

*Building Disaster and Climate Resilient Cities
in ASEAN (CN18)*

Development of Useful and Practical Checklists

The Third and Forth Workshop for Urban Resilience in ASEAN

March 03, 2017

JICA Project Team

Contents of Presentation

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“Checklists” for Clarification**

1. Objectives of Checklist

For Local government

- To understand current status of DRR and **clarify weakness** through the Checklist
- To **identify necessary DRR activities** for Urban Resilience
- To utilize checklist as **bench-mark and monitoring tool**

For National government

- To understand the situation of local governments and **examine necessary supports** on DRR

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2. Approaches on Checklist Formulation

■ Checklist for Practitioners

- ✓ Checklist enabling users to do “**Quantitative Assessment**”
- ✓ Checklist enabling users to identify “**Necessary Activities**” to be done
- ✓ Checklist by “**Compact Form**” with essence
- ✓ Considering DRR activities in “**Technique**”, “**Planning**” & “**Organizing**”

■ Two Checklists as cross-interactive

1. Checklist for “**Disaster Risk Management(DRM)**”
Target = Department/Division in charge of DRM
2. Checklist for “**Resilient Urban Development**”
Target = Department/Division in charge of Urban Planning

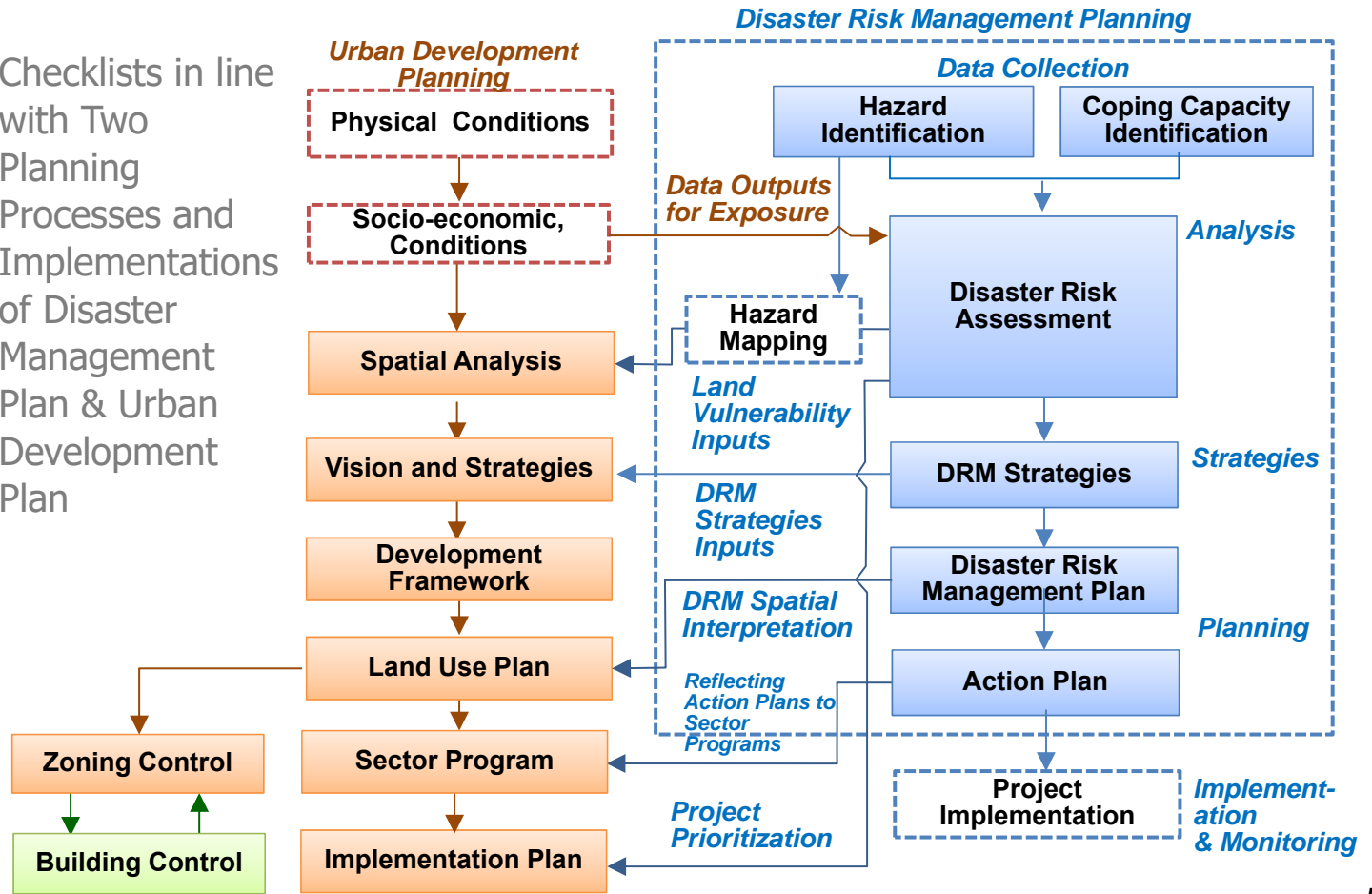
■ Checklist as a part of PDCA cycle

- ✓ Taking account of assessment in **PDCA cycle** to improve DRR activities and capacity through periodical implementation

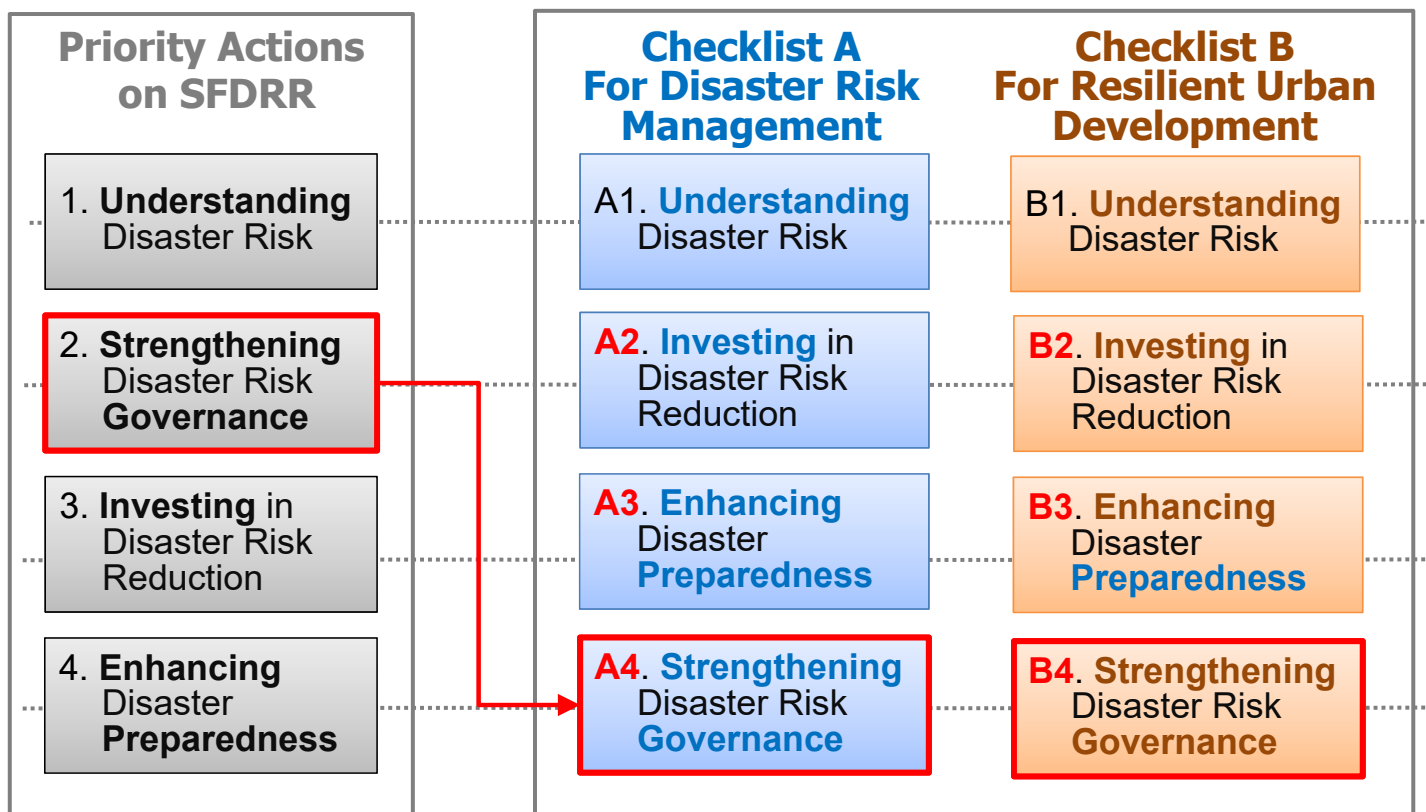
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Checklists considering Cross-Interactive

Checklists in line with Two Planning Processes and Implementations of Disaster Management Plan & Urban Development Plan



Framework and Structure of Checklist: Four Priority Actions of SFDRR 2015-2030



Reference:

Four Priority Actions of SFDRR 2015-2030

(SFDRR = Sendai Framework for Disaster Risk Reduction 2015-2030)

1. **Understanding** Disaster Risk

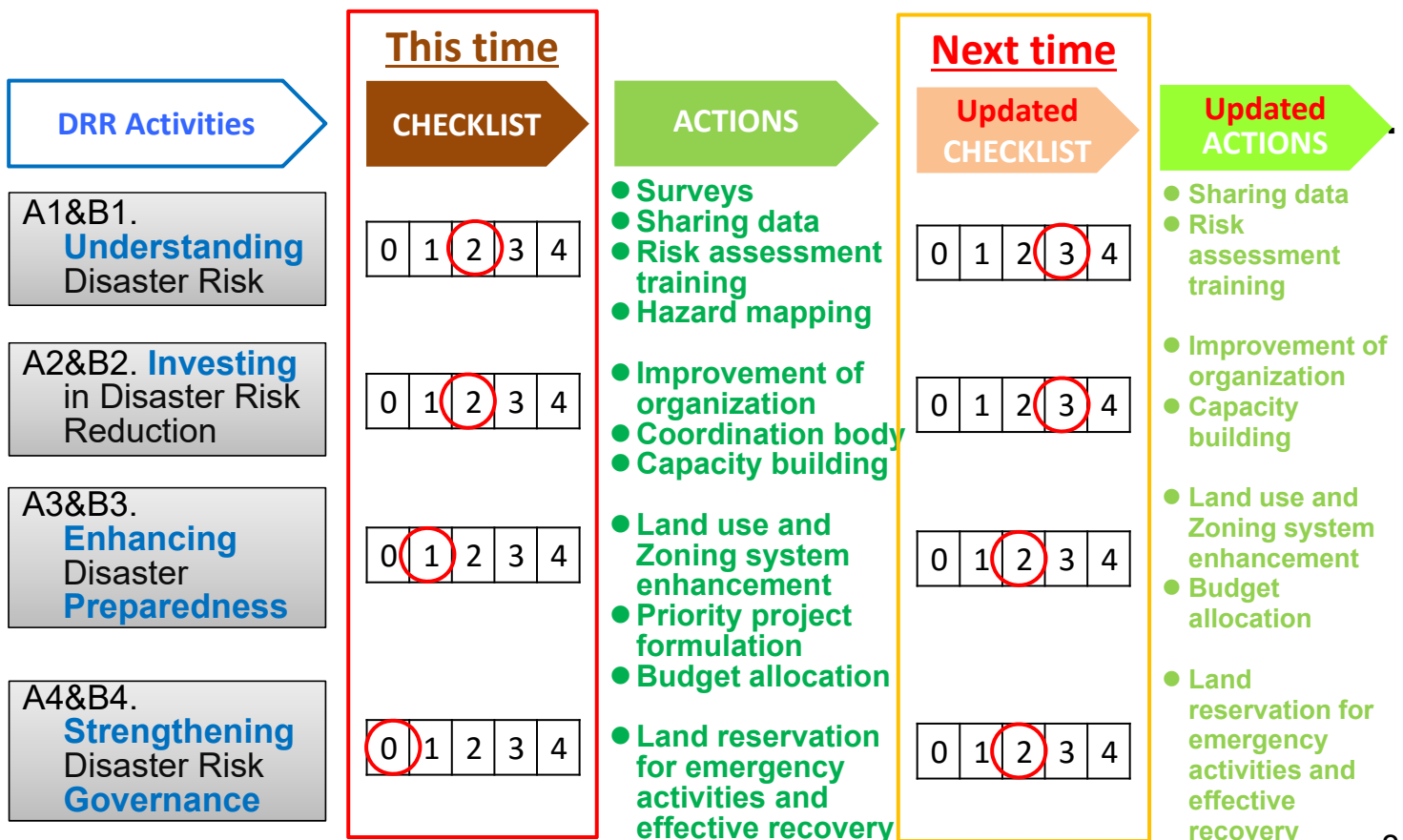
2. **Strengthening** Disaster Risk **Governance** to manage Disaster Risk

3. **Investing** in Disaster Risk Reduction for **Resilience**

4. **Enhancing** Disaster **Preparedness** for effective Response and to **Build Back Better** in Recovery, Rehabilitation and Reconstruction

Checklist in PDCA Cycle of DRR

(Plan-Do-Check-Action Cycle in DRR)



3. Feedback from 1st Draft Checklists Trials in 3 Cities

■ About Contents

- ✓ **Volume** of the questions is **acceptable**.
- ✓ Difficult to answer **quantitative questions**.

■ About Operation & Utilization

- ✓ **Once a year** is desirable frequency for checking the list.
- ✓ **Representative officer** in each relevant organization may be suitable for checking.
- ✓ Checklist should be utilized for both of **Local and National Government**
- ✓ **Incentive mechanism** for utilization of checklist is required.



Luang Prabang Workshop / Lao PDR



Pathum Thani Workshop / Thailand



Bima Workshop / Indonesia

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4. Proposed Composition of Checklists

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Contents of Checklist A for Disaster Risk Management

T=125

Priority Actions (SFDRR)	Head Title of Questions	No. of Questions
A1 Understanding Disaster Risks	A11. Identifying probable hazard that may affect the local society	18
	A12. Analyzing Local Vulnerabilities	19
	A13. Assessing Local Disaster Risks	13
	A14. Sharing Hazard and Risk Information	3
A2 Investing in Disaster Risk Reduction	A21. Formulating Strategies and Plans for Disaster Risk Reduction	7
	A22. Investment in DRR measures on key facilities	9
	A23. Back up or alternatives of key facilities	4
A3 Enhancing Disaster Preparedness	A31. Formulating effective disaster response system and administrative management	8
	A32. Formulating effective emergency relief and resilient medical care system	6
	A33. Formulating effective evacuation system	5
	A34. Formulating effective recovery plan and program in advance before disaster event	7
	A35. Formulating effective reconstruction plan and program in advance before disaster event	2
A4 Strengthening Disaster Risk Governance	A41. Overall mechanism of improving urban resilience	10
	A42. Enhancing Capacity of Local Community for Improving Societal Resilience	7
	A43. Participation of Private Sector in the Local Society for Improving Urban Resilience	7

Contents of Checklist B for Resilient Urban Development

T=120

Priority Actions (SFDRR)	Head Title of Questions	No. of Questions
A1 Understanding Disaster Risks	B11. Basic Socio-economic data provision for probable exposure against hazards	17
	B12. Fundamentals of hazard and vulnerability analysis	15
A2 Investing in Disaster Risk Reduction	B21. Incorporating disaster risk reduction into land use strategies and framework	6
	B22. Land use planning reflecting the strategy and the development scenario	13
	B23. Implementing development control and land use regulations	11
	B24. Strengthening building regulation in combination with zoning system	5
	B25. Enhancing infrastructure investment reflecting the strategy and the development scenario	19
	B26. Enhancing public facilities investment reflecting the strategy and the development scenario	8
A3 Enhancing Disaster Preparedness	B27. Improving vulnerable urban block / area	5
	B31. Effective recovery and reconstruction mechanism in land use planning	7
A4 Strengthening Disaster Risk Governance	B41. Inclusive, transparent and collective management and activities for urban planning and development	6
	B42. Efficient administration of resilient urban planning and development	8

Elements of Checklist as Automated Outputs

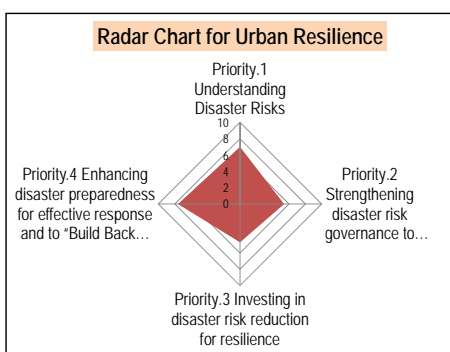
1 **Scored Criteria** by 0~4 points in Scroll List to each Question

4	B11		
5		Answer	
6			
7			0 = no statistical data
8			1 = only total amount
9			2 = data available for
10			3 = smallest unit data

3 **Low-scored Activities** in "Issue List" to prioritize

No.	To do list for Urban Resilience		Priority (A,B,C)
1	12.1.2	Population, sex, age, disability, etc.	A
2	12.1.5	Important public facilities such as schools and hospitals	A
3	14.1.1	Contents of Hazard map	B
4	14.1.2	Sharing hazard map	B
5	14.2.1	Utilization of and participation to the Open Data initiative	C
6	21.1.1	Flood and storm-water management strategies and programs by infrastructure facilities	A
7	21.1.2	Seismic risk management programs for building regulation	C
8	21.1.3	Administration of design or building code implementation	B
9	22.1.1	Public buildings	A
10	22.1.2	Water supply facilities	B
11	22.1.3	Sewage facilities	C
12	32.1.1	Formulation of an disaster risk management plan / program for medical support network system	A

2 **Resilience Score** by Rader Chart



4 **Activities sorted by "Action Lists"** by priority order

No.	Action item list - Priority A	
1	12.1.2	Population, sex, age, disability, etc.
2		
3		
No.	Action item list - Priority B	
4	1	12.1.2 Population, sex, age, disability, etc.
5	2	
6	3	
No.	Action item list - Priority C	
7	4	1 12.1.2 Population, sex, age, disability, etc.
8	5	2 12.1.5 Important public facilities such as schools and hospitals
9	6	3 14.1.1 Contents of Hazard map
10	7	4 14.1.2 Sharing hazard map
8	5	14.2.1 Utilization of and participation to the Open Data initiative
9	6	21.1.1 Flood and storm-water management strategies and programs by
10	7	21.1.2 Seismic risk management programs for building regulation
8	21.1.3	Administration of design or building code implementation
9	22.1.1	Public buildings
10	22.1.2	Water supply facilities

Gauging Activities as Assessment Criteria for Checklist

- Criteria by single factor or multiple factors in combination with items shown in the below list

Items for Assessment Criteria	Five (5) Levels of Grade for Answer				
	0	1	2	3	4
1. Achievement Level of Development of Activities					
1-1 Technical development	Do Nothing	Under Preparation	Under Research Develop	Demonstration Stage	Application & Standardizing
1-2 Planning development	Do Nothing	Data Gathering stage	Analyzing Stage	Formulating & Establishing Plan	Implementing & Monitoring
1-3 Organizational development	Do Nothing	By individual communication /Discussion	Ad hoc communication /Discussion	A few Standing Meeting / Discussion	Frequent Standing Meeting
2. Level of Availability of Activities / Source / Data	Not Available by all mean	Available but a few or with condition	Ad hoc base availability / not always	Available regularly	Available regularly by routine update
3. Level of Frequency of Activities	Do Nothing	Rarely do / with long interval	Sometimes do by ad hoc base	Regularly do by long interval	Regularly do with short period
4. Level of Coverage of Activities	Do Nothing	A few coverage	Coverage by 30~50%	Coverage by 50~70%	All target area / field (80~100%)

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5. Group Work & Discussion on “Checklists” for Clarification

Objectives of Group Work on Checklist

- To evaluate **quantity and quality of the contents** and **usability** through practicing checklist by groups
- To **confirm the outputs** (Score / Radar chart / To do list) and its effectiveness

Practice by STEPs of Checklist

STEP 0 → 1 min Setting two group for each Checklist A & B

STEP 1 → 45 min Inputting Answers and Comments (Sheet "STEP1")

Contents of the Proposed Checklist Reference for this Workshop

B11 Basic Socio-economic Data Provision for Probable Exposure against Hazards

11.1 Available statistics of socio-economic conditions to identify scale of exposures for the risk assessment		Answer	Scoring Criteria	Check if unclear criteria or question	Please comment if any
11.1.1	Population and employment statistics		0 = no statistical data available both of total and small unit 1 = only total amount available for the planning area 2 = data available for the sub-administrative (small) unit only 3 = smallest unit data available (ward, village, etc)		
11.1.2	Production by sectors of commercial, business and industry				
11.1.3	Number of low peoples under poverty lines defined by the United Nations				
11.2 Available geographic information of socio-economic conditions to identify location of exposures for the risk assessment		Answer	Scoring Criteria	Check if unclear criteria or question	Please comment if any
11.2.1	Administrative boundaries (city level, sub-district level, smallest unit level, etc)		0 = no spatial data or geographical information available 1 = only printed map available for the planning area 2 = digital spatial drawing data (CAD) available 3 = Geographical Information System (GIS) data available		
11.2.3	Building conditions (structure, height, use, etc)				
11.2.4	Utilities (network of water supply, electricity, telecom, drainage, sewerage systems)				
11.2.5	Road and transportation (road, railway, seaport, airport, terminal, logistic station, with capacity)				
11.2.6	Public services (service coverages of health-care & hospital, rescue and security, education, etc)				
11.2.7	Agglomerate industrial areas (area, scale of product value, including tourism industries, etc)				
11.2.8	Historical cultural assets / heritages				
11.2.9	Natural / environmental conservation areas (reserved forest, preservation area, national park, etc)				

USER's Data Input

- 1** Box for your **Answer** by choosing from scroll list
- 2** Box for **Checking** by "1" as an **unclear and difficult question** which you recognized
- 3** Box for **Commenting your feedback** to the question "1"

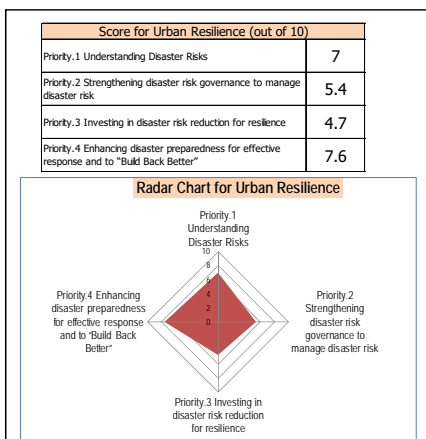
Practice by STEPs of Checklist

Coffee Break

STEP 2 → 2 min Confirm the Score and Chart output (Sheet "STEP2")

STEP 3 → 5 min Confirm Issue List and prioritize them into A,B,C (Sheet "STEP3")

STEP 4 → 3 min Confirm the result of Action List (Sheet "STEP4")



No.	To do list for Urban Resilience	Priority (A,B,C)
1	12.1.2 Population, sex, age, disability, etc.	A
2	12.1.5 Important public facilities such as schools and hospitals	A
3	14.1.1 Contents of Hazard map	B
4	14.1.2 Sharing hazard map	B
5	14.2.1 Utilization of and participation to the Open Data initiative	C
6	21.1.1 Flood and storm-water management strategies and programs by infrastructure facilities	A
7	21.1.2 Seismic risk management programs for building regulation	C
8	21.1.3 Administration of design or building code implementation	B
9	22.1.1 Public buildings	A
10	22.1.2 Water supply facilities	B
11	22.1.3 Sewage facilities	C
12	32.1.1 Formulation of an disaster risk management plan / program for medical support network system	A
13	32.2.1 Formulation of an disaster risk management plan / program for rescue system	A
14	32.2.2 Provision of drills and training for emergency medical & hygiene response	B
15	32.2.3 Formulation of mutual agreement for emergency rescue among inter-local governments	B
16	33.1.1 Formulation of an evacuation plan / program for community, school and other key public facilities	C
17	34.1.1 Formulation of disaster waste disposal plan	C
18		
19		
20		
21		
22		
23		

Action item list - Priority A		
1	12.1.2	Population, sex, age, disability, etc.
2	12.1.5	Important public facilities such as schools and hospitals
3	14.1.1	Contents of Hazard map
4	14.1.2	Sharing hazard map
5	14.2.1	Utilization of and participation to the Open Data initiative
6	21.1.1	Flood and storm-water management strategies and programs by
7	21.1.2	Seismic risk management programs for building regulation
8	21.1.3	Administration of design or building code implementation
9	22.1.1	Public buildings
10	22.1.2	Water supply facilities

Action item list - Priority B		
1	12.1.2	Population, sex, age, disability, etc.
2	12.1.5	Important public facilities such as schools and hospitals
3	14.1.1	Contents of Hazard map
4	14.1.2	Sharing hazard map
5	14.2.1	Utilization of and participation to the Open Data initiative
6	21.1.1	Flood and storm-water management strategies and programs by
7	21.1.2	Seismic risk management programs for building regulation
8	21.1.3	Administration of design or building code implementation
9	22.1.1	Public buildings
10	22.1.2	Water supply facilities

Action item list - Priority C		
1	12.1.2	Population, sex, age, disability, etc.
2	12.1.5	Important public facilities such as schools and hospitals
3	14.1.1	Contents of Hazard map
4	14.1.2	Sharing hazard map
5	14.2.1	Utilization of and participation to the Open Data initiative
6	21.1.1	Flood and storm-water management strategies and programs by
7	21.1.2	Seismic risk management programs for building regulation
8	21.1.3	Administration of design or building code implementation
9	22.1.1	Public buildings
10	22.1.2	Water supply facilities

STEP 5

45 min

Discussion by Group &
Representation

Discussion by Group

- Identify positive and negative elements of Checklists
- Assess the process and outputs on Issue List and Action List conclude them

Representation of Opinions
by Group

Discussion for Clarification

- Key clarification to be confirmed for improvement in **Checklist A : Disaster Risk Management**
- Key clarification to be confirmed for improvement in **Checklist B : Resilient Urban Development**
- Overall assessments for improvement

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**Thank you very much
for your attention.**

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