

Preparation

Implementation

Subsequent Activities

**TOWN WATCHING  
HANDBOOK  
FOR  
DISASTER EDUCATION  
ENHANCING EXPERIENTIAL LEARNING**

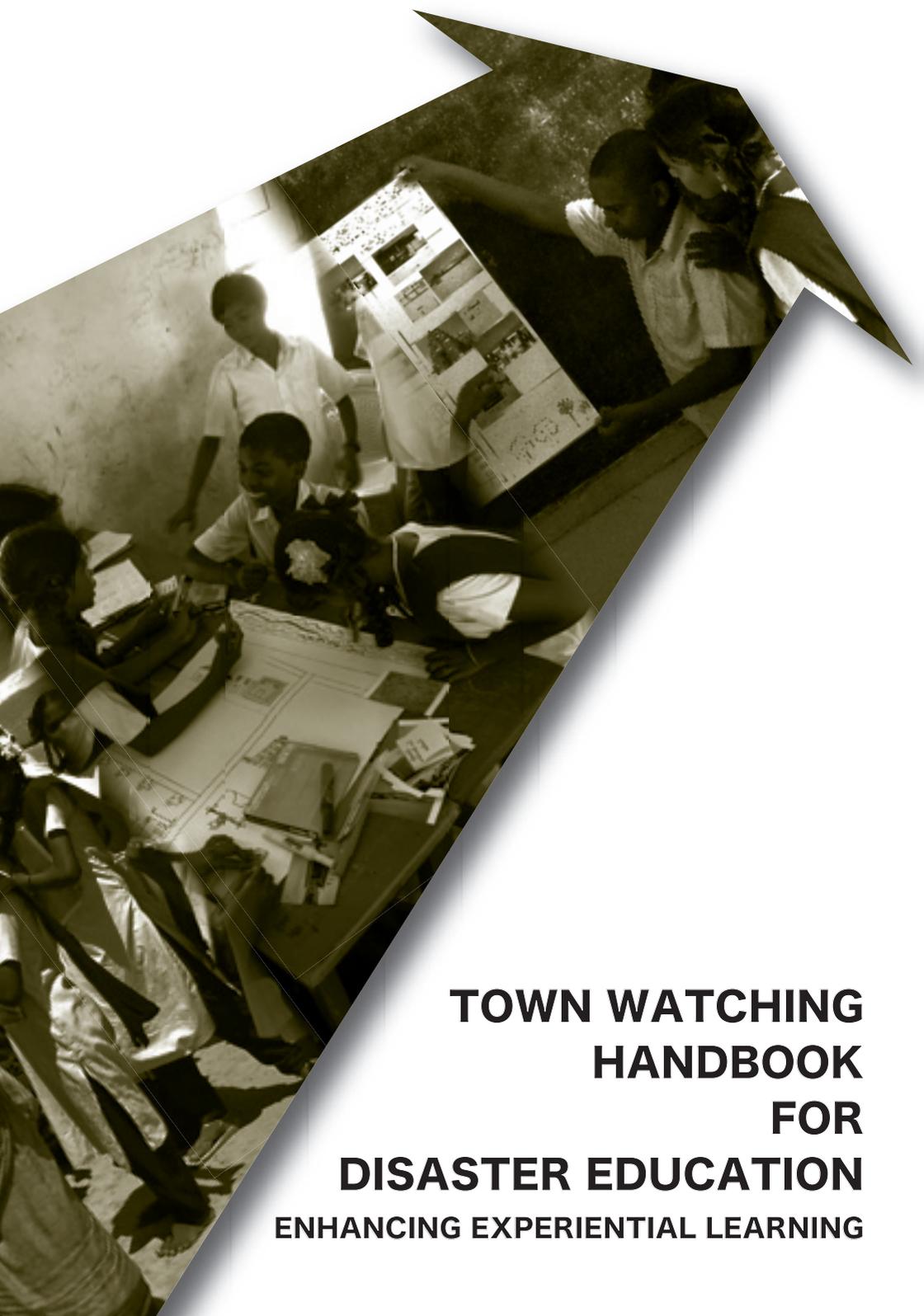


EUROPEAN UNION



International Strategy for  
Disaster Reduction





**TOWN WATCHING  
HANDBOOK  
FOR  
DISASTER EDUCATION  
ENHANCING EXPERIENTIAL LEARNING**

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## **Acknowledgement**

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# Preface

Experiential learning is getting increasingly recognized in the field of disaster and environmental education. Disaster education should go beyond the text books, since the text books provide knowledge, however to transform the knowledge into practice, it needs practical training, capacity building, and experiential learning. Town watching/regional or community watching is a key tool for that purpose. The concept of disaster risk reduction education is to obtain the following four abilities (mid-term report of MEXT, Government of Japan August 2007):

1. The ability to take action in disaster preparedness and mitigation by knowing local disasters and community characteristics of each residential area and acquiring disaster prevention technologies.
2. The ability to protect oneself from natural disasters and to cope with post-disaster life if one suffers from disasters.
3. The ability to rehabilitate disaster-affected areas and to reconstruct secure and safe society, and
4. The ability to voluntarily help other people and areas to be safe.

Town watching should not be done in isolation, it needs to be linked to lectures, experiential learning, and seminar/workshops. The town watching process enhances student's visual and analytical skills, which help in generating innovative actions along with family, community, and neighbors. The key to town watching

is collective watching, with different groups of people. The adults, like parents, teachers, local residents, and local city officers watch the same thing with the students, and encourage students to find problems and solutions in the field. In town watching the participants need to appreciate both positive and negative aspects of the community and neighborhood.

A handbook for town watching is long felt. In urban planning, there are different guiding notes for regional watching, but it was lacking in the field of disaster education. The International Environment and Disaster Management Laboratory (IEDM) of Kyoto University Graduate School of Global Environmental Studies had the opportunity to conduct town watching exercise in Japan, India, Malaysia and Vietnam. All these town watching exercises had different context. This handbook is the collective fruit of all these experiences.

The success of a handbook lies on its use. This handbook is to be used by teachers and/or local government education officers to conduct town watching in their respective neighborhood and/or city. We hope that the handbook will be useful to perform innovative and experiential education, and set a new trend of disaster risk reduction education.

Rajib Shaw and Yukiko Takeuchi

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### 1.1 Stakeholders of Community Based Disaster Education

The stakeholders of community based disaster education are divided into two groups: those coming from inside the community and those coming from outside the community. In addition, the stakeholders are also classified either as expert in local issues or as expert in disaster prevention and environmental management. The four stakeholders identified are the local residents (A) who are the community end users; the community leaders (B) who are the decision makers in the community; the government (C) who is the implementer, manager, and resource support provider; and the researchers/NGOs who are the researchers, implementers, education support providers, and plan support providers (Figure1-1).

Usually stakeholder C does not have direct communication with stakeholders A, B, and D. In some cases, extension workers (like agriculture extension, forest extension, health extension and education extension services) communicate directly to the local communities. In general, the government or stakeholder C communicates through the mass media or these extension workers. However, the government is an important decision maker so the other stakeholders have to pay attention and understand information coming from the government.

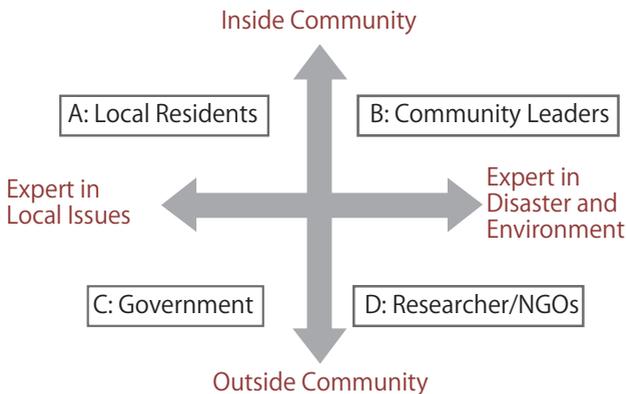


Figure 1-1. Types of Stakeholder for Risk Management

To enhance the understanding of and interaction in community based education, risk communication is of prime importance.

## 1.2 Risk Communication

Risk communication is one of the support systems of risk management. Figure 1-2 shows the basic risk communication framework developed by Kikkawa (1999). On one side is the information sender and on the other side is the information receiver. Usually, the information sender is the government, university, or research institution. They possess much specialized information about disaster prevention. The information receivers are the communities and individuals. They have a lot of local information. Risk communication consists of understanding and making action plans. For risk communication to be successful, three items are needed: holistic learning, facilitation, and trust. Holistic learning is the most important item of risk communication. Therefore, the communication does not make ends meet when there is a gap between the information sender and receiver; each stakeholder cannot share purpose, understanding, and information (Figure 1-3). Thus, disaster education tools and some risk communication support tools are necessary for risk communication. Figure 1-4 illustrates the processes in risk communication (Takeuchi and Shaw, 2008). There are three stages toward effective risk communication. In the first stage, activities for knowing and understanding disasters are introduced. In the second stage, activities for stimulating interest in disasters are brought in. Lastly, in the third stage, activities for engaging in disaster prevention are set up. Before starting risk communication, we have to check following things:

**What is the target disaster type?**

**How much damage is being predicted?**

**What is the disaster history of the area?**

**Which stakeholders will be involved?**

**What are relevant community issues and concerns?**

**What are the disaster prevention systems and plans?**

The answer to the questions above will form the fundamental basis for strategic risk communication. This chapter will use the experience in South India as an example of risk communication strategy.

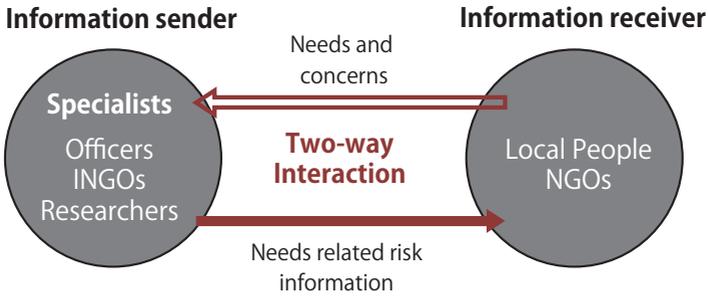


Figure 1-2. Framework of Risk Communication (Modified from Kikkawa, 1999)

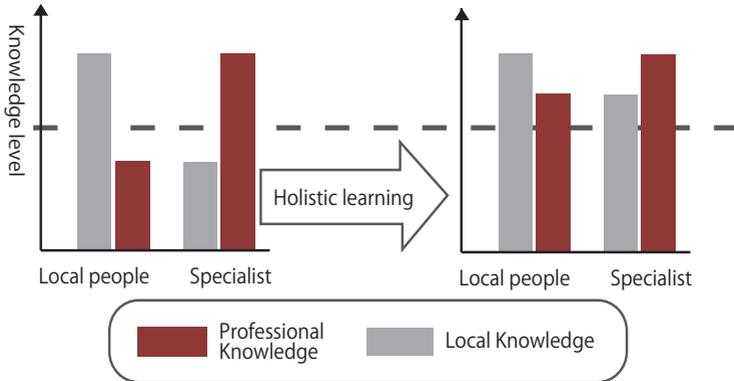


Figure 1-3. Illustration of Holistic Learning



Figure 1-4. Processes in Risk Communication

### 1.3 Situating Regional/ Community Watching in the Learning System

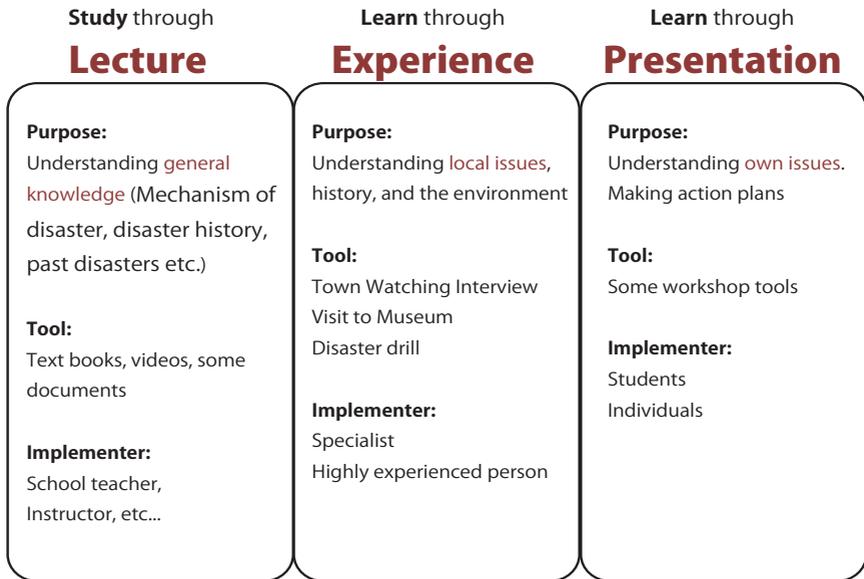


Figure 1-5. Comprehensive Learning System

In the scheme of learning system as presented in the above diagram (Figure 1-5), town watching and/or regional/community watching falls in the experiential learning category, which needs to be complimented by lectures (using text books, videos and other related documents), and presentations (using different workshop tools).

**1.4 Regional / Community Watching**

Based on the above context, the regional and/or community watching is linked to understanding the surroundings and environment, and linked to different location contexts. Figure 1-6 shows the regional watching concept in the understanding of river basin. Three different concepts of community watching are introduced:

- Mountain Watching: To understand different elements in mountains which are linked to disasters and environmental issues
- Town Watching: To understand different elements of the plain land and town and/or villages, which are linked to disasters and environmental issues
- Coastal Watching: To understand different elements of the coastal areas which are linked to disasters and environmental issues
- Therefore, when these three elements are linked together, it gives an overall perspective of regional watching or river basin understanding from the mountains to coastal areas.

**Framework of Regional Watching**  
**Understanding the River Basin**

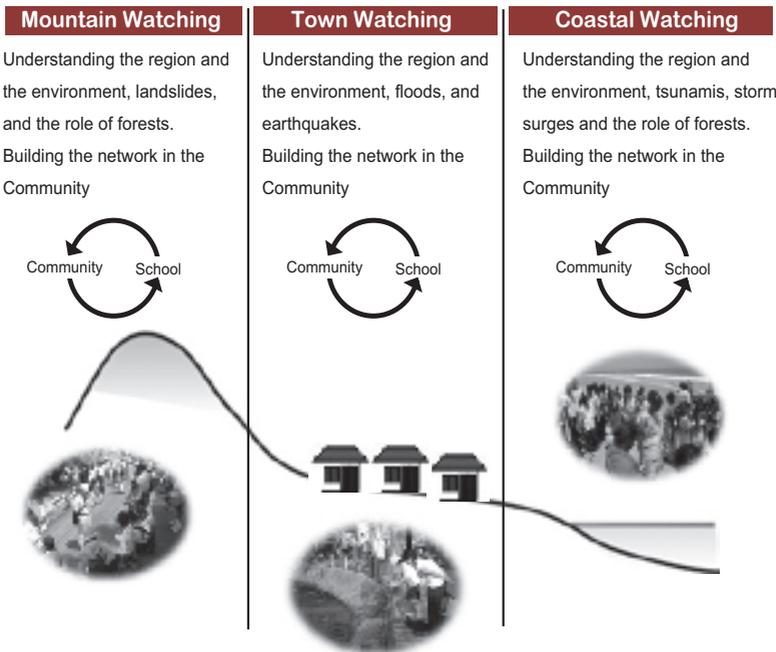


Figure 1-6. Understanding the River Basin in the Regional / Community Watching Context

## 1.5 Regional Watching Linked to Experiential Learning

Figure 1-7 shows different illustrations on the use of experiential learning of disaster mechanisms in mountain (importance of trees for erosion control and protection), plain land (meandering of river), and coastal protection (role of mangroves and green belt). This type of experiential learning helps in deepening the understanding of physical phenomena and helps in regional watching.

In this handbook, town watching is exemplified with specific illustrations and experiences. The same methodology of town watching can be applied to mountain watching and/or coastal watching.



Figure 1-7. Different Elements of Regional Watching Linked to Experiential Learning of Disaster Mechanisms

## **1.6 Purpose of Town Watching in Disaster Prevention**

When we walk down the streets carefully, we can find both good and bad points of the town which we do not notice in our daily life. Town watching is originally used as a tool for urban planning, but it is used for disaster prevention in this guideline. After we look for dangerous spots, disaster prevention facilities, and historical sites in the town, disasters are recognized as our concern and not other's concern and the awareness of disaster prevention is increased and actual disaster prevention activities are promoted.

It is a challenge to each community to cope with disasters, with self- and mutual-help in disaster prevention requiring to be improved. Town watching is supposed to be initiated by students in elementary and junior high school and cooperated by teachers, parents, municipal employees, community workers, and volunteers. Through these activities, establishing school-based system of mutual-help becomes another objective of town watching.

The objectives of town watching are as follows:

**Knowing the current situation of the area**

**Increasing children's and adults' awareness of disaster prevention**

**Cultivating children's comprehensive skills and abilities of information collection, thinking, judgment, expression, and communication**

**Telling the experience of disaster victims**

**Pointing out regional problems and suggesting solutions**

**Establishing cooperation system whenever disaster occurs**

**Preparation for disasters by local residents with raised awareness of disaster prevention**

**Becoming a trigger for children to be important leaders in disaster prevention in the region**

Figure 1-8 and 1-9 (next page) show each role and the time flow for town watching.

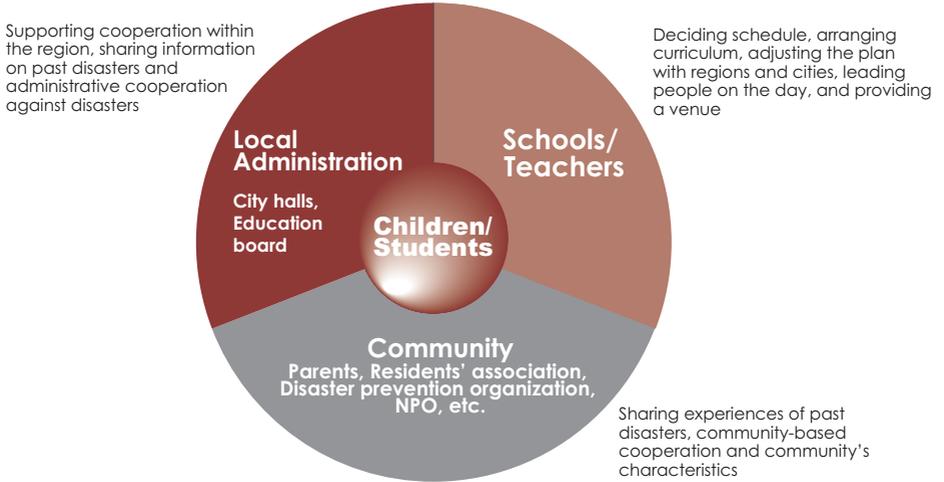


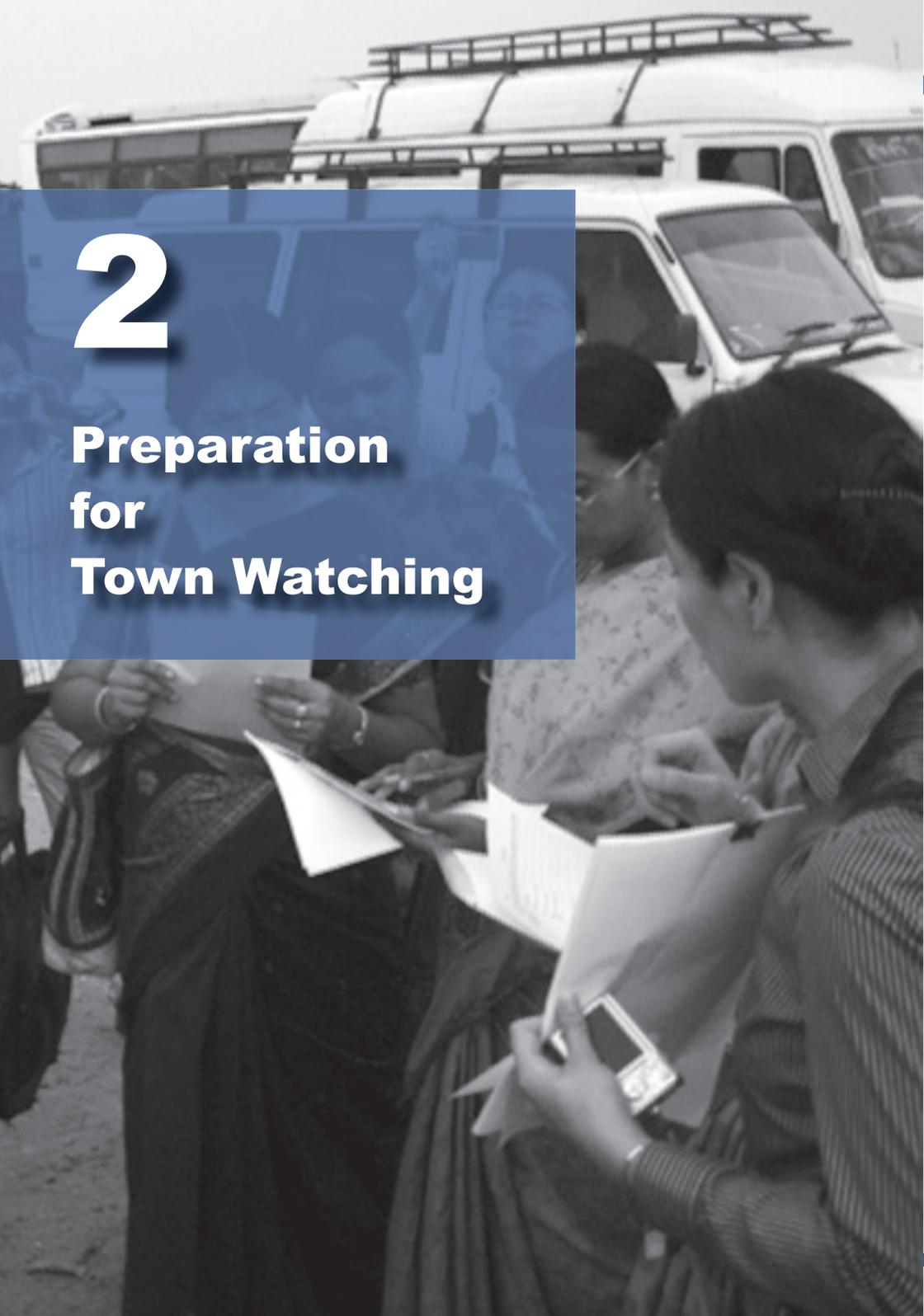
Figure 1-8. Stakeholders and their responsibilities in town watching



Figure 1-9. Flow of town watching

# 2

## Preparation for Town Watching



It is necessary to set the objectives, schedule and position in class curriculum in implementing town watching. Based on the decision, concrete preparation is discussed such as asking available supporters in school and region, sharing roles, making a budget, deciding on the implementation site and preparing equipment (Figure 2-1).

Since implementation of town watching is suggested to be initiated by students, discussion and preparation should first be done in school and asking participation and support to the target site and the city hall should be done later.

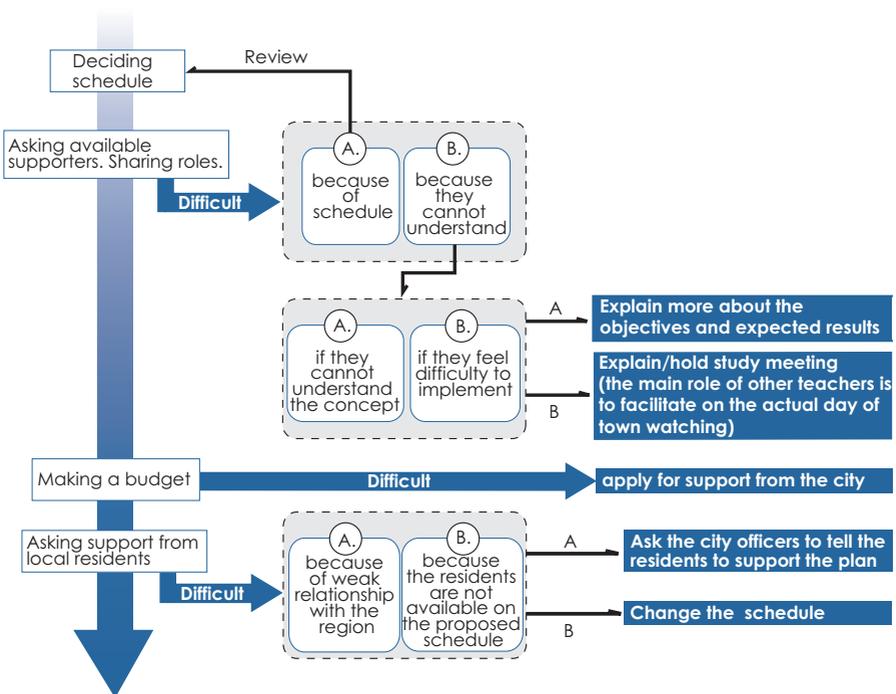


Figure 2-1. Flow of Preparation for Town Watching

## 2.1 Setting Objectives and Schedule

### 2.1.1 Setting Objectives

This guideline introduces three choices of town watching depending on possible schedule and objectives (Figure 2-2, Table 2-1). “Comprehensive plan (Table 2-2)” is recommended in case there is no curriculum for disaster prevention education. This plan takes 17 hours to study town watching and pre- and post-implementation comprehensively. “Motivating plan” is recommended in case disaster prevention education is already included in the class curriculum. It is effective in giving motivation to raise people’s awareness of disaster prevention when it is used in the earlier stages of “Comprehensive plan.” “Practical plan” is recommended for use in later stages of “Comprehensive plan,” to link the acquired knowledge to actual disaster prevention activity. “Motivating plan” is also suitable for use as an experience if there is no curriculum. In this case, it has a possibility to be one-time only “event.” Since the aim of disaster prevention education is linking the knowledge to actual disaster prevention activity, continuous effort is important. For example, supplemental study such as interacting with other subjects and regional activities are introduced in Chapter 4.

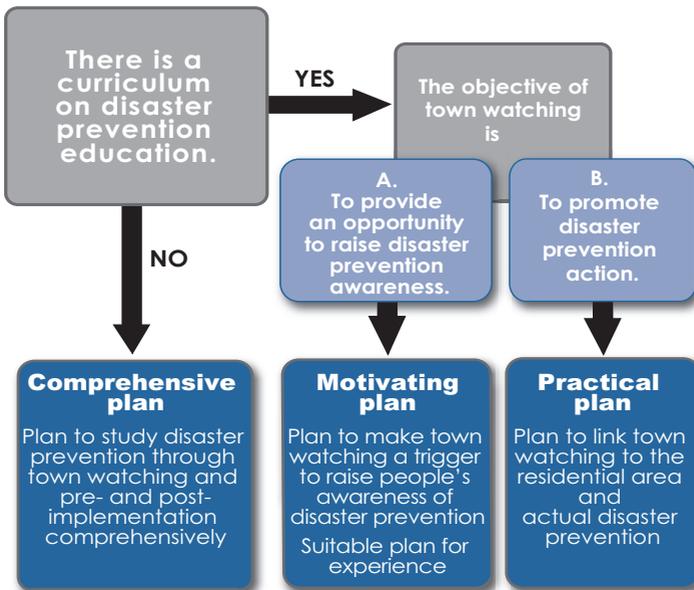


Figure 2-2. Plans of Town Watching

Plans	Overview	Merit	Demerit	Remarks
<b>Comprehensive plan (17 hours of lectures)</b>	Plan to study disaster prevention through town watching and pre- and post-implementation comprehensively	It is effective to carry out the disaster prevention education in a planned manner.	Some schools have a difficulty to secure sufficient time.	It is also possible to plan including interaction with other subjects and regional activities
<b>Motivating plan (one day)</b>	Plan to make town watching a trigger to raise people's awareness of disaster prevention. Suitable plan for experience	It can be done in a day.	Since it often becomes one-time only "event", supplemental study is needed.	Even if there is not enough time for supplemental study, it is desirable having other ways to review what they have learned after the town watching. Examples: Asking students to hand in reports, giving an assignment related to disaster prevention, studying disaster prevention in other classes.
<b>Practical plan (one day)</b>	Plan to link town watching to the residential area and actual disaster prevention, because disaster prevention education is already introduced	There is no need to change curriculum, because they already completed ordinary education in disaster prevention.	Nothing	It is also possible to plan including interaction with other subjects and regional activities

Table 2-1. Plans of Town Watching

	Objectives	Contents
1 <sup>st</sup> lecture	To know varieties of disasters To know threats from disasters To know the past disasters	①Varieties of disasters ②Threats from disasters ③To aim at knowing that disaster hits suddenly  Talk about impression of disasters while watching pictures of disasters
2 <sup>nd</sup> lecture	To understand the mechanism of disasters	To understand natural phenomena which cause disasters, and to understand the relation to human life
3 <sup>rd</sup> lecture	To know local disaster history To imagine local hazards	To study local disaster history based on documents, and to imagine the occurrence of similar disasters
4 <sup>th</sup> lecture 5 <sup>th</sup> lecture 6 <sup>th</sup> lecture 7 <sup>th</sup> lecture 8 <sup>th</sup> lecture 9 <sup>th</sup> lecture	To walk down the local region to know the region	Implementation of "Motivating plan" See points in 2.2.4
10 <sup>th</sup> lecture	To think how to prepare for disasters	To imagine various situation of disaster occurrence  where?: in school, house, local region or travel destination  when?: weekdays or weekends, day or night time
11 <sup>th</sup> lecture 12 <sup>th</sup> lecture 13 <sup>th</sup> lecture 14 <sup>th</sup> lecture 15 <sup>th</sup> lecture 16 <sup>th</sup> lecture	To make a plan for disaster prevention	Implementation of "Practical plan" See points in 2.2.4 and Chapter 4 :activities after town watching
17 <sup>th</sup> lecture	To think of the relationship with the region	To think of ways to tell what one learned to local residents

Table 2-2. Town Watching – Detailed Description of Comprehensive Plan

### 2.1.2 Setting the Schedule

Since town watching is executed off-campus, scheduling and adjustment need to be coordinated with residents' association, Parent-Teacher Association (PTA) and city hall in the target region. It must be scheduled based on the comprehensive information of weather, link with other classes, etc.

If it is executed under hot weather conditions, it is necessary to pay attention to the health condition for preventing participants from experiencing sun stroke and heat stroke. Wearing hat and continuous water replacement must be instructed. If it is executed in the rain, it can be executed in case of light rain. Sometimes, it must be called off, because the river may rise and the ground may become loose.

#### Points to Help Decide on the Schedule

- **Scheduling with residents' association, PTA, and city hall**
- **Adjustment with classes**
- **Weather, time**



Figure 2-3. Participants are exhausted in an extremely hot day

### 2.1.3 Positioning in School and in the Curriculum

Examples of positioning in school and curriculum are as follows (Figure 2-4). It is easy to position based on schedule and manpower by the arrangement of motivating and practical plans.

#### Example 1: Sixth grade of elementary school, 11 to 12-year old children

Town watching is executed during the summer vacation as the introduction/trigger of disaster prevention education, and disaster prevention is studied in classes of comprehensive studies in the second semester.

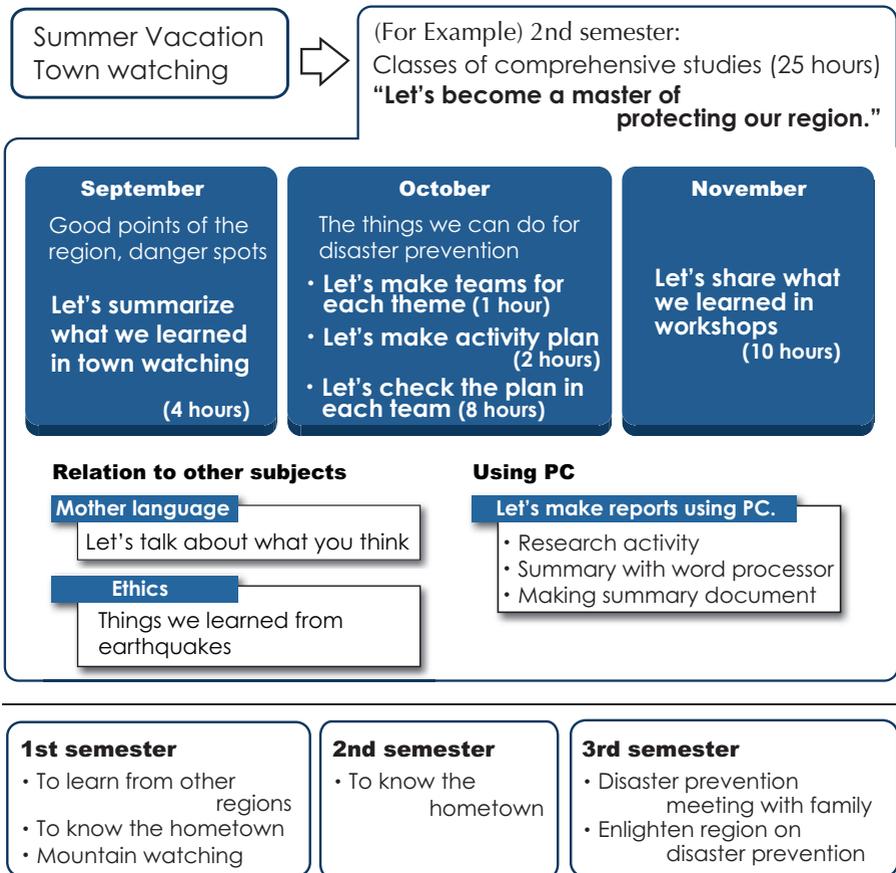


Figure 2-4. Examples of Positioning in School and Curriculum

### 2.1.4 Positioning in the Region

It is effective to involve disaster prevention education in regional events to have constant opportunities to study disaster prevention besides town watching. Implementation of town watching becomes easier if there is contact with the region before town watching. The following are examples of events which makes cooperation with the region easier.

#### Day of School Visit by Residents

Holding an open day in school for local and regional residents to participate and study disaster prevention with students. - It may be suitable as preparation of town watching.

#### School Festival

Exhibiting something about disaster prevention studies.  
Exhibiting maps made in town watching may be effective.  
Acting a play on disaster prevention.

#### Sports Festival

Bucket brigade (Students and residents make regional teams and compete in relay race.)

#### Home Visits by Teachers

Setting a stage for family to think about disaster prevention in house by talking about town watching activities

#### Other Activities for Making Contact with Other Schools and Regions

- Summer camp
- Christmas concert/ Religious concerts
- Celebrating indigenous practices
- Making Shimenawa, sacred rice-straw ropes
- Tour in home town
- Workshops
- Human rights concert
- Let's walk 28km!!
- Volunteer activities of the family
- Trash-picking after regional events

## 2.2 Preparation for Town Watching

### 2.2.1 Schedule before the Implementation

Figure 2-5 shows the flow of preparation to implementation of town watching. After making a curriculum and positioning town watching, detailed preparation is started.

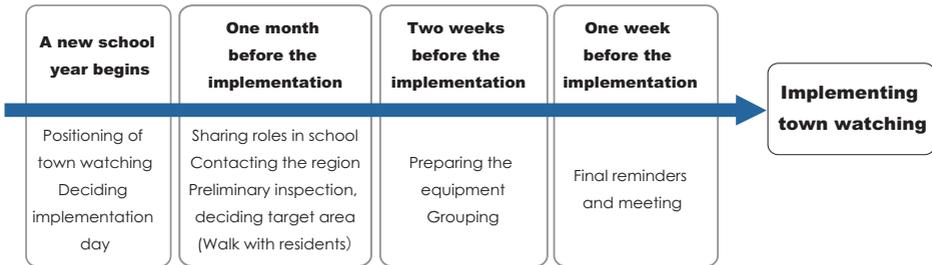


Figure 2-5. Flow of Town Watching

#### Sharing Roles in School

- facilitator in each group
- people who prepare documents and materials
- people who prepare equipment
- site manager
- people who have contact with residents
- coordinator

#### Deciding Target Region

**Size**...within one and half an hour (for walking down the region). Within 30 to 40 minute-walk is suitable in case of preliminary inspection

**Region**...Area surrounding the school is divided when making students' groups. Students are grouped based on their residential area. It makes easier to decide target region, because they are used to walk the way. They may have findings and get new insights.

In case the inspection area is far, **bicycles and cars** may be needed to access the area, therefore parking space may need to be reserved.

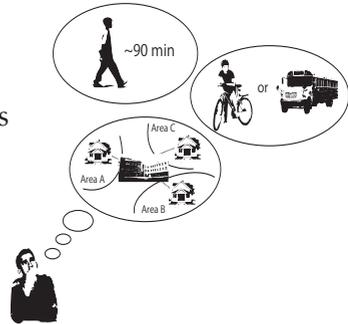


Figure 2-6. Example of Area Grouping

## Collecting Information

**Story** telling by disaster victims in the region

**Places** which were affected by the past disasters

## Teachers Walk the Target Area with Residents.

All teachers should participate in the inspection if possible. Residents who know the area and the past disasters well are highly recommended to join. Teachers and residents walk together in the inspection region, and mark the spots on maps where disasters occurred in the past and hazard areas they think are dangerous. Then finally the walking course is decided. Pictures must be taken. Areas are divided for each group to be able to see the same number of spots.



Figure 2-7.  
Preliminary Inspection

## Bring the Following During the Preliminary Inspection

- Digital camera
- Map
- Pen/ pencil



### 2.2.2 Participants and Their Roles

Participation of various groups is preferred during town watching: Residents' association, Parent-Teacher Association (PTA), City hall, and residents should take part in town watching.

It is better to have various people in one group, however sometimes it is impossible. In this case, it might be possible only to make a group with children, students, teachers and parents, and to ask city officers and people from the residents' association to wait at designated points in the town watching course to give explanations.

#### Effective Grouping and Sharing Roles

- **Students**...five to six persons are recommended in one group. Maximum number is 10 in one group.
- **Teachers**...At least one teacher is needed in each group. The role includes guiding students and facilitating activities. When students seem to have a difficulty in understanding the explanation of city officers and specialists, additional explanation by teachers is needed sometimes, however too much explanation discourages children's motivation. It is important to encourage students' "individual initiative."
- **Residents' association**...The role is to talk about the regional culture, events and the past disaster experience, therefore the residents who know the region well is suitable.
- **City officers in charge of disaster prevention**...The role is to explain the disaster prevention plan of the city. Fire-related people can replace them.
- **Parents**...Studying with their children encourages disaster prevention awareness at home. When children walk the target region, parents promote road safety.

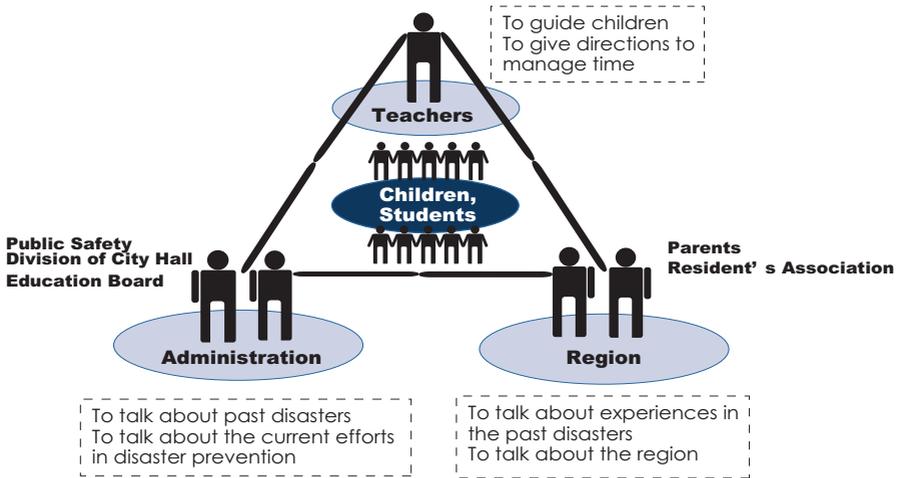


Figure 2-8. Example of Grouping



Figure 2-9. Students Listening to the Explanation of a Member of the Residents' Association

### 2.2.3 Information Provided by City Halls and Education Boards

The school conducting the town watching arranges all schedules and roles. It is helpful to ask support from schools with experience in town watching, city halls, and education board. They may provide information, manpower, and materials, and may introduce suitable people and places for town watching. Figure 2-9 shows examples which schools want to know and which cities can provide.

Examples of information which school wants

- Maps...with safety and evacuation facilities
- Regional maps...with size suitable for town watching
- List of people who are in charge of disaster-prevention...in residents' association
- List of disaster-prevention organizations (and/or fire companies) which can work together, list of disaster prevention resources and activities such as earthquake simulation cars and conducting evacuation drill
- Introduction of suitable people to contact and suitable points in each region
- Information of local events for disaster prevention
- Support system of cities...How much cities can support (including manpower and equipment)



Examples which cities/support organization can provide

- Arrangement in a city hall by public safety division, etc.
- Introducing examples of town watching by elementary and junior high schools in the city
- Use of disaster prevention goods and panel pictures

No.	Document	Note
1	Map of city/ city plan	
2	Digital camera, printer	
3	Picture of disasters	Better to use electronic files and panel
4	Hazard map for each disaster	
5	Documents of community disaster management group (Jishubosaikai)	
6	Video of disaster management	
7	Panel of disaster management	
8	Sample of evacuation bag	
9		
10		

Figure 2-10. Examples of Information Which Schools Want to Obtain from Others and Which Cities Can Provide

## 2.2.4 Organizing the Information to Clarify Checking Spots in Town Watching

The checking spots in town watching are different, depending on disasters and plans, whether it is a motivating or practical type of town watching. For motivating plan, historical and cultural spots are recommended to be chosen. For practical plan, dangerous and safety spots to encourage disaster prevention actions are recommended to be chosen. Management and usage of each spot is needed to be confirmed. The following table shows examples of checking spots in town watching.

Checking spots	What children should know	What to do	Who will explain
Narrow road with concrete block walls on both sides 	<ul style="list-style-type: none"> <li>What will happen if earthquake occurs</li> </ul>	Measure the width of the road Measure the height of the wall	Public safety division
Fire-hydrant box 	<ul style="list-style-type: none"> <li>How to use fire-hydrant box</li> <li>Fire-hydrant boxes can be seen everywhere surprisingly</li> </ul>	Open the box and look inside	Public safety division
Fire hydrant 	<ul style="list-style-type: none"> <li>How to use the fire hydrant</li> <li>Fire hydrants can be seen everywhere surprisingly</li> </ul>	Open it and look inside	Public safety division
Fire extinguisher 	<ul style="list-style-type: none"> <li>How to use the fire extinguisher</li> <li>Fire extinguishers can be seen everywhere surprisingly</li> </ul>	Open it and look inside	Public safety division
Water channel 	<ul style="list-style-type: none"> <li>What will happen if it overflows</li> </ul>	Measure the width and depth of water channel	Public safety division

Table 2-3. Examples of Checking Spots in Town Watching-1

Checking Spots	What children should know	What to do	Who will explain
Sandbags 	<ul style="list-style-type: none"> <li>•How they are used</li> </ul>	Show what is inside if possible Hold it	Residents' association, Parents
Narrow road and crumbling building 	<ul style="list-style-type: none"> <li>• What will happen if earthquake occurs</li> </ul>	Measure the width of the road	Public safety division
Community Altar 	<ul style="list-style-type: none"> <li>•History of Community Altar</li> </ul>	Tell the meaning of what is written	Residents' association, Parents
Old wooden house 	<ul style="list-style-type: none"> <li>• What will happen if earthquake occurs</li> </ul>	Observe Ask the house owner how to prevent disasters	Public safety division
Children's park 	<ul style="list-style-type: none"> <li>•Is it suitable as evacuation space</li> </ul>	Observe the surroundings Know how big it is Find water supply	Public safety division
Stone monument 	<ul style="list-style-type: none"> <li>•Why it is constructed</li> </ul>	Tell the meaning of what is written	Residents' association, Parents

Table 2-3. Examples of Checking Spots in Town Watching-2

Checking Spots	What children should know	What to do	Who will explain
River 	<ul style="list-style-type: none"> <li>•What happened when typhoon occurred</li> <li>•Difference between normal condition and disaster occurrence</li> </ul>	Record the water volume  Record how the river area is used	Public safety division, Residents' association, Parents
Water gate 	<ul style="list-style-type: none"> <li>•When is it used</li> </ul>	Know the volume of water Know how the gates are operated	Public safety division
Temple 	<ul style="list-style-type: none"> <li>•History of temple</li> </ul>	Talk with monks	Residents' association, Parents
Forest 	<ul style="list-style-type: none"> <li>•See the forest condition</li> </ul>	Ask what kinds of plants are there and who and how to treat them	Public safety division, Forest cooperative
Drift woods 	<ul style="list-style-type: none"> <li>•See the valley</li> <li>•How drift woods come</li> </ul>	See where and how much rocks and drift woods are stored	Public safety division
Dam 	<ul style="list-style-type: none"> <li>•See the dam</li> </ul>	Ask where dams are built and how they work	Public safety division

Table 2-3. Examples of Checking Spots in Town Watching-3

### 2.2.5 Informing Local Residents

It is preferable to ask the participation of residents one to two months before the town watching through the president of residents' association. Preliminary inspection should be implemented by teachers and residents one month before the town watching.

If one group has five to six children, it is preferable to ask participation of one or two residents. If participation of residents is difficult, residents are able to wait at the check spots to explain. It is recommended providing leaflets on town watching when asking for participation

Date: August 2009

Dear Community people,

Our elementary school will carry out town watching for disaster management. Aims of town watching are increasing interest about disaster management through a walk in the community, and learning about history, risky areas, safe areas, and disaster management in the community by school students. Therefore, community understanding and support is most important in town watching.

Please understand the aims of town watching, and participate in town watching and help introduce things in the community.

Date: 27th August 2009  
Gathering place: community center  
Bring: pencil and lunch  
Dress code: casual and with hat  
\*will carry out in rainy weather

<Schedule>  
8:30 Gathering the staff and giving explanation  
9:20 Gathering the students and giving explanation and questionnaire  
10:30 Community watching  
12:30 Map making by school students  
13:40 Presentation by school students  
15:20 Done

Best regards,  
Principal of Elementary School

Figure 2-11. Example of Announcement to Residents' Association

## 2.2.6 Preparing Necessary Items

This is a comprehensive list of items. Some of these items can be replaced by local available materials.

Item	Number	Purpose	Remarks
Base map (full size)	One for each group	Write down what students find in town watching and use for presentation	Place the map in the center of large presentation paper. Blank space around the map is used for writing and putting pictures
Broad-pointed pens (red, blue, green, orange, black)	One set for each group	Write down on blank maps, etc.	Because the color of permanent marker might be transferred on the table, news paper is needed to be set under the paper.
Sticky notes: 30 pieces (10cm ×10cm)	One set for each group	Write down the explanation of each spot	
Double-stick tape (for putting pictures and notice)	One set for each group	Put pictures	
Clipboard (A4 size)	Same number as all participants	Useful to take memo during town watching	
Digital camera	One set for each group	Take a picture in each spot	Pay attention to use digital camera, because it takes time for printing
Portable map (A4 to A3 size)	Same number as all participants	Useful to know where they are during town watching	
Handouts for children	Same number as all children	Write down whatever children notice during town watching	
Paper for taking notes	One for each group	Record group member's remarks during town watching	
Questionnaire	Same number as all participants		
Whiteboard or blackboard	1	Put maps on it during presentation	
Stick pointer	1	Use during presentation	
Video camera and videotape (120 minutes)	One for each group	Use for recording town watching Use for confirming the remarks of group member later	Optional

Others: projector, screen, microphone, etc,

Table 2-4. Comprehensive List of Items

### 2.2.7 Explaining to Children and Students

Teachers need to explain the following to children and students when town watching is kicked off.

<p><b>What</b> kind of natural disasters are there?</p>	<p><b>Why</b> town watching is executed?</p>	<p><b>What</b> will we do during town watching?</p>
<p><b>What</b> is damaged when an earthquake occurs? (Show pictures and ask students to tell whatever they notice)</p>	<p><b>What</b> is damaged when a disaster occurs? (Please choose disaster type in your locality)</p>	<p><b>What</b> is damaged when a typhoon comes? (Show pictures and ask students to tell whatever they notice)</p>
<p><b>What</b> is useful when a disaster occurs? (fire hydrant, fire extinguisher, sandbags, etc.)</p>	<p><b>About</b> making map and presentation</p>	<p><b>Attention</b> and safety during town watching (See "3.3 Interview methods" and "Preparation for trouble")</p>

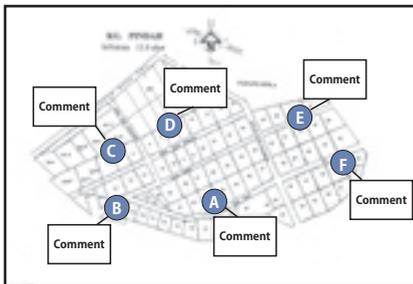


## 2.2.8 Preparation of Handouts for Students

Organize the check points of town watching and prepare the handouts for students to take notes based on “Table 2-3 Examples of checking spots in town watching” in 2.2.4. Please make your own check sheet.

### Example 1:

- Find spots you think are dangerous when earthquake and typhoon occur
- Find useful things when earthquake and typhoon occur
- Find your favorite places



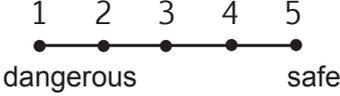
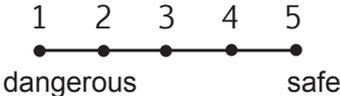
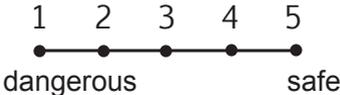
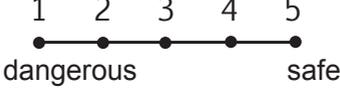
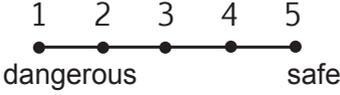
Make hard copy of map of target area in this town watching, and add some comments (when a disaster (please choose local disaster type) occurs, this area is dangerous or safe.)

### Example 2:

Choose some spots and ask students to mark the safety or danger degree of each spot. See how it changes before and after town watching. Do you think this place is dangerous or safe, if an earthquake occurs. Mark the safety degree and write why you think so.





Name:		SchoolName:		Date:	
No.	Checking Spots	Dangerous ↔ Safe		Comment	
1	Narrow road with concrete block walls on both sides 	1    2    3    4    5 			
2	Fire-hydrant box 	1    2    3    4    5 			
3	Fire hydrant 	1    2    3    4    5 			
4	Fire extinguisher 	1    2    3    4    5 			
5	Water channel 	1    2    3    4    5 			
Comment on today's town watching					

**Example 3:****COASTAL WATCHING CHECK LIST**

Please identify below the points which you noted from coastal watching, and write your findings in the appropriate space.

**Name:****School Name:****Date:**

Physical Aspects	Topography/Slope	
	River/Water ways	
	Wave(Size/Frequency)	
	Sand(Size/Color/Quality)	
	Wind (Strong/ medium/ low)	
	Infrastructure/Land use	
	Erosion	
	Others (please mention)	
Social Aspects	Buildings (types)	
	Drinking water	
	Sanitation	
	Education	
	Livelihood	
	Culture	
	Social issues	
	Industry	
	Others (please mention)	
Ecological Aspects	Vegetation	
	Animal / Living objects	
	Water (Color/Quality)	
	Solid Waste on the beach	
	Others (please mention)	

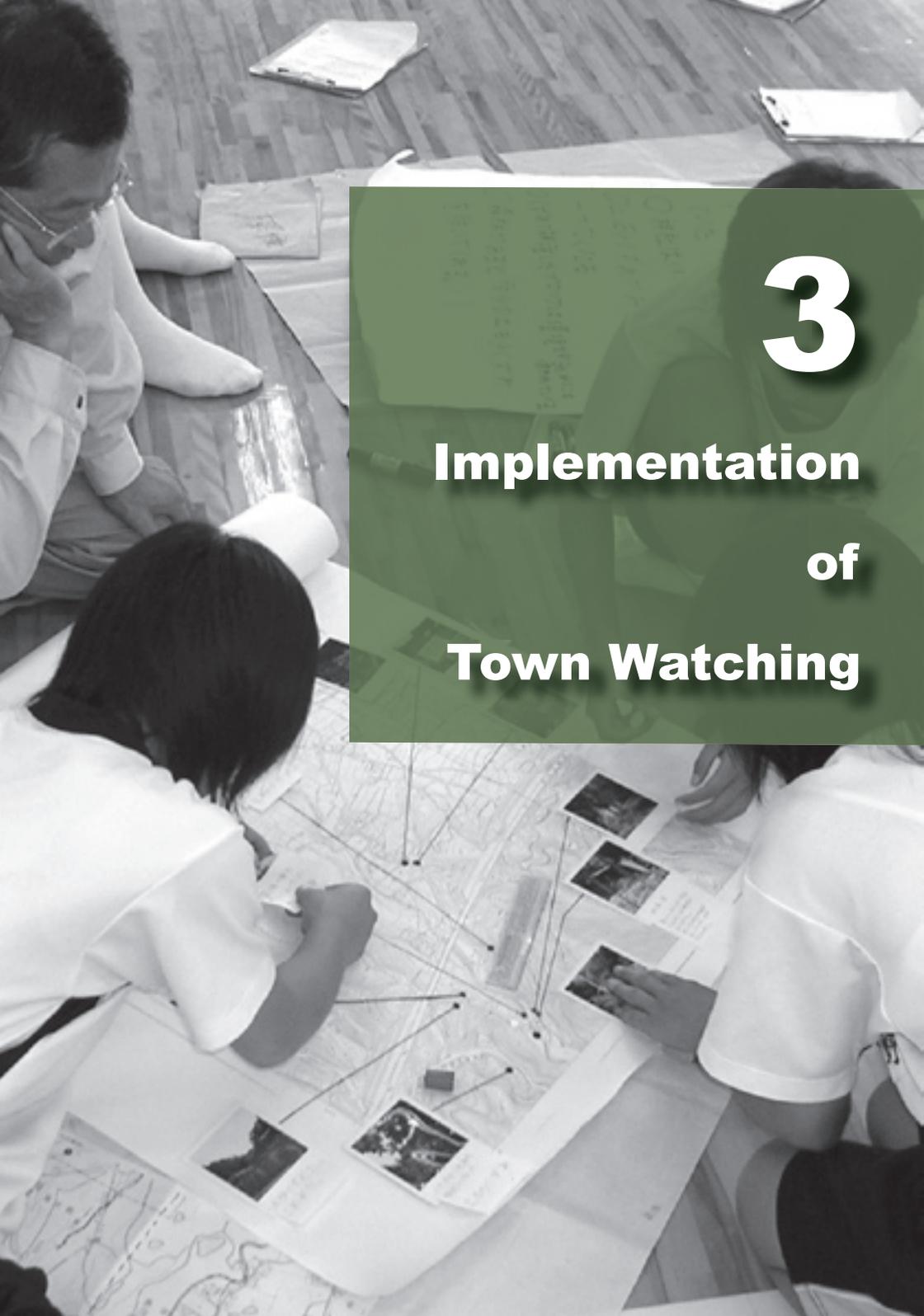
### 2.2.9 Preparation Checklists

Confirm if arrangement is ready for town watching based on the following “Preparation checklists”



1	Are all items ready?	Yes · No
2	Is there enough number of participants?	Yes · No
3	Does everyone recognize the position of town watching in school?	Yes · No
4	Is contact to the region made?	Yes · No
5	Is contact to the city hall made?	Yes · No
6	Is role sharing reasonable?	Yes · No
7	Is there an extra day for town watching?	Yes · No
8	Are the study plans of before and after town watching already made?	Yes · No
9	Are areas divided appropriately?	Yes · No
10	Is the venue already reserved?	Yes · No
11	Is the schedule of town watching day arranged properly?	Yes · No

Table 2-5 Preparation Checklist



# 3

## Implementation of Town Watching

### 3.1 Schedule of Town Watching Day (example)

#### 8:30~9:00 Preparation (30 minutes)

- Arranging the venue
- Installing the projector and screen; Setting desks and chairs, if necessary
- Checking equipment

#### 9:00~9:30 Explanation of the schedule (30 minutes)

- Opening remarks
- Introducing participants  
(residents' association, parents, etc.)
- Explaining the spots to see in town watching  
(using Powerpoint, see following pages)
- Showing disaster video, and talks by local residents are also fine.

#### 9:30~9:50 Questionnaires (20 minutes)

- Questionnaires before town watching not only for students but for all participants
- Pay attention not to discuss with others.

#### 9:50~10:00 Meeting (10 minutes)

- First meeting of each group before starting town watching
- Making rules, initiated by the facilitator
- Deciding who take records and who take pictures among the children
- Assembling students who are in charge of taking pictures and explaining how to use instant cameras



#### 10:00~11:30 Walking around the area (90 minutes)

- Each group walks around the decided area, finds the spots to see, takes notes, and takes pictures.
  - ※ Adults should not lead. Students must be major players.
  - ※ Time keeper needs to manage the limited time properly to see all spots and to encourage group members to keep time.

#### 11:30~12:30 Lunch (60 minutes)

- Go back to school and take lunch

#### 12:30~12:40 Explanation of making a map (10 minutes)

- Explain using Powerpoint, etc.

#### 12:40~13:40 Making a map by each group (60 minutes)

- First, write down the title of "Town watching by XX Elementary School" at the top of the paper
- Mark the spots which are found and add explanation and pictures



#### 13:40~15:00 Presentation (10 minutes for each group)

- Each group makes a presentation of what they found in front of all participants. (If possible, make a presentation with all members in a group including adults)
- Other groups ask questions to the group making a presentation. If there is no question, the chair asks questions. If students can not answer, adults in the same group answer.
- The chair makes comments and a summary.
- Attention
- It takes time for presentation, if the number of groups is large.
- It is possible to rehearse presentation in the time of making maps.

#### 15:00~15:10 Summary (10 minutes)

- Summarize what people should feel and study through town watching.

#### 15:10~15:30 Questionnaires (20 minutes)

- Questionnaires after town watching

#### 15:30~16:00 Clearing up (30 minutes)

### 3.2 Making a Map and Presentation



#### Town watching-Making a map

1

- Preparing necessary items
- A blank map for each group
- Broad-pointed pens: four colors (red, blue, green, black)
- Sticky notes
- Double-stick tape (for putting pictures on maps)
- Pens/pencils
- Pictures taken during town watching
- Memos and maps which were used during town watching

2

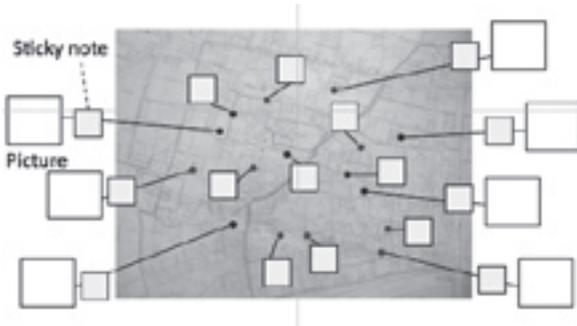
- Write down “Town watching by XX Elementary School – Group X” at the top of the blank map
- Mark dangerous spots with **blue marker**
- Why do you think the spots are dangerous?  
Write down the reason on sticky notes and put them near the spots
- Put pictures near the spots, if you have

3

- Mark your favorite spots with **red marker**
- Describe the spots on sticky notes and put them near the spots
- Put pictures near the spots, if you have
- Mark the spots, which have useful equipment against disasters, with **green marker**
- Put pictures near the spots, if you have

4

### Example of Map: Town Watching by XX Elementary School-Group X



- Blue: Dangerous spots
- Red: Favorite spots
- Green: Spots with useful equipment against disasters

5



6

#### Preparing the Presentation

##### Present about

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



- ※ Presentation time is around five minutes for each group.
- ※ Listen to other groups' presentations, and ask as many questions as possible.

7

#### Color Marking

**Blue** : dangerous spots

**Green** : spots with useful equipment against disasters

**Red** : favorite spots

#### Presentation (5 minutes)

- Things you found
- Things you first heard and knew
- Impression

8

### 3.3 Interview Methods

#### Before an interview

Make a brief memo of what you want to know.

#### Be careful to do the following during interviews

- Greeting
- Introducing the school name and oneself
- Telling the objectives of the interview (E.g., We would like to know the experience of disaster victims, because we are studying disaster prevention.)
- Taking notes of what you heard
- To say “Thank you”



### 3.4 Preparation for Troubles

#### Be careful of accidents

As participants are too absorbed in town watching and do not pay much attention to cars, people in charge of road safety are needed to prevent car accidents.

When participants are looking up, they tend to lose sight of their own steps, so paying attention to walking is important.

#### Pay attention to the privacy of local residents

Participants should pay attention to the residents' privacy to avoid trouble during town watching. For example, when children are looking for dangerous spots, they may say, "The house is almost run-down." or "It is ready to collapse." pointing at houses in the study area. It is rude to the owner of the houses and may cause trouble, so teaching manners to children is needed.

#### Prepare for your health in summer

Take proper measure for hot summer, and make sure that you have enough liquids (water, juice, etc.) with you.



# 4

**Activities**

**After**

**Town Watching**



## 4.1 Comparing Questionnaire Responses Before and After Town Watching

### 4.1.1 Questionnaire Responses Before and After Town Watching

Many times, town watching ends as an event. Therefore, it is important to have an impact measurement on town watching. This is done through questionnaire surveys before and after town watching. The questions before and after town watching are the same, therefore the effectiveness of town watching is evaluated by the changes in the answers.



1	Describe the good things in your residential area	Description
2	Describe the bad things in your residential area	Description
3	Describe the safe places in your town	Description
4	Describe the dangerous places in your town	Description
5	Describe whatever you know about the typhoon that occurred in 2004	Description
6	How do you think you can reduce earthquake disasters	Description
7	Describe what you learned in town watching	Description (only after town watching)
8	Do you think big typhoons like those two years ago will hit your town again?	Yes / No
9	If the same scale big typhoons hit the area again, how much will the damage be?	Bigger / Smaller / Same

Table 4-1. Examples of Questionnaires

### 4.1.2 Analysis of Questionnaires

#### "5. Describe whatever you know about the typhoon that occurred in 2004"

Divide the answers into four categories. For example,



a. Hazard

It rained a lot.  
The damage was big.



b. Physical Impact

The river flooded.  
Mudslides occurred.



c. Damages (Infra)

The houses were inundated above the floor level.  
Paddy fields were inundated.

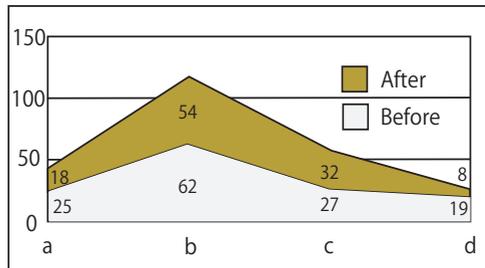


d. Impacts on people

Some people evacuated to a school gymnasium.  
Some people died.

When the answers before and after town watching are compared in a graph, it shows changes in consciousness. The biggest number shows the biggest changes in four categories.

Example A:  
Elementary School  
The change was more on physical impacts.

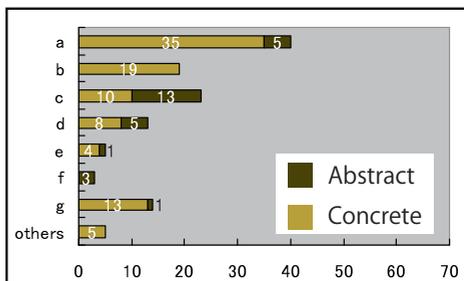


**"7. Describe what you learned in town watching."**

Divide the answers into seven categories.

- a) Description about the past disasters
- b) Description about useful things to prevent disasters
- c) Description about dangerous spots
- d) Description about safe evacuation places
- e) Description about countermeasures against disasters
- f) Description about disasters in general
- g) Description about the area
- h) Others

Example B:  
Elementary School  
More emphasis on past disaster

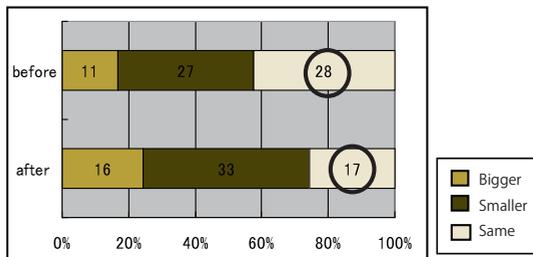


**"9. If the same scale of past disasters occur again, how much will the damage be?"**

Compare the number of respondents before and after the town watching who answered "bigger," "smaller," and "same."

In case of C Elementary School, the number of "same" decreased after town watching. It shows high possibility that town watching makes participants to have a more concrete image of disasters.

Example C:  
Elementary School  
(number of answers) 67

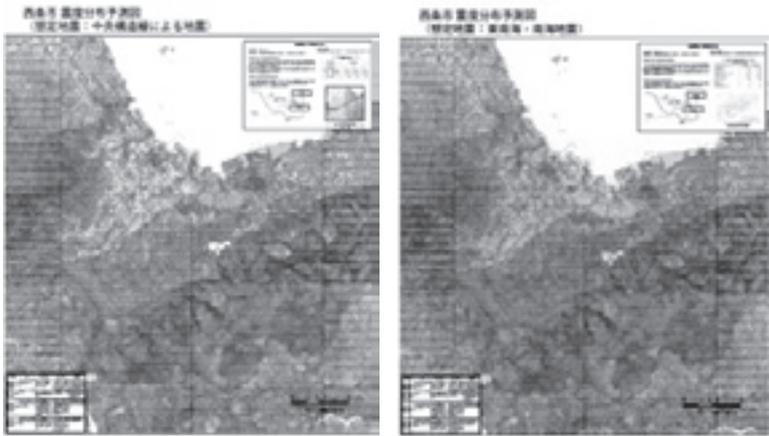


**Note: You can change the categories as per your local context**

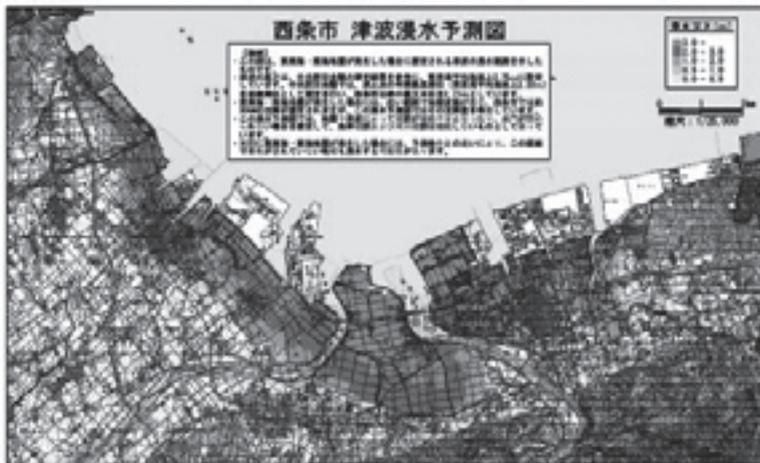
## 4.2 Comparing the Map with the Local Hazard Map, etc. (Ensuring Accuracy and Relevance)

After the town watching, please compare official hazard maps and map with local information by town watching.

< Sample: Official hazard map of Earthquakes >



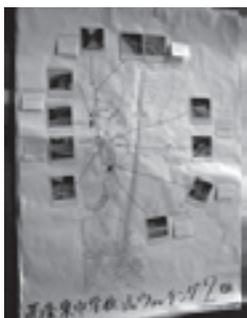
< Sample: Official hazard map of Tsunami >



## 4.3 Updating the Map

The map must be updated. It is needed to be updated regularly, therefore the process of implementing town watching again is important.

- Updated maps will be opportunities to remind local residents of disaster prevention. They will keep the maps because children made them.
- The map is remade to be an A3-size map.
- Children will improve the map with high consciousness if the map is used by local residents.



## 4.4 Thinking of Countermeasures Against Disasters

We should lead our children to be conscious of disaster prevention and to think countermeasures against each disaster, through town watching.

### 4.4.1 Thinking of What We Can Do in Our Region

To think the current issues and necessary things in the region through town watching and to think possible individual countermeasures against disasters

To compare “disaster prevention map” made by residents’ association with a map of town watching, and to talk with local residents about the same and different part

### 4.4.2 Examples of Activities After Town Watching in Saijo City

**Watching** a play describing the feeling of flood disaster victims

**Compiling** research (of each thema) into five-minute VTR

**Deciding** a research theme for each team and making a proposal for disaster prevention

**Leading** themes include important things(life), fearsome things (earthquakes), and protecting self from earthquakes

**Setting** a theme of what is needed for our family and school in disaster prevention

**Hearing** of wishes for peace and safety placed in regional cultural heritages

**Constructing** monument to disasters with residents; disaster-relief work with residents

**Imagining** life after earthquake

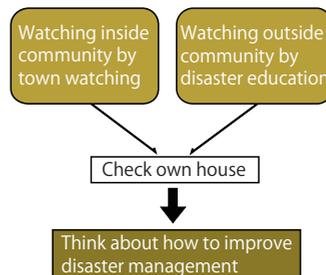
**Disaster Image Game** in the kitchen

**Informing** parents of news

**Distributing** proposals to residents

**Mapping** exercise in school and home (evacuation)

**Presentation** by sixth-year students to fifth-year students



**Exhibition** in school festival

**Visiting** a local disaster prevention center

**Visiting** a disaster site

**Listening** to a lecture by a member of the disaster prevention center

**Watching** DVD about disasters

**Finding** and studying a theme on disaster prevention (second grade students)

**Studying** by linking with other subjects; studying readings of moral education

**Evacuation** drills

**Documents** about local disasters; development of teaching materials

**Family** meeting on disaster prevention

**Students** moderated a family meeting on disaster prevention and implemented “disaster prevention check in our house.”

**Making** a poster

**Disaster** prevention educational materials (for placement in students’ and residents’ houses)

**Making** guidelines on disaster prevention (by students and teachers)

**Making** a map of danger spots

**Putting** a map in a community center

## Annex 1: History of Town Watching

Town watching is a participatory approach used in community planning in big administrative units like cities. Residents recognize issues and seek solutions together through town watching.

Town watching has been developed by urban planners in Japan since the 1970s, and has become to be well-known as a participatory tool. “Machidukuri” (in Japanese) is translated as “community planning” or “town making” by Evans, et al.

The origin of “Machidukuri” comes from citizens’ demonstration against environmental pollution in Japan in the 1960s. Local governments needed discussion with citizens. Recently “Machidukuri” has been developed as a partnership in some regions. In addition, “Machidukuri” campaigns to promote citizens’ participation are mainly developed by implementing Japan’s focus on urban planning. Concerns about urban planning such as access to public road and use of plaza and land are considered through town watching. Town watching is conducted to deal with disasters, safety, etc. It is related to physical issues such as safe places, dangerous places, and evacuation routes. This is called disaster prevention town watching.

## Annex 2: Town Watching in Asia



Town watching was implemented in many regions with different themes.

<Case 1>

Theme: Waterfront environment

Participants: School students, school teachers, city government, community members and university

Place: Da-nang, Vietnam

Memo: Observation of ponds once a month, Town watching twice a year



<Case 2>

Theme: Garbage issue

Participants: School students, school teacher, community management group (M.A.S.), and university

Place: Kuala Lumpur, Malaysia

Memo: Town watching for discussing garbage management



<Case 3>

Theme: Coastal environment and tsunami disaster

Participants: School students, school teachers, and university

Place: Chennai, India

Memo: Town watching for disaster prevention after the Indian Ocean Tsunami in 2004



<Case 4>

Theme: Mountain environment and typhoon disaster

Participants: School students, school teachers, city government, community person and university

Place: Saijo City, Japan

Memo: Town watching for disaster prevention in the future





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