TOWN WATCHING

MODULE 3.0

SESSION OUTLINE

2.1 Introduction to Town Watching

2.2 Using the mobile application

2.3 Keys and Tags

2.4 A guide to mapping

2.5 Changest Comments

2.6 Adding attribute exercise

2.7 In the field

2.8 Check the uploads

WHAT IS TOWN WATCHING?

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

Information collected during town watching is then used to create a community-based hazard map and evacuation map (module 4).

Town watching was developed by the Asian Disaster Reduction Center and their methodology have adopted in this module.

Community based hazard mapping has 3 key objectives:
a) involve local residents in developing the hazard map for their community
b) reflect the opinions of local residents in policies made by their local government, and
c) foster common understanding of risks among local residents, government officials and experts

PREPARE FOR TOWN WATCHING

Town watching is best performed after module 1 and 2 have been completed and base maps of the community are available.

Community members and local officials need to determine and agree on what information should be captured during town watching.

The following slides will help your team develop the list of information to be collected.

Collect both Advantageous and Disadvantageous features

Advantageous/Capacities

✓things that will increase community's resilience to disaster

✓signage informing the public about disaster or hazards in the area

✓weather station

✓shelter

Disadvantageous/Vulnerabilities

✓ previous disaster has occurred

✓ high water marks or the extent of a storm surge

✓ poor quality infrastructure

✓ areas likely to be affected by future hazards

RECOMMENDED DATA TO BE COLLECTED:

- **Hazard Areas**
  - Landslide prone areas
  - Flood prone areas
  - Storm surge prone areas
- **Elements at Risk**
  - Identify structures in the high risk areas
  - Roads that can be damaged
- **Evacuation Sites / Shelters**
  - Public Shelters – capacity?
  - Private Shelters – capacity?
  - Other potential evacuation sites
- **Evacuation Routes**
  - Condition
  - Alternative routes
  - Pick up points / Staging Areas
- **Condition of Critical Facilities**
  - Water Facilities
  - Power Facilities
  - Health Facilities
  - Communication Sites
  - Food Sources

DURING TOWN WATCHING ESSENTIAL INFORMATION IN THE BASE MAP SHOULD BE CHECKED

Attributes were collected of buildings and infrastructure during field validation – some of these buildings are important assets during a disaster, like, an evacuation shelter and a road used a primary evacuation route.

Ensure during town watching that data is collected on these important features for further validation.

FORMAT FOR DATA COLLECTION

Information collected in the field during town watching should provide sufficient information to about each feature so a community-based hazard map can be created with the data

Example:
Advantageous feature during a disaster.
Shelter.
Capacity = 100.
Note: shelter is used for disabled people during flooding events.
[Take a geo-tagged photo]

MOBILE APPLICATION

Choose a mobile application that allows the user to 1) build a form using logic form development, 2) take geotagged photos and 3) export the form tables in GIS standard format, .dbf (with x/y locations), .shp, .xls (with x/y locations), .kml, .geojosm and 4) works in an offline environment

The ADB project utilised geoBingAn and the following presents for the town watching exercise to create the hazard and evacuation maps.

Other options include:

Kobo toolbox http://www.kobotoolbox.org/

OpenDataKit https://opendatakit.org/use/collect/

SEE THIS FORM EXAMPLE FOR TOWN WATCHING IN THE FOLLOWING SLIDES- geoBingAn

❑ Road Condition

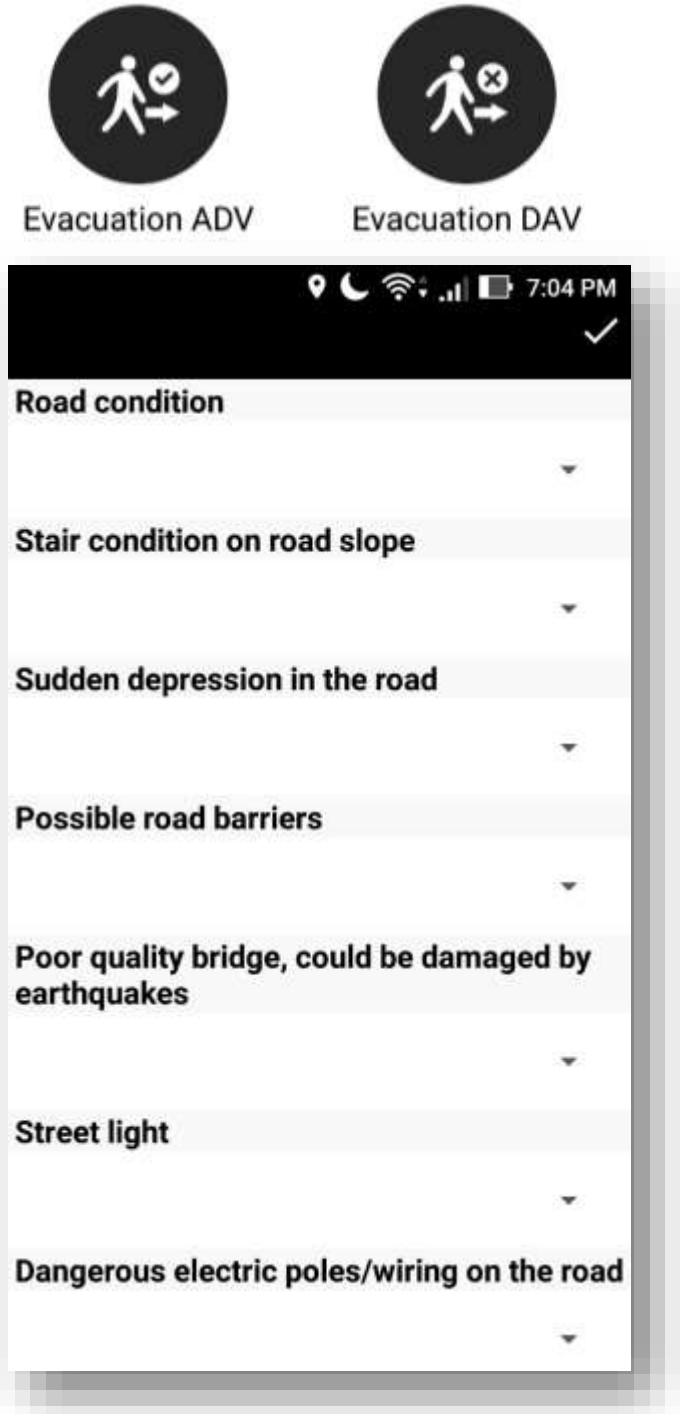
- ➢ Good
- ➢ Poor
- ➢ Dangerous

❑ Stair Condition on Road Slope

- ➢ Good
- ➢ Poor

❑ Sudden depression in the road

- ➢ Yes
- ➢ No



- **Possible road barriers**
  - **Slope**
  - **Unstable structures**
  - **Narrow bridge**
  - **Trees**
  - **Other**
- **Poor quality bridge, could be damaged by earthquakes**
  - **Yes**
  - **No**
- **Street light**
  - **Yes**
  - **No**

- **Dangerous electric poles/wiring on the road**
  - **Yes**
  - **No**
- **Available open space**
  - **Closed**
  - **Open**

Shelter ADV

Shelter DAV

- **Shelter is more than one story**
  - **Yes / No**
- **Shelter is strong enough for earthquakes**
  - **Yes / No**
- **Shelter is strong enough for cyclones**
  - **Yes / No**
- **Shelter capacity**
  - **Key in the answer**

- **Shelter has adequate water supplies**
  - **Yes / No**
- **Shelter has sufficient toilets**
  - **Yes / No**

Flood ADV

Flood DAV

- **The area/building was flooded before**
  - **Yes / No**
- **Flood type**
  - **Riverline**
  - **Flash**
  - **Embankment breach**
  - **Local rainfall**
- **Presence of flood early warning system**
  - **Yes / No**

- **Availability of public information board for flood**
  - **Yes / No**
- **Maximum level during recent floods**
  - **Knee**
  - **Waist**
  - **Chest**
  - **Above head**

Cyclone ADV

Cyclone DAV

- ❑ **The area/building was affected by cyclone before**
  - ➢ **Yes / No**
- ❑ **The area/building was inundated by storm surge before**
  - ➢ **Yes / No**
- ❑ **The area is open**
  - ➢ **Yes / No**

- **The area is on a higher elevation**
  - **Yes / No**
- **The area has a concentration of light material/poor quality buildings**
  - **Yes / No**
- **Availability of public board for cyclone**
  - **Yes / No**

Earthquake ADV

Earthquake DAV

- **Building is strong enough for earthquakes**
  - **Yes / No**
- **The area/building was inundated by storm surge before**
  - **Yes / No**

- ❑ **Slope is covered by vegetation**
  - ➢ **Yes / No**

- ❑ **The area/building is located in or near slope more than 30 Degree**
  - ➢ **Yes / No**
- ❑ **Presence of landslide mitigation measures**
  - ➢ **Yes / No**
- ❑ **Availability of public information board for landslide**
  - ➢ **Yes / No**

DESIGN A TOWN WATCHING SURVEY

WORKSHOP

Workshop Objective:
Work to draft a town watching data collection form; approve criteria and/or a metric so all town watchers are in consensus with labelling features as advantageous or disadvantageous.

NOW THAT A FORM HAS BEEN CREATED – LEARN THE BASICS OF TOWN WATCHING

IN THE FIELD – GROUPS SHOULD:

- Walk around target area with a base map
- Record information that will be advantageous or disadvantageous during a disaster by taking a geotagged photo of an observed feature (building, house, school, road, bridge, etc.)
- Record information about the feature using the mobile application (geoBingAn/other)
- Focus on evacuation and shelter information
- Focus on past disaster events and locations
- Interview with residents
  - past experiences
  - existence of the persons who need special assistance

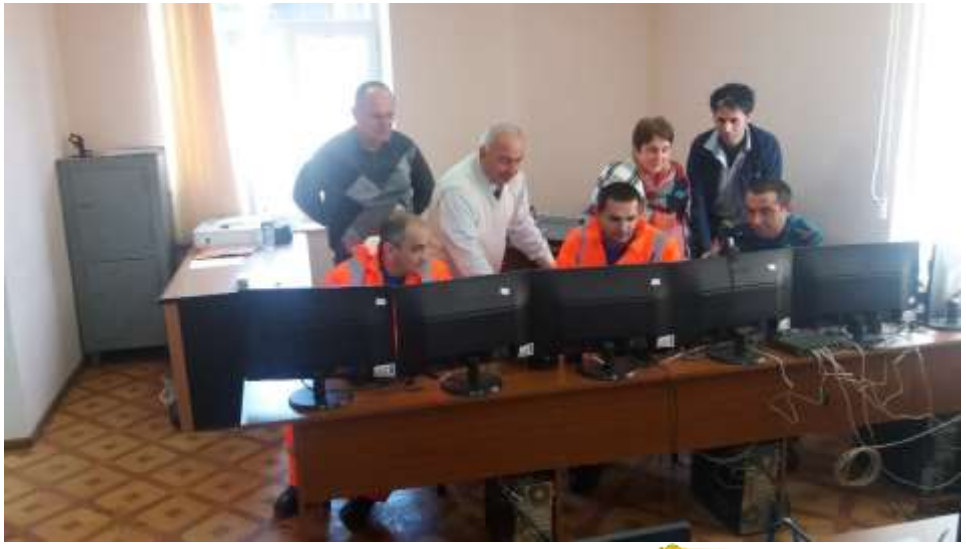
TOWNWATCHING GROUPS

Groups should have:

- 2 groups of 4-7 members
- Mix of stakeholders
- Community members
- Disaster management experts
- At least 2 mobile devices
- Group leader
- Form Each group decides:
  - Team Leader: Leading the group and making presentation
  - Photographer: Taking photos in the field (Max 15 photos)
  - Note Taker: Taking records of discussion

GROUP LEADER NEEDS TO:

1. Demonstrate how to interact with information in the OSM base map.
2. Explain editing and adding attribute data through the mobile application
3. Discuss how to evaluate buildings, bridges and other infrastructure quality with respect to a disaster.
4. Evaluate methods for routes of evacuations.
5. Use of mobile application for photographs
6. Use of mobile application off offline mode and data upload at the end.



ACCESS YOUR BASEMAP WHILE IN THE FIELD

Traditional methods of town watching involved printing large paper maps and taking them into the field and writing observations in the map; however technology has made it possible to easily access maps on smarts.

Maps.me is a mobile application that allows users to access basemaps without having the internet.

Try Maps.me during your town watching by downloading the maps at google play or istore.

COMMUNITY CONSOLATION

Once the town watching is completed, the group leader and community should review the town watching reports on a online web mapping application in a systematic manner defined by the disaster risk management specialist. This is to validate the data amongst everyone and prepare the data to build the community-based hazard and evacuation map.

COMMUNITY CONSOLATION – DISCUSSION P

Dangerous Spots
- Any Solution?

Evacuation Places
- Accessible for all?

Evacuation Routes
- Safe routes are available for all?
- Do we need any additional shortcut?

Warning Information
- Information will reach to all?

People's Awareness

THINGS TO BE DISCUSSED COMMUNITY CONSOLATION – RECOMMENDATIONS

For all disadvantageous reports determine a solution and a relevant action using the table below.

Consider & discuss how to improve the situation.

Problem	Solution	Persons in charge	Timeline

THANK YOU FOR COMPLETING THE TOWN WATCHING MODULE