Controls</p> <p>Shortcut: N - North up U - Up vertical</p> <p>43</p>	<p>On zooming in, Pegman appears to give Street View</p> <p>(before Street View is on)</p>  <p>Click &amp; drag Pegman to the road where there are blue icons</p> <p>View using the new toolbar</p>  <p>44</p>
 <p>45</p>	<p><b>3. Tools &gt; Options Pop-up Menu</b></p>  <p>46</p>
<p><b>Map Projects in Google Earth (Drawing and Marking)</b></p> <p>Point Line Polygon Area Image</p>  <p>47</p>	<p><b>Toolbar Menu</b></p>  <p>48</p>
<p><b>Status Bar</b></p>  <p>49</p>	<p><b>Three Objects in Google Earth</b> Point, Line, Polygon</p>  <p>50</p>



<p><a href="#">YouTube Video</a></p> <h4>4. Add Place Mark Points</h4> <p><a href="https://www.youtube.com/watch?v=1DzUdMwU">https://www.youtube.com/watch?v=1DzUdMwU</a></p> <p>1.8 mins</p> <p>Resources from University of Toronto (Library: UTM Library)</p> <p>51</p>	<p><b>Placemark</b></p>  <p>You can only do editing in the object Properties box. Right-click the object and select Properties.</p> <p>52</p>
<p><a href="#">YouTube Video</a></p> <h4>5. Drawing Lines / Paths</h4> <p><a href="https://www.youtube.com/watch?v=6uBzUdMwU">https://www.youtube.com/watch?v=6uBzUdMwU</a></p> <p>5 mins</p> <p>53</p>	<p><b>The Elevation Profile along a Path</b></p> <ul style="list-style-type: none"> <li>Right click a path line</li> <li>Select Show Elevation Profile</li> </ul>  <p>54</p>
<p><a href="#">YouTube Video</a></p> <h4>6. Making Polygons</h4> <p><a href="https://www.youtube.com/watch?v=6uBzUdMwU">https://www.youtube.com/watch?v=6uBzUdMwU</a></p> <p>1.8 mins</p> <p>55</p>	<p><b>Polygon (a closed space)</b></p>  <p>56</p>
<p><a href="#">YouTube Video</a></p> <h4>7. Folders for Saving Work</h4> <p><a href="https://www.youtube.com/watch?v=6uBzUdMwU">https://www.youtube.com/watch?v=6uBzUdMwU</a></p> <p>4.1 mins</p> <p>57</p>	<p><b>Organise your files in My Places</b></p>  <p>58</p>
<p><b>Saving Work</b></p> <p><b>Save Place As</b></p> <p>→ .kml file (zip file)</p> <p><a href="#">YouTube Video</a></p> <p><a href="https://www.youtube.com/watch?v=EQ2Fy3e5trg">https://www.youtube.com/watch?v=EQ2Fy3e5trg</a></p> <p>59</p>	<p><a href="#">YouTube Video</a></p> <h4>8a. Add Photos</h4> <p><a href="https://www.youtube.com/watch?v=6uBzUdMwU">https://www.youtube.com/watch?v=6uBzUdMwU</a></p> <p>1.3 mins</p> <p>60</p>



<p>Use the Menu at the Top to add Photos</p>  <p>61</p>	<p><b>YouTube Video</b></p> <p><b>8b. Add Image in Properties</b></p> <p><a href="https://www.youtube.com/watch?v=8b8b8b8b8b8b">https://www.youtube.com/watch?v=8b8b8b8b8b8b</a></p> <p>0:7 mins</p> <p>62</p>
<p><b>YouTube Video</b></p> <p><b>9. Adding Image Overlays</b></p> <p><a href="https://www.youtube.com/watch?v=9a9a9a9a9a9a">https://www.youtube.com/watch?v=9a9a9a9a9a9a</a></p> <p>2 mins</p> <p>63</p>	<p><b>Image Overlay</b></p> <ul style="list-style-type: none"> <li>• Make the image transparent so you can see what is behind it</li> <li>• Move, Stretch and Rotate the image to fit the image background.</li> <li>• Do not expect a perfect fit.</li> <li>• Align to known ground points, like crossroads and buildings</li> </ul>  <p>64</p>
<p>Add Points, Paths, Polygons on the map</p> <ul style="list-style-type: none"> <li>• Points</li> <li>• Paths</li> <li>• Polygons</li> <li>• Images</li> <li>• Overlays</li> </ul>  <p>65</p>	<p>Community Flood Response Map, Kampung Sungai Pinang</p>  <p>66</p>
<div>  <p><b>Thank you</b></p> </div> <p>67</p>	

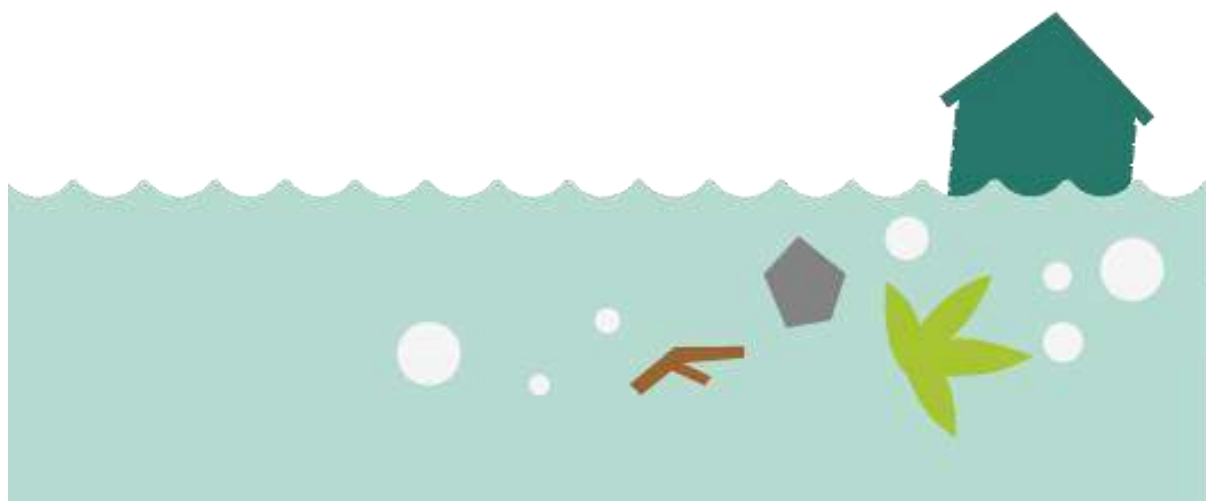
## Module 3 Town Watching Exercise

### Objective

The purpose of this module is to inform participants of the Flood PREPARE Approach and to describe, step-by-step, each of the activities for Town Watching in preparation for the field exercise.

### Course Materials

The slide deck is Module3.pdf shown in Figure 3.



## 1. Outline (slide 2)

The outline of the presentation is as follows:

1. FLOOD Ranger
2. Town Watching Activity
  - Step-by-step diagram
3. Introduction to 3 main steps of Town Watching Activity
  - Town Watching Exercise at Outdoor (Field Site) or other options
  - In-class Hazard Mapping and Flood Response Plan
  - Discussion and presentation on final town watching map

## 2 FLOOD Ranger (slide 3 to 9)

Under the National Security Council (NSC) Directive 20, Malaysia's National Disaster Management Agency (NADMA) is responsible for coordination of all activities and cooperation before, during and after disasters, including disaster risk prevention and mitigation activities, disaster preparedness and response activities, as well as recovery and redevelopment activities. One of the roles and responsibilities of NADMA is to coordinate the implementation of public awareness programs. The role of non-governmental organisations was viewed to be more on humanitarian services for rescue and support during flood disasters.

In an effort to support the government's (NADMA) public disaster preparedness, in 2014, Malaysian Water Partnership (MyWP) and the Global Environment Centre (GEC), with some financial support from the Global Water Partnership Malaysia and Global Water Partnership Southeast Asia, developed a community-based programme focusing on empowering stakeholders in preparing for flood disasters, that is the FLOOD Ranger programme.

The FLOOD Ranger components comprise:

i. Smart partnership

The programme was developed to complement the Malaysian government's (NADMA) framework. Community-based programme must be conducted in partnership with government agencies. It balances the role and responsibility of all stakeholders involving government agencies, statutory body, private sector, NGOs and volunteers.

ii. FLOOD Ranger Module

The FLOOD Ranger module is an approach that can be adopted by all levels of the community and community-based initiative. It can help to reduce the risk of floods as well as reduce the socio-economic losses that have to be borne by all parties. It was developed in 2015 by MyWP and GEC in partnership with the Department of Irrigation and Drainage Malaysia (DID) and supported by local government as a pilot study. In 2018, the module

was enhanced with support from Universiti Putra Malaysia (UPM) and NADMA.

iii. Trainings or workshops

The main aim is to empower the key stakeholders especially local communities. Each workshop or training will have customized agenda to suit the local condition and setup. The module can be adapted to the local needs.

Targeted stakeholders are local communities, government agencies and voluntary organization/s. Moreover, it is organised in partnership with government agencies; ie: disaster management, local government and community. The training duration usually takes 1 up to 2 days.

The FLOOD ranger training used the FLOOD PREPARE APPROACH. The Flood Prepare Approach is developed specifically for community-based flood resilience. The programme was customized to suit bottom-up and civic science as an overall approach.

There are three measures in catalysing the flood PREPARE approach, that are (i) preparedness, (ii) action and (iii) recovery. The Town Watching activity also follows closely to the Flood PREPARE approach design.



The Civic Science contribution to developing the Town Watching map is emphasised.

The trainer and participants may wish to download the materials of the Flood Ranger programme from the Flood Ranger website [www.riverranger.my/FloodRanger](http://www.riverranger.my/FloodRanger), under the Module menu and selecting the file 'FLOOD Ranger Module (English)' ([www.riverranger.my/FloodRanger/view\\_file.cfm?fileid=15](http://www.riverranger.my/FloodRanger/view_file.cfm?fileid=15)). This document contains

five chapters on floods, their impacts, flood mitigation, community involvement and levels of flood management.



## 2. Town Watching Activity (slide 8)

In preparation for the on-site field observation, the trainer can share the diagram indicating the steps for the Town Watching exercise and remind participants of the materials that they should have ready.

### A. Selection of Project Site (slide 9 to 10)

Participants are reminded to select a site that they are familiar with for the exercise.

### B. Early Preparation (slides 11 to 13)

The trainer should remind the participants of early preparation before going to the field and to download the forms for the Town Watching activity.

## **3. Introduction to 3 main steps of Town Watching Activity**

### **C. Implementation of Town Watching (slides 14 to 15)**

The 3 main steps emphasised for the training are the:

1. Preliminary review of the area
2. Town Watching map development
3. Presentation and discussion

The fourth step is the result of an actual Town Watching exercise where the resulting map is then shared with the relevant authorities.

#### **1. Preliminary review of the area (slides 16 to 38)**

The different steps which the participants must undertake during the site visit are described and examples of issues are presented. This is best conducted physically in the field together with the trainer(s) and resource persons/facilitator.

For a virtual training, training videos recorded by drones can be used for the exercise. If drone videos are not available, participants can use online map applications such as Google Earth Pro to view their study area although the information are likely outdated.

The trainer can use any videos of their locality during the workshop to conduct exercises with the participants in class. The slide deck has placeholder slides for participant feedback on the video exercises. The trainer then provides feedback on the exercises. Trainers should adapt the slides for their situation.

Exercise 1 is to identify a potential local community flood gathering centre (LCFGC). A video can be used to present the participants with a field site. Give the participants time to answer the question. A discussion of the different options, their advantageous and disadvantageous, as identified by participants, is facilitated by the trainer.

Exercise 2 is to identify a potential local community flood gathering centre (LCFGC). A second video clip of a field site can be used if field excursion is not possible.

Exercise 3 and 4 are on hazards mapping or safe routes for two different field sites.

#### **2. Town Watching map development (slides 39 to 43)**

The development of the Town Watching map is briefly described. And the training focuses on the development of the Town Watching map by transferring the data compiled during the activity into a map. This is followed by a hands-on exercise to fill in a response plan form in Exercise 5.

### **3. Presentations and discussion (slides 44 to 53)**

Finally, participants are informed of examples of the presentation of maps and plans which had been developed as well as discussion of the outcome of the activity.

Participants are requested to share their thoughts and comments on the presentations and discussions presented.

If using an online platform, then during this session the participants can be shown how to use some of the online meeting platform, for example, Zoom meeting service features, so that they can share the outcome of their town watching activity that would be conducted on the next day (Exercise 6). Examples of town watching maps from Malaysia were shared with the participants.

Towards the end of the session, the trainer should remind and brief participants on the preparation for the practical session which they were encouraged to do on Day 6 of the workshop. Participants were also briefed on the presentation that they would be preparing and making on Day 7 of the workshop.

Examples of the final map products are shared with participants.



**Figure 3a Slide deck for Module 3**

<p>1</p>	<p>2</p>
<p>3</p>	<p>4</p>
<p>5</p>	<p>6</p>
<p>7</p>	<p>8</p>
<p>9</p>	<p>10</p>













 <p>11</p>	 <p>12</p>
 <p>13</p>	 <p>14</p>
 <p>15</p>	 <p>16</p>
 <p>17</p>	 <p>18</p>
 <p>19</p>	 <p>20</p>

<p><b>1. Preliminary Review of the Area</b> Data collection</p> <p>21</p>	<p><b>EXERCISE 1: IDENTIFY LOCAL COMMUNITY FLOOD GATHERING CENTRE (LCFGC)</b></p> <p>Please take note on the advantages &amp; disadvantages of each of proposed LCFGC.</p> <p>Part A: Form</p> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>22</p>
<p><b>EXERCISE 1: LCFGC (Option A)</b></p> <p>23</p>	<p><b>EXERCISE 1 (OPTION A) : Local Community Flood Gathering Centre (LCFGC)</b></p> <p>Please take note on the advantages &amp; disadvantages of each of proposed LCFGC.</p> <p>Please fill the form</p> <p>But for today just list the advantages &amp; disadvantages (3 per)</p> <p>Once ready, please share in the table</p> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>24</p>
<p><b>ANSWER OF EXERCISE 1 (OPTION A) : i. Strength and Advantages</b></p> <ol style="list-style-type: none"> <li>1) Many facilities, e.g. toilets, cooking area, hall, parking area, ample of space, pa system</li> <li>2) Alternative power supply – solar energy</li> <li>3) This accessibility is disable friendly</li> <li>4) There is a loudspeaker – centralized</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>25</p>	<p><b>ANSWER OF EXERCISE 1 (OPTION A) : ii. Weakness &amp; Enhancement needed</b></p> <ol style="list-style-type: none"> <li>1) Toilet – need alternative drainage system</li> <li>2) Steps down to road – need to be made smooth</li> <li>3) Power line is exposed – need to be hidden</li> <li>4) The gate of the back entry building is broken – need to be fixed</li> <li>5) No response to the place – need to increase the accessibility for flood</li> <li>6) Injured in front of the gate area for wheelchair – need to be fixed</li> <li>7) Open and exposed house – to be covered</li> <li>8) The flood area not exposed – to be exposed</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>26</p>
<p><b>EXERCISE 2: LCFGC (Option B)</b></p> <p>27</p>	<p><b>EXERCISE 1 (OPTION B) : Local Community Flood Gathering Centre (LCFGC)</b></p> <p>Please take note on the advantages &amp; disadvantages of each of proposed LCFGC.</p> <p>Please fill the form</p> <p>But for today just list the advantages &amp; disadvantages (3 per)</p> <p>Once ready, please share in the table</p> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>28</p>
<p><b>ANSWER OF EXERCISE 2 (OPTION B) : i. Strength and Advantages</b></p> <ol style="list-style-type: none"> <li>1. Presence of open field for parking of rescue vehicles depending on water level</li> <li>2. There is a loudspeaker – centralized</li> <li>3. Many facilities, e.g. toilets, hall, parking area, pa system</li> <li>4. More accessible is safe especially for wheelchair (in high water level)</li> <li>5. Power and covered drainage holes clearly</li> <li>6. Roady both new and in good condition</li> <li>7. Alternative power supply-solar energy</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>29</p>	<p><b>ANSWER OF EXERCISE 2 (OPTION B) : ii. Weakness &amp; Enhancement needed</b></p> <ol style="list-style-type: none"> <li>1. Gated – need alternative drainage system</li> <li>2. Need to arrange treatment plant – provide outdoor and water purification (water-based)</li> <li>3. Presence of open field – water level rise can obstructs access safety and sufficing material (openness) from outside</li> <li>4. Some portion of Open and uncovered space – need flood warning</li> <li>5. Open land without vegetation – responsible for speed water (obstacle or protection with vegetation)</li> <li>6. Lack of the gutters nearby – flood waters overflowing for 30-40 mins (drains and where consider surrounding environment) secondary treatment for flooding to prevent</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b></p> <p>30</p>












<p><b>EXERCISE 3 : HAZARDS MAPPING / SAFE ROUTE</b></p> <ul style="list-style-type: none"> <li>Please take note on the disadvantages (hazard / risk) &amp; advantage of each of the data.</li> </ul>  <p>Part B: Form</p> 	<p><b>EXERCISE 3 : Hazard mapping/safe route</b></p>
<p><b>EXERCISE 3 : hazards mapping / safe route</b></p> <ul style="list-style-type: none"> <li>Please take note on the disadvantages (hazard / risk) &amp; advantage of each of the data.</li> <li>Please fill the form</li> <li>But for today just list the disadvantages (hazard / risk) and advantage (if any)</li> <li>Once ready, please share in chatbox</li> </ul>  	<p><b>ANSWER OF EXERCISE 3 I. Hazard &amp; Risk</b></p> <p>List of Hazards &amp; Risk :</p> <ol style="list-style-type: none"> <li>1) Pressure for the bridge to collapse</li> <li>2) Collapse of river bank</li> <li>3) Death is sudden/unknown and across the road</li> <li>4) Water bodies (river)</li> <li>5) Narrow bridge – overcrowding</li> <li>6) Traps near the river bank</li> <li>7) Near by sewage treatment plant</li> </ol>  
<p><b>ANSWER OF EXERCISE 3 II. Strength and Advantages</b></p>  	<p><b>EXERCISE 4 : HAZARD MAPPING/SAFE ROUTE</b></p>
<p><b>ANSWER OF EXERCISE 4 I. Hazard &amp; Risk</b></p> <p>List of hazard is the:</p> <ol style="list-style-type: none"> <li>1) Possible collapse of identified territory</li> <li>2) Road and overland flow</li> <li>3) Narrow bridge, culvert</li> </ol> <p>A village with no covered road (bridge) and damaged road</p>  	<p><b>ANSWER OF EXERCISE 4 II. Strength and Advantages</b></p>  
<p><b>2. Town Watching Map Development</b></p> <p>Main component:</p> <ol style="list-style-type: none"> <li>1. Data completion</li> <li>2. Translate into map</li> </ol> 	<p><b>3. Town Watching Map Development</b> Data completion &amp; Translating into map</p>

 <p>41</p>	 <p>42</p>
 <p>43</p>	 <p>44</p>
 <p>45</p>	 <p>46</p>
 <p>47</p>	 <p>48</p>
 <p>49</p>	 <p>50</p>





**Figure 3b Slide deck for Module 3**

<p><b>Town Watching Exercise</b></p> <p><b>Q &amp; A Session</b></p>  <p>1</p>	<p><b>PREPARATION FOR ON SITE ACTIVITY ON 22 JUNE 2021</b></p> <p>21 JUNE 2021</p>  <p>Dr. Kalithasan Kallasan Trainer Global Environment Centre</p>  <p>2</p>
<p><b>PREPARATION FOR ON-SITE LOCAL TOWN WATCHING ACTIVITY EXERCISE</b></p> <p>Preparation Checklist:</p> <ol style="list-style-type: none"> <li>1. Map of targeted site</li> <li>2. Town Watching Mapping Form</li> <li>3. Guideline of Town Watching Activity</li> <li>4. Camera</li> <li>5. All necessary tools</li> </ol> <p><b>MOST IMPORTANT:</b> Ensure all SOP followed</p>  <p>3</p>	<p><b>LOCAL TOWN WATCHING ACTIVITY EXERCISE</b></p> <p>1<sup>st</sup> step :</p> <ol style="list-style-type: none"> <li>1. Real time field site</li> <li>2. Drone video – pre-record and share with members</li> <li>3. Virtual tour – google earth pro</li> </ol> <p><b>The best: field visit.</b></p>  <p>4</p>
<p><b>AFTER OBSERVATION (GOOGLE PRO-EARTH) LOCAL TOWN WATCHING ACTIVITY EXERCISE</b></p> <p>Step 2:</p> <ol style="list-style-type: none"> <li>1. Compile all information from each group within economies</li> <li>2. Convert all information into Town Watching Map</li> </ol>  <p>5</p>	<p><b>AFTER ON-SITE OBSERVATION (GOOGLE PRO-EARTH) LOCAL TOWN WATCHING ACTIVITY EXERCISE</b></p> <p>Step 3:</p> <ol style="list-style-type: none"> <li>1. Record presentation of Town Watching Map (scan QR code)</li> <li>2. Upload in Dropbox (scan QR code)</li> </ol> <p>• by 12 midnight (GMT+8) 22/06/2021</p>  <p>6</p>
<p><b>The Following day (23/06/2021)</b></p> <ol style="list-style-type: none"> <li>1. Few (3) economic will present their Town Watching Map + or play their video</li> <li>2. Each group will be given + 5 mins to present + 5 mins for Q &amp; A</li> </ol>  <p>7</p>	<p><i>healthier environment; better economy; more cohesive society</i></p> <p><b>together we achieve more</b></p> <p><b>THANK YOU TERIMA KASIH</b> <b>GRACIAS ERES EL MAJOR!</b> <b>IKAW ANG PINAKAMAHUSAY!</b> <b>YOU ARE THE BEST!</b></p> <p>Dr. Kalithasan K. +63 10 366 9772; k.kallasan@ggc.org.my</p>  <p>8</p>



Presentations were made by

- Brunei Darussalam team who developed a map in the Belais and Buda-buda Bokok area;
- Chile team who presented a map for Municipalidad de Iquique;
- The Philippines team who conducted town watching activity in the Poblacion, Ferrol, Rombon area; and
- Malaysia team who presented their map for Dengkil, Selangor area.

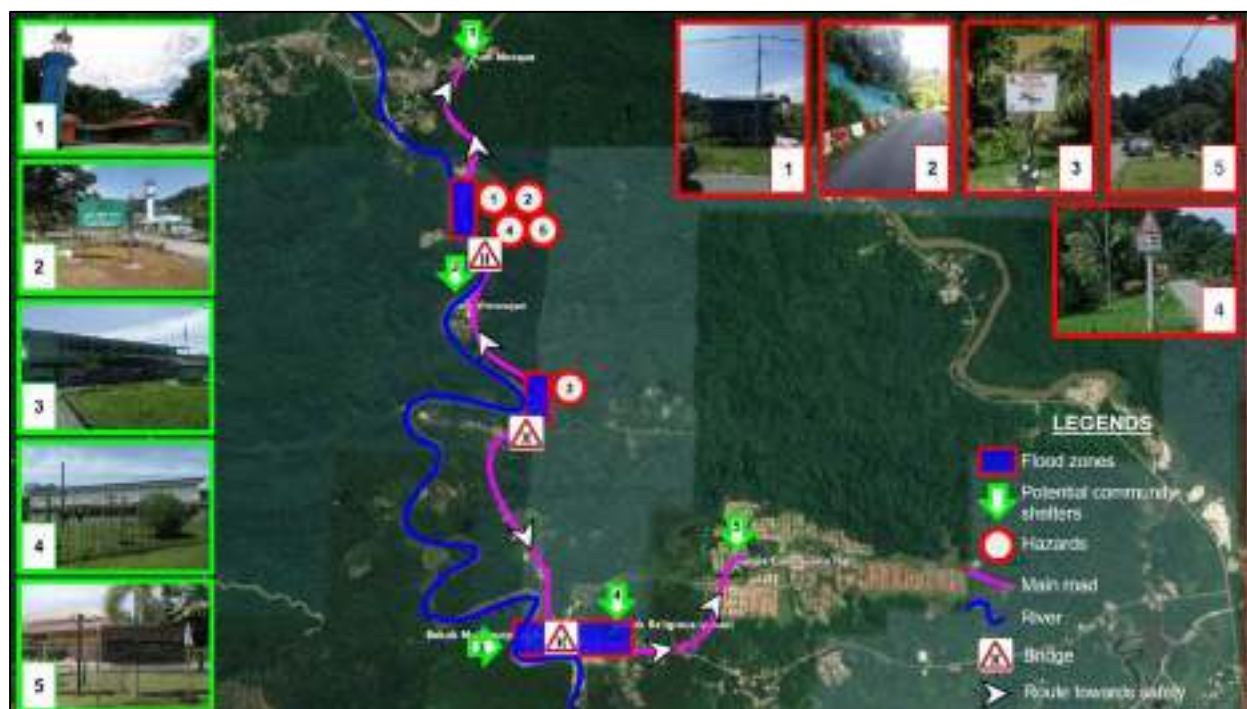
Dr Kalithasan provided comments and an overall summary of the presentations made by the five economy team which had submitted their exercises and reminded of the following steps and activities when conducting the Town Watching Mapping exercise for training:

- Do the three steps of preliminary review, hazard map and response plan;
- Prepare Town watching mapping forms, hazard maps and response plan;
  - If doing the assessment as a virtual or hybrid approach, digital mapping is a very useful tool. For example, virtual tour with Google Earth Pro is a common method to view the area of interest. Prepare to do live sharing or submit video presentation.
- Include supporting/reference images of hazards in the map;
- Provide directions (arrows) in evacuation routes, where path direction is vital component; and
- Provide information on the community profile.

When conducting the actual Town Watching Map activity at the local or with the community, understand that:

- Ideally, it should be initiated by the community in order to have ownership and sustainability (updating of information);
- The authority or agency plays a coordination and catalyst role;
- The Town Watching Map must be supported by images;
- Flood response plan must be included; and
- The response plan must be localised according to the community profile as needed (elderly, children, handicapped, medical needs/issues, etc).

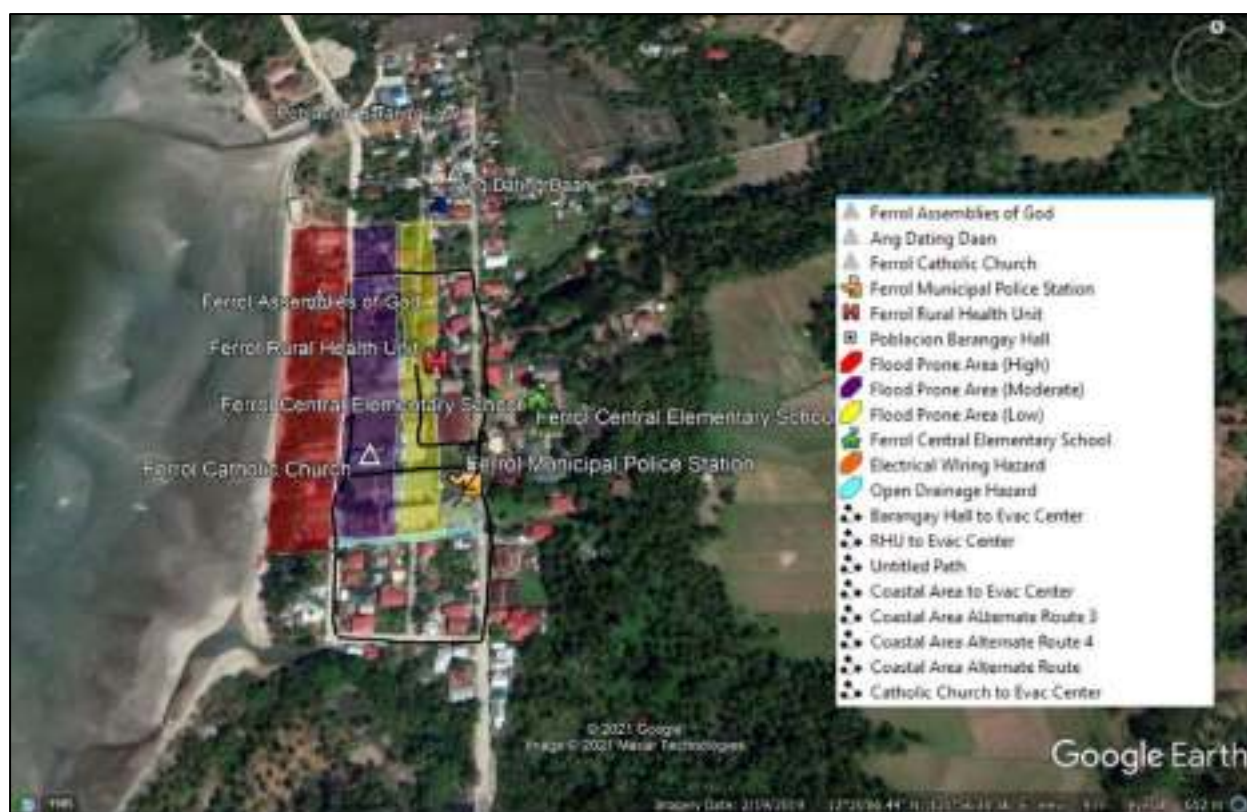
## Examples of E-Maps developed during the workshop and comments on possible improvements



The first sharing was by Brunei Darussalam. team have developed a map in the Belais and Buda-buda Bokok area.

### Strengths and potential improvements:

- A. Preliminary review of the area
  - Real time visit and Google Earth Pro used
  - Details observation included
  - Community and area profiled done
  - LCFGC with its strength and enhancement highlighted
- B. Town Watching Map
  - Good hazard map with hazards and evacuation route highlighted
  - Hazards supported with reference images
  - Flood response plan can be included



The second sharing is from the Philippines team conducted town watching activity in the Poblacion, Ferrol, Rombon area.

Strengths and potential improvements:

A. Preliminary review of the area

- Real time visit and Google Pro Earth used
- Photos/images can be attached
- Only hall highlighted in Google Earth kmz file. Other items can be labelled.

B. Town Watching Map

- Good map
- Need to label school as evacuation centre in legend.
- Evacuation routes can be made clearer with direction (arrows)
- TWM form can be completed
- Flood response plan can be added

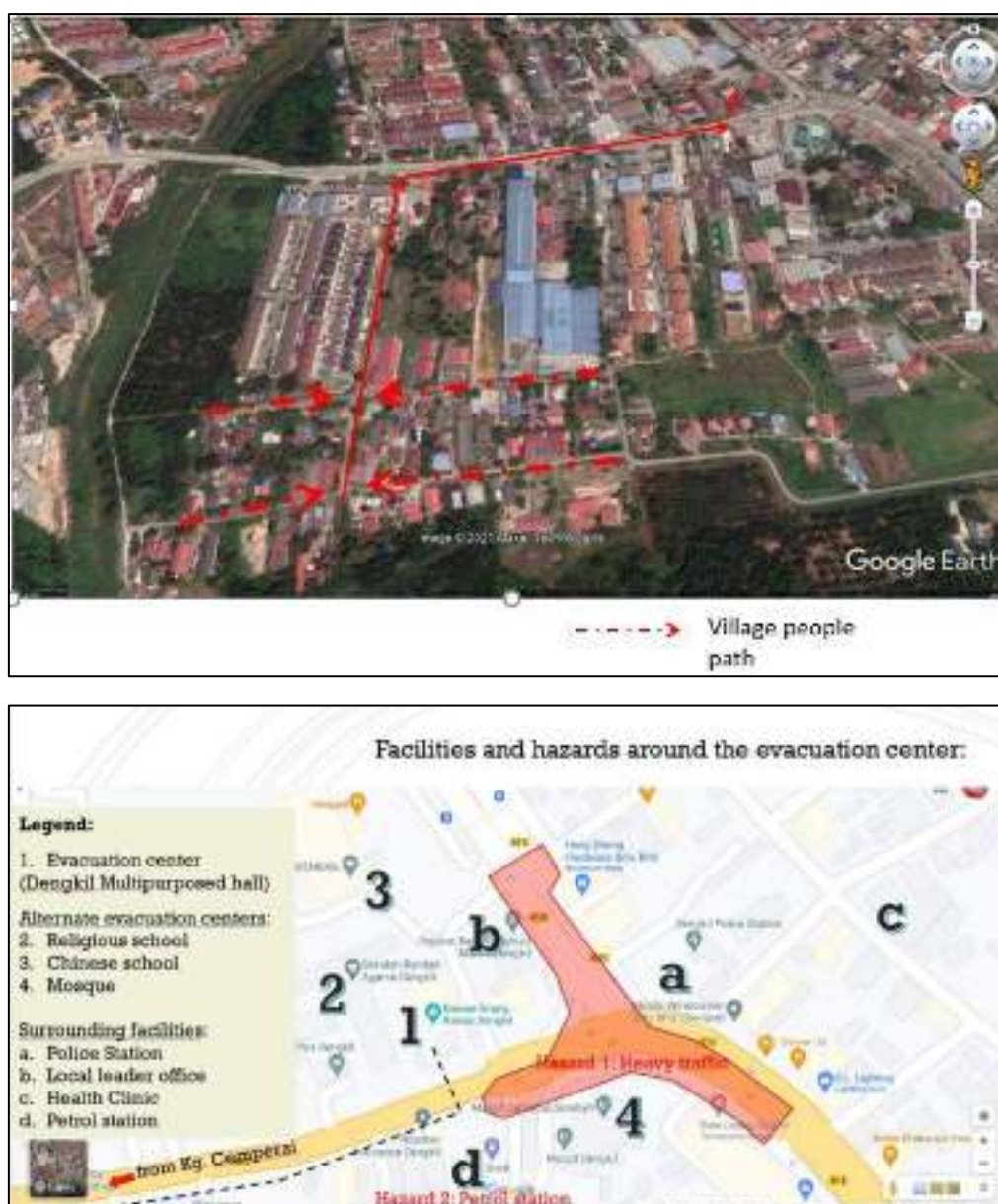


The third sharing is from Chile team

Strengths and potential improvements:

- A. Preliminary review of the area
  - Real time visit and Google Earth Pro used
  - Good baseline information (community profile is not included)
  - TWM form can be attached
- B. Town Watching Map
  - Hazard map submitted and appears to have captured most of the information
  - Supporting images will be useful
  - Flood response plan can be included





The last sharing is by Malaysia team in Dengkil, Selangor area.

Strengths and potential improvements:

- A. Preliminary review of the area
  - Real time visit and Google Earth Pro used
  - TWM form can be attached
  - Evacuation centres' advantages and hazards around highlighted
  - All aspects covered but it is based on an older situation.
  - No images on hazards
- B. Town Watching Map
  - Good hazard map, evacuation route and response plan
  - Can have TWM form attached
  - Can add supporting/reference to images of hazards

**Example of overall comments and summary of presentation by the trainer:**

- A. In total, five groups submitted their assignments:
- B. Submitted hazard maps
  - Only one group submitted both hazard map and response plan
  - Some groups submitted the map but the response plan was not included
- C. Overall only one group covered all the three steps
  - Preliminary review, hazard map and response plan
- D. Overall all groups:
  - Used third method which is using virtual tour Google Earth Pro as a common method.
  - Presented live sharing of their findings
  - Only one group submitted the town watch mapping form.
- E. Generally
  - Supporting /reference images of hazards were generally not included in the map except for one group.
  - Directions (arrows) were missing in a couple of evacuation routes, where the direction is a vital component
  - Community profile was missing in two groups
- F. Workshop's Town Watching Map Activity
  - All focused on Town Watching Map development
  - Using Google Earth Pro due to current limitation (COVID-19 control movement )
- G. Actual Town Watching Map Activity
  - Need initiated by community (ownership)
  - Agency play coordination and catalyst role
  - The Town Watching Map must be supported by images
  - Flood response plan must be included
  - Localise community profile needed



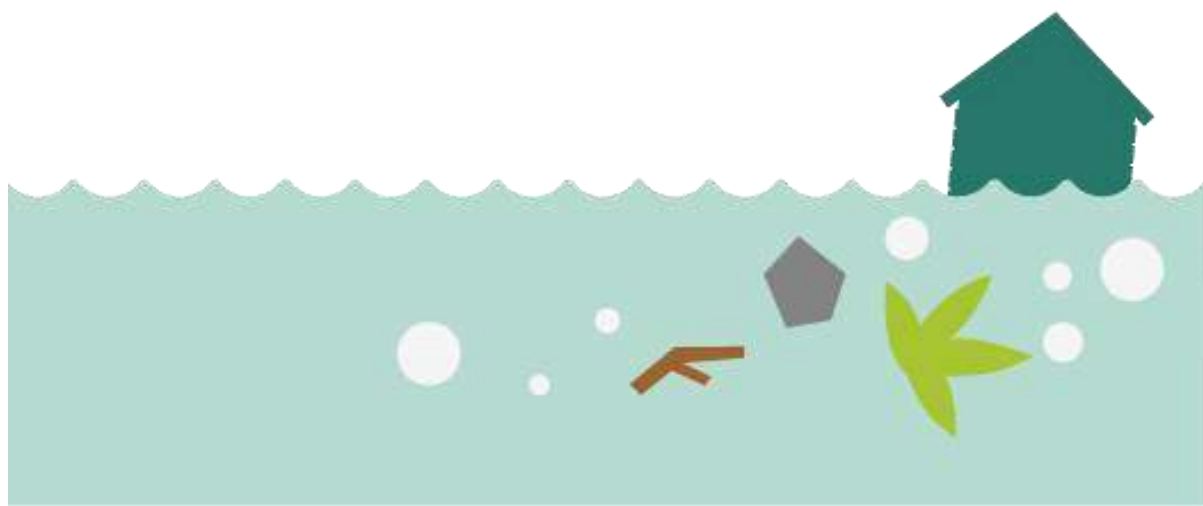
## Module 4 Survival Preparation and Emergency Kits

### Objective

The purpose of this module is to inform participants that flood management at the scene is very important, and it needs to be carefully understood to improve survival rates. Actions can be taken before, during and after a flood.

### Course Materials

The slide deck is Module4.pdf shown in Figure 4.



## **1. Outline (slide 2)**

The outline of the presentation is as follows:

1. FLOOD Ranger Programme
2. Flood PREPARE Approach
3. FLOOD Ranger Module
4. Flood Training Module
5. Level of Flood Management
  - Before, During and After

## **2. FLOOD Ranger Programme (Slide 3)**

In this session, the trainer should emphasize that flood management at the scene is very important, and it needs to be carefully understood. This module reminds participants of the approach taken in the FLOOD Ranger community-based flood preparedness programme which focuses on empowering stakeholders in preparing for flood disasters, including the survival aspect. The programme takes a bottom-up and civic science approach.

## **3. Flood PREPARE Approach (Slide 4)**

The three measures in catalysing the flood PREPARE approach are (i) preparedness, (ii) action and (iii) recovery. The planning, evacuation and sharing actions under this approach assist community-based flood emergency survival preparation

## **4. FLOOD Ranger Module (slide 5)**

Chapter 5 of the FLOOD Ranger Module provides guidance to the community on the flood management actions to be taken before, during and after flooding. The focus of this presentation is on preparation before a flood.

## **5. Flood Training Module (slide 6)**

In preparation for a flood a workshop or training session can consider different modules to customize according to the local situation. The issue of community-based flood emergency survival preparation is cross-cutting across all the training module.

## 6. Levels of Flood Management

Flood management at the scene is very important and it needs to be carefully understood. Everyone, especially the local community, plays a vital role in flood management. Trainers may introduce to participants that an early preparation is essential to reduce losses and damages due to flooding. Explain to participants that there the flood management can be divided into BEFORE, DURING and AFTER flooding. The trainer and participants may wish to download and refer to the materials of the Flood Ranger programme from the Flood Ranger website [www.riverranger.my/FloodRanger](http://www.riverranger.my/FloodRanger), under the Module menu and selecting the file 'FLOOD Ranger Module (English)' ([www.riverranger.my/FloodRanger/view\\_file.cfm?fileid=15](http://www.riverranger.my/FloodRanger/view_file.cfm?fileid=15)).

### Before Flood

Before flooding, it is important for the community to collect relevant information, survey their surrounding area and start preparing emergency and survival kits such as Grab bag and 72H bag. The community needs to be aware of action of evacuation as well as awareness of emergency action. Examples of actions are making sure the community knows their evacuation routes and have a list of emergency contacts and telephone number list. The Grab bag must store the most important survival kit such as important documents, emergency kit, medicine supply, personal hygiene kit as well as food. 72H kit should be able to provide needs for a person for minimum 3 days (72 hours). The main purpose of this kit is to ensure temporarily survival while in transit to a safer area and not as a life aid.

#### i. Information finding

In preparing for the worst during flooding season, community should always pay attention to flooding information in the area such as weather reports and flood warnings. Aside from that, trainer can also advise participants to visit the existing website to get information on flood updates. For example, for Malaysia the relevant websites are:

- NADMA website at [portalbencana.nadma.gov.my/en/disaster-information](http://portalbencana.nadma.gov.my/en/disaster-information)
- Malaysian Meteorological Department at [www.met.gov.my](http://www.met.gov.my)
- Department of Irrigation and Drainage at [publicinfobanjir.water.gov.my/?lang=en](http://publicinfobanjir.water.gov.my/?lang=en)
- Public Works Department at [bencanaalam.jkr.gov.my](http://bencanaalam.jkr.gov.my)

## ii. Surrounding areas

In taking safety measurement of the surrounding area, guide participants on how to inspect water channels such as drains or sewers as well as checking that there are no barriers, and it is tightly closed to prevent water inflow. In addition, advice to ensure vehicle(s) is in good condition (tools) to prepare for evacuations along with place your pet(s) at a safe place as animals are usually not allowed at the relief centre for hygiene and health reasons.



Pets should be placed in a safe place with enough food and water.

## iii. Emergency and survival kits

In the event of disaster, make sure each family or household have enough food, water and basic need/supplies to last at least 72 hours. Trainers may introduce the four emergency and survival kits that can be prepared beforehand that are the (a) Grab Bag, (b) 72H Kit, (c) Sandbags and (d) Potable water. For more information and details on what and what is inside the bag and kits, please refer to the materials of the Flood Ranger programme from the Flood Ranger website [www.riverranger.my/FloodRanger](http://www.riverranger.my/FloodRanger), under the Module menu and selecting the file 'FLOOD Ranger Module (English)' ([www.riverranger.my/FloodRanger/view\\_file.cfm?fileid=15](http://www.riverranger.my/FloodRanger/view_file.cfm?fileid=15)).

During flood, the main problem of the victims is to get clean or potable water. Flood water may be contaminated by various impurities and can cause diseases. Therefore, there is a need to qualify the source as well as treat the water. Trainers may do a demonstration or show videos on how to properly boil water, use water filtration or treatment along with other safe and known methods.

## iv. Action of evacuation

In finding ways to evacuate, highlight to participants to first identify the nearest evacuation centres and disaster relief centres in their area. Look for several sites. Also identify the evacuation routes, any hazards or risks along the way, to later develop a Town Watching map.

## **v. Awareness of emergency action**

Advise participants to prepare a list of emergency contact numbers such as of family members, friends, ambulance, policemen, hospitals, Disaster Relief Centres or Evacuation Centres. Trainers may also show examples of these list of emergency contact numbers to all participants. At the same time, trainers should emphasise that safety is for every age group and to make sure to teach children or elderly parents on how to call flood-related agencies. Participants can benefit from Basic First Aid training too and some rescue know-how. Try to ensure that at least one of the family members has such basic skills.

## **During Flood**

During a flood, the key community actions are to ensure that they are aware of what they should do when they are trapped inside or outside the house or inside a vehicle, during relocation. An important part is awareness of electrical management safety guides. Information on these aspects can be found by referring to the FLOOD Ranger Module.

## **After Flood**


During the early stage after a flood event, explain to participants that they should listen to media announcements or wait for instructions, and to not return home against instructions given, or before it is completely safe to do so. Help neighbours or people with disabilities among others who may need extra assistance. Introduce participants to taking safety precautions when entering any building, and how to inspect the surrounding area as well.

The trainer can conclude the session with a step-by-step presentation on Community-Based Flood Emergency Survival Preparation.

Figure 4 Slide deck for Module 4

## COMMUNITY-BASED FLOOD EMERGENCY SURVIVAL PREPARATION

### Module 4



Dr. Kalithasan Kailasam  
Trainer  
Global Environment Centre


## OUTLINE

1. FLOOD Ranger Programme
2. Flood **PREPARE** Approach
3. FLOOD Ranger Module
4. Flood Training Module
5. Level of Flood Management


- Before, During and After

## FLOOD Ranger Programme


- Originally based from Unicef-led programs focusing on empowering adolescents in preparing for flood disasters including the survival aspect.
- The programme has been used to build the linkages and link sources for survival approach.




## FLOOD **PREPARE** APPROACH



## FLOOD RANGER MODULE




## FLOOD TRAINING MODULE



## LEVELS OF FLOOD MANAGEMENT


- Flood management at the scene is very important and it needs to be carefully understood.
- Everyone, especially the local community, plays a vital role in flood management.
- Early preparation is essential to reduce losses and damages due to flooding.
- The flood management can be divided into **BEFORE**, **DURING** and **AFTER** flooding.
- Please refer to brochure and module for details.




## BEFORE FLOOD

INFORMATION PHASE	SURROUNDING AREA	EMERGENCY AND SURVIVAL KIT
<ul style="list-style-type: none"> <li>Flood information</li> <li>Weather report</li> </ul>	<ul style="list-style-type: none"> <li>Inspect water channels</li> <li>Safety precaution vehicles and junks</li> </ul>	<ul style="list-style-type: none"> <li>Grab Bag</li> <li>Tin Kit</li> <li>Blankets</li> <li>Portable Water</li> </ul>
ACTION OF INDIVIDUAL	MANAGEMENT OF EMERGENCY ACTION	
<ul style="list-style-type: none"> <li>Evacuation route</li> <li>Evacuation centre</li> <li>Local Community Flood Relieving Centre</li> </ul>	<ul style="list-style-type: none"> <li>Emergency contact list</li> <li>Basic First Aid knowledge and labour training</li> </ul>	

## BEFORE FLOOD



## BEFORE FLOOD





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<p style="text-align: center;">11</p> 	<p style="text-align: center;">12</p> 
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## Module 5 Way Forward: Planning Local Training

### Objective

The purpose of this module is to provide participants with the opportunity to plan and review the Town Watching training modules for local training or implementation.

### Course Materials

The slide deck is Module5.pdf shown in Figure 5.



## 1. Outline (slide 2)

The outline of the presentation is as follows:

1. Way forward
2. Group discussion
3. Breakout room
4. Sharing session
5. Concluding remarks

## 2. Way Forward (slide 3 to 4)

The objectives of the Way Forward session is for participants to develop post-workshop action plan to:

- Adopt and apply Town Watching Mapping (TWM) at their local economy level;
- Share materials and skills acquired from training to be used at economy level;
- Engage stakeholders to develop a community-based Flood Disaster Preparedness plan at their economy level; and
- Explore integration of the Community-based FLOOD Ranger programme (or similar) and Town Watching Map into of their economy's existing policy framework.

Participants may consider the various aspects listed in slide 4.

## 3. Group discussion (slide 5 to 9)

Participants should fill in the forms given in slides 5 to 9 which cover:

1. Use or adapt materials relevant to your respective economies (especially module (slides), videos and Town Watching Map guideline and form)
2. Organise localised Training of Trainers (ToT) workshop within your economy
3. Town Watching Map
4. Integration of Community-based Town Watching Map into your economy's existing policy frame
5. Other plans or recommendations

## Form for Way Forward discussion

Aspect	Proposed action	Quantity/ frequency	Timeline*	Any support needed**
<b>1. Use or adapt materials relevant to your respective economies (especially module (slides), videos and Town Watching Map guideline and form)</b>				
i. How are you going to share the training materials (modules and exercise) in your economy, with relevant agencies as well as local communities? ➤ through website, social media, print				
ii. Will you adopt these measures in flood prone areas within your economy? ➤ translate, enhance, localized, etc.				
ii. Do you plan to develop new and relevant material(s)				

Aspect	Proposed action	Quantity/ frequency	Timeline*	Any support needed**
<b>2. Organise localised workshop (TOT) within your economy</b>				
i. Conduct FLOOD Ranger training (community based preparedness programme)				
ii. Conduct Town Watching Map training (ToT)  ➤ <i>Details include</i> ➤ <i>Numbers,</i> ➤ <i>Which level, federal (central), state/local level/ community level,</i> ➤ <i>your target group,</i> ➤ <i>smart partnership : Agencies, NGOS, private sectors and community</i>				

Aspect	Proposed action	Quantity/ frequency	Timeline*	Any support needed**
<b>3. Town Watching Map</b>				
i. Develop or support the Town Watching Map development <ul style="list-style-type: none"> <li>➤ Details include</li> <li>➤ <i>Numbers,</i></li> <li>➤ <i>Which level, federal (central), state/local level/ community level,</i></li> <li>➤ <i>your target group,</i></li> <li>➤ <i>smart partnership : Agencies, NGOS, private sectors and community</i></li> </ul>				

Aspect	Proposed action	Quantity/ frequency	Timeline*	Any support needed**
<b>4. Integration of Community-based Town Watching Map into your economy's existing policy frame</b>				
i. How do you propose to integrate this approach into your economy's existing policy framework?				
ii. Do you think your economy has the right existing mechanisms and platforms for this? <ul style="list-style-type: none"> <li>➤ Detail : at federal/central, state and local level</li> </ul>				

Aspect	Proposed action	Quantity/ frequency	Timeline*	Any support needed**
<b>5. Other plans or recommendations</b>				
i. Other plans besides abovementioned aspects				



## **4. Breakout room (slide 10 to 19)**

Participants are divided into groups and assisted by a facilitator in their discussions. Discussions would normally follow a three step approach to allow for free discussion:

Step 1: Brainstorming

Step 2: Discussion

Step 3: Presentation

The group should select a representative to present their results.

## **5. Sharing session (slide 20)**




Groups can present their proposals and the trainer may provide comments to improve their proposals.

## **6. Concluding remarks**

The trainer can summarise the workshop and proposals.

An example of the coverage and content is provided in Appendix 1.



 <p>9</p>	<h3>GROUP DISCUSSION</h3> <ol style="list-style-type: none"> <li>The group discussion will be conducted via the breakout rooms.</li> <li>Ask the group to use breakout rooms as well as Google Slide.</li> <li>Click the join button.</li> <li>Discussion             <ul style="list-style-type: none"> <li>Assign breakout groups</li> <li>Don't forget to assign a facilitator to facilitate the discussion</li> <li>Use breakout all to assign breakout groups</li> <li>Points of discussion                     <ul style="list-style-type: none"> <li>Identify the hazard location</li> <li>Assess the risk of the hazard</li> </ul> </li> </ul> </li> </ol>  <p>10</p>
<h3>FACILITATORS</h3>  <p>11</p>	<h3>STEPS FOR GROUP DISCUSSION</h3> <p>STEP 1: Brainstorming STEP 2: Discussion STEP 3: Presentation</p>  <p>12</p>
<h3>STEP 1: BRAINSTORMING</h3> <ol style="list-style-type: none"> <li>Using whiteboard</li> <li>Throw (share) your idea</li> <li>Hover your cursor on the 'VIEW OPTIONS'</li> <li>Click 'ANNOTATE'</li> <li>You can use the editor above to add in your input into the whiteboard</li> </ol>  <p>13</p>	<h3>STEP 1: BRAINSTORMING</h3> <ol style="list-style-type: none"> <li>Click 'TEXT' to type your input</li> <li>Click on the whiteboard where you want to place your input</li> <li>Type in and click on the screen</li> <li>Everyone in the breakout room should be able to view your input</li> </ol>  <p>14</p>
<h3>STEP 1: BRAINSTORMING : THROW YOUR IDEA</h3> <p>What do you have to do:</p> <ul style="list-style-type: none"> <li>Share on each aspect, write (upload) your idea on the whiteboard</li> <li>Group members need to discuss all the ideas and come up with final (key) points (not more than 3)</li> <li>The agreed final points will be discussed further in STEP 2</li> <li>After the discussion, present your idea to the facilitator by pressing the 'SAVE' button</li> </ul>  <p>15</p>	<h3>STEP 2: DISCUSSION</h3> <ol style="list-style-type: none"> <li>In this step we will be using the Google Slide to fill in the Way Forward form             <ul style="list-style-type: none"> <li>Link for each country will be shared by the facilitator in chat box</li> <li>Click on the link to go to the file</li> </ul> </li> <li>Agree on the number of the roles of the discussion             <ul style="list-style-type: none"> <li>Facilitator will share the roles to everyone in the breakout room</li> </ul> </li> </ol>  <p>16</p>
<h3>STEP 2: DISCUSSION</h3> <ol style="list-style-type: none"> <li>Take the agreed final points and elaborate further to fill in the Way Forward Form on Google Slide</li> <li>Once finished, appoint one member to present the findings to main session</li> </ol>  <p>17</p>	<h3>STEP 3: PRESENTATION</h3> <ol style="list-style-type: none"> <li>After the discussion session in breakout room and all participants will be brought back to the main session</li> <li>To present the finding, the presenter should open the Way Forward Google slide and share breakout screen</li> <li>Choose the right screen and click 'SHARE'</li> <li>On the Google Slide, click 'PRESENT'</li> <li>Each group will only be given 5 minutes to present the group findings</li> </ol>  <p>18</p>

<p><b>BREAKOUT ROOM SESSION</b></p> <ul style="list-style-type: none"> <li>• If you are ready, we will start now</li> <li>• The 'join' instruction will pop-out</li> <li>• Just click the 'join' button</li> <li>• See you in 45 minutes</li> </ul>  <p>19</p>	<p><b>SHARING SESSION</b></p> <table border="1"> <thead> <tr> <th>Economic</th> <th>Period</th> </tr> </thead> <tbody> <tr> <td>Malaysia</td> <td></td> </tr> <tr> <td>Philippines (group 1)</td> <td></td> </tr> <tr> <td>Chile</td> <td></td> </tr> <tr> <td>Philippines (group 2)</td> <td></td> </tr> <tr> <td>Brunei</td> <td></td> </tr> </tbody> </table>  <p>20</p>	Economic	Period	Malaysia		Philippines (group 1)		Chile		Philippines (group 2)		Brunei	
Economic	Period												
Malaysia													
Philippines (group 1)													
Chile													
Philippines (group 2)													
Brunei													
 <p>21</p>													

## Appendix 1 Preparing for a Town Watching Workshop

### 1. Purpose of the Workshop

A workshop can demonstrate and encourage the practice of the Town Watching methods. The purpose is to present the steps of the method and to provide some tools for conducting the Town Watching observations and to translate the information into a map. It also provides the participants with hands-on skills since participants will be given the chance to try out the method and discuss with others about preparing a safe evacuation and response under a flood hazard situation.

### 2. Target Group

The participants targeted in this workshop are those who could be expected to lead, or contribute to, economy-level training in flood disaster response management to local communities. The participants will benefit by obtaining knowledge on best practices and foresight planning, learning the Town Watching approach, and consideration of its use for flood disaster response planning at their own economy-level. They are expected to use this knowledge to develop training workshops or sessions or events where the Town Watching approach is applied at their community level and/or for training other trainers on the approach. In this manner, the impact of this project may then be cascaded and multiplied at the local level.

### 3. Recommended background of participants

The participants should be from institutions which are actively engaged in community training or who can facilitate future community training. It is expected that participants are responsible for, and would have been involved in, community-level education and training activities for at least the past one year, either in formal or non-formal settings. The history of collaboration between the prospective participants with local-level government agencies is to enhance likelihood of support of any subsequent training to be delivered by the participants to the local-level later. Project participants may be from various agencies, such as from:

- community-level training and education units of central domestic-level disaster management agencies, community health agencies, educational or academic institutions.
- local government office units which are responsible for community training; and
- community-based (CBOs), and non-governmental organisations (NGOs), including school and higher education institution clubs/associations, which have been actively working with local government agencies in training and



education. NGO/CBO representatives are viewed as a sustainable solution for extension of training to the community at large.

No specific level of technical expertise in flood disaster response is required, although it is expected that participants have previously facilitated or conducted non-formal or adult community-level training in environmental or hazard-related topics. That is, participants should have some skills in adult education approaches.

#### **4. Gender Perspective**

Flood disasters affect both men and women, young and old, however, the impact is felt differently by the different groups. In consideration of this, the APEC economies are strongly encouraged to encourage a gender balanced team of trainers/facilitators and participants to the workshop as well as consider the potential leadership roles which their nominees may play in post workshop training at the local level. A target achieve at least 40% women participants in the workshop could be set. In this respect, trainers from gender-focal point agencies of the APEC economies are also suitable candidates as participants, as flood response thinking require gender perspectives and considerations for planning and management. The project outcomes and project objective are expected to benefit women by highlighting these different impacts and types of considerations that should be included in planning flood response activities in support of the APEC Gender Criteria Pillars of Skills, Capacity Building, and Voice.

#### **5. ICT Facilities for Physical/Hybrid/Virtual Workshop**

Participants in a physical workshop should be requested to bring laptops and the workshop organisers should also be prepared to make arrangements to have laptops available for participants to use if the E-maps module will be taught. Participants joining virtually will require access to a computer (desktop or laptop), preferably with an attached camera, and stable internet services capable of supporting interactive video streaming. Smartphones are not suitable for virtual participation.

We recommend the following hardware minimum requirements:

- CPU: 2 GHz Dual-Core I3 Processor
- RAM: 4GB
- Storage: 40GB
- Network Adapter: (Recommended) 256Kbps/2Mbps  
(Minimum)100Kbps/300Kbps
- Others: Digital camera(s), Headset

Participants joining virtually may choose to use headphones with a microphone, although this is usually not necessary.

A digital camera or phone camera with video recording capabilities is recommended for the Town Watching field exercise.

A video conferencing application will be used for hybrid/virtual events, and it is recommended that the software selected is one that participants may register and download the software for free. Guidance should be provided on the installation and use of the software. Participants should be able to contact the organisers to resolve any technical problems. Test runs could be conducted in the period of two weeks prior to the workshop to ensure all participants can be well connected and familiar with the application controls. It is recommended that a briefing session be conducted in the week before the workshop.

After confirmation of acceptance, all participants and speakers should conduct test runs on the Zoom platform with the organizer.

It is recommended that virtual participants connect to the workshop meetings in a quiet, undisturbed environment, to ensure the quality of the event for themselves and other participants. Participants may connect personally or in a group in a classroom or meeting room setting. In such cases, they should ensure that the audio-video facilities available are adequate to allow for all participants to be able to interact.

## **6. Facilities for the Town Watching Exercise**

For the Town Watching exercise component of the training, the outdoor field exercise is considered as the best option although the exercise may be conducted as an indoor exercise as well, using materials available to the participants, either using online applications or offline using stationary materials, according to their local circumstances. The exercise may be conducted individually, although we recommend that the exercise is best conducted in small groups, within the local setting, to allow for discussion and consultation among group members.









Online mapping applications (such as Google MyMaps, Google Earth and Openstreet Maps) could be demonstrated as one of the methods for flood disaster response plan mapping using the E-map module. Participants may also choose to use any mapping application with which they are familiar. This is not a requirement when conducting the workshop and participants may optionally develop the map manually and use physical materials (white paper, colour marker pens, sticky labels and other stationary) to create the maps. A list of stationary materials for the field exercise will be provided to participants. If the Workshop is conducted online, the participants should then be requested to photograph their map and upload into the Workshop folder online. Maps made do not have to be to scale. Please consider any confidentiality requirements of the participants' economy when groups are developing the maps.

## **7. Ice-Breaking Session Introduction to the Workshop**

It is useful to conduct an introductory session before the workshop proper begins and to allow participants to understand the structure of the workshop and the different modules which will be presented.

An example is given in the slide deck on introducing the overall workshop programme as well as on use of online meeting platform, such as Zoom. We also include a slide deck of sample summary and concluding remarks.

## Slideck for Introduction to workshop format

 <p>1</p>	 <p>2</p>
 <p>3</p>	 <p>4</p>
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## AGENDA

Panel Session: Town-Vetting Approach for Flood Disaster Response Planning – Thursday 17 June 2021

Time	Topic
08:30	Online registration and reception
09:00	Welcome by Panel Chair
10:00	Town-Vetting Approaches: Case representation in Japan by Shiroshi Yano, Senior Researcher, Japan Disaster Reduction Center
10:45	Waterproof Evidence in Town Vetting by Dr. Katherine Katsikas, Manager, World Environment Centre
11:00	Q & A Session
11:30	Lunch break
12:00	Online registration and reception

**Key Agenda:**  
Contextual approaches and approaches of Town Vetting in Japan and Malaysia



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## AGENDA

Town Vetting Exercise Briefing – Friday 18 June 2021

Time	Topic
08:30	Online registration and reception
09:00	Introduction to the day's activities
10:00	Town Vetting Exercise Briefing and Examples by Dr. Katherine Katsikas, Manager, World Environment Centre
11:00	Use of Geographic Information Systems (GIS) in town vetting by Dr. Zehra Dohi
11:30	Lunch break

**Key Agenda:**  
Overview of town vetting, practical and introductory



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## AGENDA

Town Vetting Exercise in Malaysia – Monday 21 June 2021

Time	Topic
08:30	Online registration and reception
09:00	Welcome by Town Vetting Coordinator
10:00	Overview of Town Vetting Exercise at national level in Malaysia by Dr. Katherine Katsikas, Manager, World Environment Centre
11:00	Overview of town vetting exercise in Malaysia by Dr. Katherine Katsikas, Manager, World Environment Centre
11:30	Q & A Session
12:00	Lunch break

**Key Agenda:**  
Overview of town vetting exercise in Malaysia



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## AGENDA

Emergency Kit – Wednesday 23 June 2021

Time	Topic
08:30	Online registration and reception
09:00	Introduction and overview of the day's activities
10:00	Overview of Emergency Kit and its components
11:00	Overview of Emergency Kit and its components
11:30	Q & A Session
12:00	Lunch break

**Key Agenda:**  
Overview of Emergency Kit and its components



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## AGENDA

Play Forward: Planning and Local Adaptation of Training Modules – Thursday 24 June 2021

Time	Topic
08:30	Online registration and reception
09:00	Introduction to the day's activities
10:00	Overview of Play Forward: Planning and Local Adaptation of Training Modules
11:00	Overview of Play Forward: Planning and Local Adaptation of Training Modules
11:30	Q & A Session
12:00	Lunch break

**Key Agenda:**  
Overview of Play Forward: Planning and Local Adaptation of Training Modules



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## GLOBAL & ECONOMIC SHARING

<b>INDONESIA</b> <b>Dr. Gita Nurwati</b> Senior Researcher, National Disaster Management Agency (BNPB)	<b>INDONESIA</b> <b>Dr. Gita Nurwati</b> Senior Researcher, National Disaster Management Agency (BNPB)
<b>INDONESIA</b> <b>Dr. Gita Nurwati</b> Senior Researcher, National Disaster Management Agency (BNPB)	<b>INDONESIA</b> <b>Dr. Gita Nurwati</b> Senior Researcher, National Disaster Management Agency (BNPB)



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## COORDINATOR & TRAINER

<b>COORDINATOR</b> <b>Dr. Zehra Dohi</b> Project Coordinator, World Environment Centre	<b>TRAINER</b> <b>Dr. Katherine Katsikas</b> Project Coordinator, World Environment Centre
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## RESOURCE PERSON

<b>Mr. Jagdishwar Maniappan</b> Project Coordinator, World Environment Centre	<b>Mr. Sanku Venkatasamy</b> Project Coordinator, World Environment Centre
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<p><b>SECRETARIAT/FACILITATORS</b></p> <p>Officers from Malaysia Water Partnership Agency, State Environment Center (SEC), Water Watch Agency (WWA).</p>  <p><b>Mrs. Sharmila Lee</b> Executive Director, Water Watch Agency (WWA)</p>  <p><b>Dr. Yeng Chuan Yee</b> Executive Director, State Environment Center (SEC)</p>  <p><b>Mrs. Sharmila Lee</b> Executive Director, Water Watch Agency (WWA)</p>  <p><b>Mrs. Tan Bee Hui</b> Executive Director, State Environment Center (SEC)</p>  <p><b>Mr. John Goh</b> Executive Director, Water Watch Agency (WWA)</p>  <p>25</p>	<p><b>POST TRAINING</b></p> <ul style="list-style-type: none"> <li>• Modules and materials will be stored in MyWP &amp; GEC website (link will be shared soon)</li> <li>• Adoption of the Module and Implementation at Economy level</li> <li>• Follow-up Activities</li> <li>• Post-training Survey (after 6 months)</li> <li>• Reporting and Update             <ul style="list-style-type: none"> <li>• Participants to send report on implementation</li> <li>• Via Zoom face-to-face (if possible)</li> </ul> </li> </ul>  <p>26</p>
<p><b>EXPECTED OUTCOMES</b></p> <ol style="list-style-type: none"> <li>1. Participants able to enhance their knowledge and skill at community evidence based flood disaster preparedness.</li> <li>2. Participants able to address the issue of increasing flood risk as a result of climate change and growing human settlements in flood-prone areas.</li> <li>3. Participants learn to adapt the experience from other APEC economies.</li> <li>4. Learn a comprehensive module on Flood Disaster Preparedness through Community-based Hazard Mapping.</li> <li>5. Develop a proposed plan that economy-level implementation             <ul style="list-style-type: none"> <li>• Develop work of learning and capacity building, workshop and home on learning for community evidence based flood risk.</li> <li>• Develop and promote the flood-mapping map.</li> </ul> </li> </ol>  <p>27</p>	<p><b>CERTIFICATES</b></p> <ul style="list-style-type: none"> <li>• E-certificates</li> <li>• Will be given after the training.</li> <li>• Need to attend all the days</li> </ul>  <p>28</p>
<p><b>PRE-TRAINING SURVEY</b></p> <ul style="list-style-type: none"> <li>• Please find the link for pre-training survey</li> <li>• Please ensure to fill-up before the <b>END</b> of the session</li> <li>• Link will be shared in CHAT or you can just scan the QR code!</li> </ul>   <p>20</p>	<p><i>healthier environment; better economy; more cohesive society</i></p> <p><b>together we achieve more</b></p> <p><b>Thank You!</b></p> <p>Dr. Kalithasan Kalaiselam +6010 366 9772; kalithasan@gec.org.my</p>  <p>30</p>

## Slide deck for introduction to online meeting platform











 <p><b>PART 2: ICE-BREAKING ACTIVITY</b></p>	<p><b>1. VIEW</b></p> <p>✓ Change view of your screen: At your screen's upper right</p>  <p>Gallery View Speaker View</p>
<p><b>2. RENAMING YOUR SCREEN NAME</b></p> 	<p><b>2. RENAMING YOUR SCREEN NAME</b></p> <p>✓ Click 'RENAME' and type in your preferred name</p> 
<p><b>3. CHAT</b></p> 	
<p><b>ACTIVITY 1 : ABOUT ME</b></p> <p>Show one fun fact about yourself in chat box. It could be about your:</p> <ol style="list-style-type: none"> <li>1. Hobbies or</li> <li>2. Favorite food</li> </ol> <div style="background-color: yellow; padding: 5px; border: 1px solid black;"> <p><b>Steps!</b></p> <ul style="list-style-type: none"> <li>• Click on the 'CHAT' button</li> <li>• Make sure you direct it to 'EVERYONE'</li> <li>• Type your text</li> <li>• Press 'ENTER' from your keyboard</li> </ul> </div>	<p><b>4. RAISE HAND/ REACTION</b></p> 

<p><b>4. RAISE HAND/ REACTION</b></p> <ul style="list-style-type: none"> <li>✓ You can also click on any other reactions.</li> <li>✓ It will show in your video as well as beside your name in the participants list.</li> </ul>  <p>9</p>	<p><b>5. VIRTUAL BACKGROUND</b></p>  <p>10</p>
<p><b>5. VIRTUAL BACKGROUND</b></p> <ul style="list-style-type: none"> <li>✓ Click the '+' button to add a new background.</li> <li>✓ You can use the existing ones.</li> </ul>  <p>11</p>	<p><b>6. SHARE SCREEN</b></p>  <p>12</p>
<p><b>6. SHARE SCREEN</b></p> <ul style="list-style-type: none"> <li>✓ Click on the screen you want to share and click 'SHARE'.</li> <li>✓ If you are sharing video, click 'SHARE COMPUTER SOUND' as well.</li> <li>✓ If you are sharing video with audio GO not upgrade the screen.</li> </ul>  <p>13</p>	<p><b>6. SHARE SCREEN</b></p> <ul style="list-style-type: none"> <li>✓ Now your screen is being shared.</li> <li>✓ To change name, click on 'NEW' button.</li> <li>✓ To stop sharing, click 'STOP' button.</li> </ul>  <p>14</p>
<p><b>7. VOICE AND VIDEO</b></p> <ul style="list-style-type: none"> <li>✓ During meeting, please ensure that you press the 'MUTE' button.</li> <li>✓ To join, press the 'UNMUTE' button.</li> <li>✓ To share video, press the 'START VIDEO' button.</li> <li>✓ To stop sharing video, press 'STOP VIDEO' button.</li> </ul>  <p>15</p>	<p><b>ACTIVITY 2: ME</b></p> <p>Introduce yourself:</p> <ol style="list-style-type: none"> <li>1. Name, designation, organization</li> </ol> <p><b>Steps:</b></p> <ul style="list-style-type: none"> <li>➤ Click on 'START VIDEO' (Bottom left)</li> <li>➤ Click 'UNMUTE' (Bottom left)</li> <li>➤ Speak</li> <li>➤ Click on 'MUTE' when you are finished</li> <li>➤ Click on 'VIDEO' to close the video</li> </ul>  <p>16</p>
<p><b>8. VOICE SETTING</b></p> <ul style="list-style-type: none"> <li>✓ If you have problem with the audio, click the 'audio test' button to make changes to your microphone or speaker.</li> <li>✓ It is usually automatic unless if you use an external microphone or external speaker.</li> </ul>  <p>17</p>	<p><b>8. VOICE SETTING</b></p> <ul style="list-style-type: none"> <li>✓ Click 'AUDIO SETTINGS' to change microphone and speaker.</li> </ul>  <p>18</p>

















<p><b>9. VIDEO SETTING</b></p> <ul style="list-style-type: none"> <li>• If you have problems for the first time, click the button to enable camera</li> <li>• It is usually automatic unless if you are on automatic camera</li> </ul>  <p>19</p>	<p><b>9. VIDEO SETTING</b></p> <ul style="list-style-type: none"> <li>• Click VIDEO SETTINGS to adjust your camera</li> </ul>  <p>20</p>
<p><b>10. POLLING</b></p> <ol style="list-style-type: none"> <li>1. The poll will pop-out</li> <li>2. Click the right answer</li> <li>3. Press "SUBMIT"</li> </ol>  <p>21</p>	<p><b>11. BREAK OUT ROOMS</b></p> <ol style="list-style-type: none"> <li>1. The join instruction will pop-out</li> <li>2. Click the join button</li> <li>3. Exercise             <ol style="list-style-type: none"> <li>1. Two breakout groups:                     <ul style="list-style-type: none"> <li>- Group 1</li> <li>- Group 2</li> </ul> </li> <li>2. Points of discussion:                     <ul style="list-style-type: none"> <li>- Advantage (Group 1) and disadvantage (Group 2)</li> </ul> </li> <li>3. Report back as a group (in 3 minutes)</li> </ol> </li> </ol>  <p>22</p>
<p><b>PRE-TRAINING SURVEY</b></p> <ul style="list-style-type: none"> <li>• Please find the link for pre-training survey</li> <li>• Please ensure to fill-up before the END of the session</li> <li>• Link will be shared in CHAT or you can just scan the QR code!</li> <li>• <a href="https://forms.gle/4p0e4FC2pua0BND">https://forms.gle/4p0e4FC2pua0BND</a></li> </ul>  <p>23</p>	<p><b>THANK YOU!</b></p>  <p>24</p>



## Slide deck of summary and concluding remarks

 <p>1</p>	 <p>2</p>
 <p>3</p>	 <p>4</p>
 <p>5</p>	 <p>6</p>
 <p>7</p>	 <p>8</p>
 <p>9</p>	 <p>10</p>











<p><b>TRAINING VIDEOS</b></p> <ol style="list-style-type: none"> <li>1. Summary of Flood Ranger Community Preparedness Training in Malaysia</li> <li>2. Town Watching Exercise at Outdoor Field Site in Malaysia</li> <li>3. In-class Hazard Mapping and Flood Response Plan</li> <li>4. Finished Group Maps for Presentation</li> <li>5. Community-based Survival Preparedness</li> <li>6. Way Forward</li> </ol> 	<p><b>FLOOD RANGER MODULE &amp; BROCHURE</b></p>  
<p><b>TOWN WATCHING MATERIALS</b></p>  	<p><b>VIDEOS</b></p>  
<p><b>GROUP PHOTOS</b></p>  	<p><b>GROUP PHOTOS</b></p>  
<p><b>GROUP PHOTOS</b></p>  	<p><b>CERTIFICATES</b></p> <ul style="list-style-type: none"> <li>• E-certificate</li> <li>• Will be given after the training</li> </ul> 
<p><b>Video</b></p> 	<p><i>healthier environment; better economy; more cohesive society</i></p> <p><b>together we achieve more</b></p> <p><b>Thank You!</b></p> <p>Dr. Kalithasan K. +6010 366 9772; kalithasan@gcc.org.my</p> 



# Appendix 2 Malaysian Experience in Town Watching

Presentation by Dr Kalithasan Kailasam

 <p>1</p>	 <p>2</p>
 <p>3</p>	 <p>4</p>
 <p>5</p>	 <p>6</p>
 <p>7</p>	 <p>8</p>

<p><b>1) PREPAREDNESS</b></p> <p><b>1.3 Problem Analysis</b></p> <ul style="list-style-type: none"> <li>Conduct vulnerability and capacity assessments to identify at-risk communities             <ul style="list-style-type: none"> <li>Identify houses with people with special needs (elderly, disabled, temporarily, daily/late, etc)</li> </ul> </li> <li>Identify the community causes (activities) that lead to floods.</li> <li>Identify flood-prone areas to determine flood risk.</li> </ul> <p><b>1.4 Goal Setting</b></p> <ul style="list-style-type: none"> <li>Determine objectives based on risk assessment results.</li> <li>Determine the scope of community activities.</li> </ul> 	<p><b>2) ACTION</b></p> <p><b>2.1 Planning</b></p> <ul style="list-style-type: none"> <li>Assess the various measures necessary to address their local flood risk             <ul style="list-style-type: none"> <li>In this context given such as land use planning, zoning rules, conservation zones, drainage impact assessment.</li> </ul> </li> <li>Develop an action plan listing specific mitigation activities, roles and stakeholder responsibilities.</li> <li>Set timelines and expected results.</li> <li>Establish monitoring, evaluation and study procedures.</li> <li>Distribute agreed draft plans, especially to those directly involved.</li> </ul> 
<p><b>2) ACTION</b></p> <p><b>2.2 Execute</b></p> <ul style="list-style-type: none"> <li>Town Watching activity is an effective way to create flood resilient community             <ul style="list-style-type: none"> <li><b>Town Watching Map</b> <ul style="list-style-type: none"> <li>Community Based Flood Hazard Mapping</li> <li>Community Based Flood Response Plan</li> </ul> </li> </ul> </li> <li>Test the mapping plan and the availability of the parties involved for their respective responsibilities             <ul style="list-style-type: none"> <li>Taking, doing activities and discussions about flood management can increase the sensitivity and capacity of individuals to deal with flood emergency.</li> </ul> </li> <li>Increased individual capacity and ownership will have a 'synergy' impact for community.</li> </ul> 	<p><b>2) ACTION</b></p> <p><b>2.3 Sharing</b></p> <ul style="list-style-type: none"> <li>Once finalized, hand over the Town Watching Map to district office, local authorities and other key stakeholders for further action and acknowledgement.</li> <li>Distribute the Town Watching Map to all community members and place at main gathering area of the neighbourhood such as community hall, mosque, school and others.</li> <li>Always share and promote the Town Watching Map to all community members during an event or gathering.</li> <li>Regular reminders through meetings will also create an impact for sustainable flood management.</li> </ul> 
<p><b>3) RECOVERY</b></p> <p><b>3.1 Creating networks between community individuals and relevant agencies</b></p> <ul style="list-style-type: none"> <li>Involving government, national disaster management agencies, and donors focused on flood recovery</li> <li>To support the flood mitigation, recovery activities</li> </ul> <p><b>3.2 Communities Proactive and become more sensitive to their local hazard situation</b></p> <ul style="list-style-type: none"> <li>Be the eyes and ears</li> <li>To minimize flood risk</li> </ul> 	<p><b>C. FLOOD RANGER COMPONENTS</b></p> <ol style="list-style-type: none"> <li>1. SMART Partnership</li> <li>2. FLOOD Ranger Module</li> <li>3. Training and Workshop</li> <li>4. Tools and Materials</li> <li>5. FLOOD Ranger Training</li> <li>6. Post Training Activities             <ul style="list-style-type: none"> <li>• Town Watching</li> <li>• Sharing</li> <li>• Recovery</li> </ul> </li> </ol>  
<p><b>1. SMART PARTNERSHIP</b></p> <ul style="list-style-type: none"> <li>The programme develop to complement Malaysian government's (NADMA) framework             <ul style="list-style-type: none"> <li>Community based programme must be in partnership with agencies</li> </ul> </li> <li>It balance the role and responsibility of all stakeholders             <ul style="list-style-type: none"> <li>• Government</li> <li>• Statutory body</li> <li>• Private sector</li> <li>• NGOs</li> <li>• Volunteers</li> </ul> </li> </ul>  	<p><b>2. FLOOD RANGER MODULE</b></p> <ul style="list-style-type: none"> <li>The FLOOD Ranger module is a highly effective approach that can be adopted by all levels of the community and community based organisations.</li> <li>It can help to reduce the risk of floods as well as reducing the socio-economic losses that have to be borne by all parties.</li> <li>It was developed in 2018             <ul style="list-style-type: none"> <li>• By MYRRIS (MRC)</li> <li>• In partnership DSD Malaysia and supported by local government (MPP) member levels.</li> <li>• Later in 2019, the module was enhance with support from UNP &amp; NADMA</li> </ul> </li> </ul>  
<p><b>2. FLOOD RANGER MODULE</b></p>  	<p><b>3. TRAININGS/WORKSHOPS</b></p> <ul style="list-style-type: none"> <li>Its task are to empower the key stakeholders especially local communities</li> <li>Each workshop/training will have contented agenda to guide the local institution and NGOs             <ul style="list-style-type: none"> <li>• Agenda can be adopted on the local needs</li> </ul> </li> <li>Target: local communities, government agencies, volunteers</li> <li>Organizational partnership             <ul style="list-style-type: none"> <li>• Government agencies or disaster management</li> <li>• Local government</li> <li>• Community</li> </ul> </li> <li>Training duration             <ul style="list-style-type: none"> <li>• 1 to 2 days</li> </ul> </li> </ul>  



<p><b>4. TRAINING MODULE</b></p> <p>Each workshop will have independent agendas to suit the local community setup.</p> <ul style="list-style-type: none"> <li>Module can be adapted to fit local needs.</li> <li>For multi-day work shop:             <ul style="list-style-type: none"> <li>Module can be adapted to fit local needs.</li> <li>Facilitator, local agency, and management.</li> <li>Local agency can be involved in the training module.</li> </ul> </li> <li>Optional:             <ul style="list-style-type: none"> <li>Facilitator and management.</li> <li>Local agency.</li> <li>Water and electricity.</li> </ul> </li> </ul> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>	<p><b>5. TOOLS AND MATERIALS</b></p>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>
<p><b>6. PREPARE TRAINING</b></p> <ol style="list-style-type: none"> <li>First project took place in December 2014 in collaboration with MAMP, DFC and Klang Municipal Council (local authority).</li> <li>Activity was participated by 230 local participants. Only theoretical workshop took place involving presentation from the community, MPA, DFC, LGAS and MRCB.</li> <li>Hands-on training took place in June and November 2015 respectively which involve both theoretical as well as practical training which involves all local communities. The first Town Watching of flood hazard Map were discussed during the training.</li> <li>Since then, more than 8 trainings took place in all regions in Peninsular Malaysia.</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>	<p><b>6. PREPARE TRAINING</b></p> <p><b>FLOOD Disaster Training</b></p>  <p>Two types of training:</p> <ol style="list-style-type: none"> <li>FLOOD Disaster Training</li> <li>Town Watching Training</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>
<p><b>23</b></p>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>	<p><b>24</b></p>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>
<p><b>25</b></p>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>	<p><b>26</b></p>  <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>
<p><b>7. POST TRAINING ACTIVITIES</b></p> <ol style="list-style-type: none"> <li>Developed Community Based Town Watching Map (Flood Hazard &amp; Response Plan)</li> <li>Share with:             <ul style="list-style-type: none"> <li>Agencies:                     <ul style="list-style-type: none"> <li>For local government's acknowledgement</li> <li>For action</li> </ul> </li> <li>Other stakeholders</li> <li>Community member</li> </ul> </li> <li>Recovery (Action)</li> </ol> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>	<p><b>7.1 TOWN WATCHING</b></p> <ol style="list-style-type: none"> <li>Town Watching is an activity mapping community in the neighborhood flood preparedness.             <ul style="list-style-type: none"> <li>It was organized by local planning, flood and disaster risk management, and emergency response as flood is a disaster area where people, life and property are at risk.</li> </ul> </li> <li>Town Watching activity focuses on how local people collect their own data to create a map.</li> <li>This is a key part of community-based preparedness activity.</li> </ol> <p><b>Community Based Flood Hazard Map</b> Map developed by local community can identify flood prone areas (FPA).</p> <p><b>Local knowledge &amp; Response</b> Current situation</p> <p><b>Community Based Flood Response</b> Map which used to be used to prepare the plan to provide early warning flood preparedness or what needs to be done before flood to individuals, community, agencies, officers.</p> <p><b>FLOOD DISASTER PREPAREDNESS</b> Training - 3 Modules to build a ready response</p>



 <p>29</p>	<h3>7.2 SHARING</h3> <p>A. With agency</p> <ul style="list-style-type: none"> <li>• Submission of plans to local authorities and district office</li> <li>• Plans submitted to the local authorities as reference and further actions</li> </ul>  <p>30</p>
<h3>7.2 SHARING</h3> <p>B. Community members</p> <ul style="list-style-type: none"> <li>• Pocket booklet shared to all community members with all relevant information as well as their 'Warning Map'.</li> </ul>  <p>31</p>	<h3>7.3 RECOVERY</h3> <p>Action taken from local authorities</p> <ul style="list-style-type: none"> <li>• plan translated into action</li> </ul>  <p>32</p>
<h3>D. VISIBILITY :MEDIA COVERAGE</h3>  <p>33</p>	<h3>D. VIDEOS</h3>  <p>34</p>
<h3>E. OVERALL IMPACT</h3> <ul style="list-style-type: none"> <li>• Increased awareness in flood disaster preparedness among local communities</li> <li>• Reduce risk of floods</li> <li>• Reduce socio-economic losses</li> <li>• Mitigation action from relevant agencies</li> <li>• Produced local facilitators/trainer             <ul style="list-style-type: none"> <li>• Can be engaged for training or peer-to-peer session</li> </ul> </li> </ul>  <p>35</p>	<h3>NEXT</h3> <p>More details will be given during the Town Watching training on 18 June 2021</p>  <p>36</p>
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