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Asian Disaster Reduction Center  
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## ***Community-Based Disaster Risk Reduction:***

*A comparative study of Japan and Maldives, and techniques to integrate disaster risk reduction into the community*

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2. Community-based disaster risk reduction in the Maldives
3. Summary of key findings in the Maldives

# Agenda...

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2. CBDRR through empowerment
3. Disaster education
4. Culture/Society
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6. Summary of key findings in Japan

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# I. INTRODUCTION

## 1. Background and significance of the study

- The geography of the Maldives and the erratic distribution of the populace, along with the weak economic stature make something as simple as providing basic services to each inhabited island a logistical nightmare.
- Imminent threats from natural and man-made disasters are vast, and should a disaster strike, it would have devastating effects on the archipelago.
- Given this conditions, the only viable method to prevent and minimize effects of disasters is to foster disaster risk reduction (DRR) within the community.

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# INTRODUCTION

## 2. Disaster risk profile of the Maldives

### Storms/Tsunamis

Year/Storm	Islands affected	People affected	Dead	Missing	Damage
2012 (Cyclone Nilam)	Caused flooding in 51 islands, 28 islands severe flooding, 4 islands critical	33,826	-	-	133,090.60 USD
2004 (Tsunami)	53 were severely damaged	Nearly 12,000 displaced. 1,200 IDPs still live in 6 islands	88	20	470 million USD  Estimated cost of reconstruction is 406 million USD

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# I. INTRODUCTION

## 2. Disaster risk profile of the Maldives...

### Water shortage

Year	No. of Islands	Total amount of water delivered (in tons)	Total amount spent (in USD)
2005	91	2,728	159,221.80
2006	86	2,905	145,525.30
2007	82	2,694	131,031.10
2008	74	2,088	101,556.40
2009	117	7,469	472,144.70
2010	<i>Water provided by province offices</i>		
2011	108	3,920	142,178.30
2012	86	2,500	286,075.80
<b>Total:</b>			<b>1,437,733.00</b>

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# I. INTRODUCTION

## 3. Objectives

- Understand CBDRR implementation in Japan and its integration at each level of the government;
- Understand how CBDRR plays into disaster management at the national level;
- Find out how the community, NGOs and other agencies are integrated into CBDRR;
- Map out the important factors that contribute to the CBDRR process in Japan;
- Address the social issues hindering the implementation of DRR measures within the community in Maldives;
- Outline the importance of preventive measures as compared to responsive measures;

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# I. INTRODUCTION

## 3. Objectives...

- Reinforce individual responsibility in reducing the risks of disaster in a community.
- Reinforce the importance of making CBDRR a priority at the grassroots level.

*The long-term goal of this research is to build on this study in order to integrate the CBDRR effort into the national planning process of the Maldives and to institutionalize the CBDRR process to sustain and maintain continuity of such programs.*

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# I. INTRODUCTION

## 4. Delimitation of the study

- This is NOT a solution to implement CBDRR in the Maldives.
- The purpose of the research is to show the importance of CBDRR and the effectiveness of CBDRR measures in Japan.
- Since Maldives will not and cannot match the fiscal prowess of Japan to conduct the exact CBDRR activities, the major payoff from this study is to identify key concepts used by Japan in implementing CBDRR, which Maldives could replicate.

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# II. LITERATURE REVIEW AND FINDINGS - MALDIVES

## 1. Disaster management in the Maldives

- NDMC is the lead agency, formed under a presidential decree after the 2004 Indian Ocean Tsunami and is under the Ministry of Defence and National Security.
- There is no legal framework.
- But, the Decentralization Act gives the responsibility to the local government to formulate DRR activities.
- There is no budget for DRR programs.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: SWOT analysis

- Strengths:
  - NDMC has mandate to conduct CBDRR programs in the country.
  - Community knowledge (traditional and contemporary) exists in terms of risk reduction.
  - UNDP, MRC, and MNDF have been conducting CBDRR trainings.
  - Ministry of Education has started to integrate DRR into the curriculum.
  - NGOs and National Organizations such as the UN provide funding and technical support.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: SWOT analysis...

- Strengths:
  - An increasing number of NGOs are working in DM/DRR and social causes: such as Care Society, Society for Health Education, and Maldivian Youth Climate Network.
  - Coordination between stakeholders is good during disaster situations.
  - Maldives has homogeneous close-knit communities. People are of the same faith, speak the same language, and share an identical, unique, and rich culture.
  - Several island councils (local governments) have given support to establish CBDRR in their constituency.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: SWOT analysis...

- Weaknesses:
  - Lack of laws and regulations.
  - No human resource capacity in CBDRM.
  - Communities cannot link their traditional knowledge to DRR and DM concepts and use it.
  - Lack of continuity.
  - Lack of awareness.
  - DRR is not a priority in policymaking and developmental planning.
  - Political disharmony hinders continuity in DRR efforts.
  - Lack of accountability and proper planning is the island council level pushes the burden onto the central government.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: SWOT analysis...

- Weaknesses:
  - The government does not allocate funds to DRR efforts at the national or local level.
  - Lack of coordination within sectors – Every institution tries to tackle DRR on their own.
  - There is little to no coordination among DRR experts in the country.
  - Geography of the country.
  - The administrative structure is very weak at every level - lack of documentation.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: SWOT analysis...

- Opportunities:
  - Decentralization Act gives the mandate and the freedom for island councils.
  - The Disaster Management Bill would be the quintessential step to start the comprehensive disaster management process in the Maldives.
  - NDMC is in the process of formulating a national framework for CBDRM. This would streamline the works of the organizations doing CBDRM in Maldives and allow to institutionalize CBDRM plans of islands.
  - There are few people trained in DRR, even though there is little coordination between them. However, NDMC can use their expertise if required.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: SWOT analysis...

- Threats:
  - Land scarcity - there are no high grounds for evacuation and erosion exacerbates the situation.
  - As DRR is not a priority requested budget for DRR programs do not get funding from the national budget.
  - A weak and declining economy makes the government and the private sector reluctant to finance DRR efforts.
  - Liable authorities are sometimes reluctant to take responsibility and shift it to another agency. This creates conflict of mandate among the institutions.
  - Leakage of funds allocated for projects and government's hesitancy to accept leakage occurs.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: CBDRR programs

- 4-year CBDRR program by the MRC – 6 islands (2 have stopped).
- Volunteer firefighting program by MNDF – 103 trained so far.
- CBDRR programs by UNDP
- Almost every program stop because of lack of continuity and support.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 2. Community-based disaster risk reduction in the Maldives: cooperation and feedback

- Local governments are supportive of CBDRR programs but do not take the initiative.
- Increasing number of evacuation drills in public schools.
- Communities are very interested in CBDRR programs. Some have asked to draft DM plans for their islands.

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## II. LITERATURE REVIEW AND FINDINGS - MALDIVES

### 3. Summary of key findings in the Maldives

- An infant institutional disaster management framework
- Lack of support from the grassroots level and the community
- Excellent CBDRM/CBDRR projects albeit lack of continuity and coordination
- CBDRR is the only solution

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## III. LITERATURE REVIEW AND FINDINGS - JAPAN

### 1. Institutionalization of community-based disaster risk reduction in Japan

- Laws and regulations – Disaster Counter Measure Basic Act in 1961.
- National level organizations
- Local governments
- Research and development

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### III. LITERATURE REVIEW AND FINDINGS - JAPAN

#### 2. CBDRR through empowerment

- Physical preventive measures:
  - Floodgates and tidal gates in Osaka
  - Sabo dams: Mount Rokko, Mount Unzen.
  - Early warning: J-Alert
  - Cell broadcasting to send warnings and advisories

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### III. LITERATURE REVIEW AND FINDINGS - JAPAN

#### 2. CBDRR through empowerment...

- Ideological preventive measures:
  - Volunteer firefighters: Kobe, Nagasaki.
  - Town-watching: Nagasaki
  - Rokko mountains greenbelt project: Rokko Sabo Office
  - Self protection: Ishinomaki city

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### III. LITERATURE REVIEW AND FINDINGS - JAPAN

#### 3. Disaster education

- Formal:
  - Education at school: different fields
- Non-formal:
  - Memorials, museums, and parks (disaster tourism?)
  - Evacuation drills: Miracle of Kamaishi City
- Informal:
  - Tsunamis in manga
  - Activities such as games aimed at children

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### III. LITERATURE REVIEW AND FINDINGS – JAPAN

#### 4. Culture/society

- Disasters are part of the Japanese culture
- Mutual help – self help: 1995 Kobe earthquake
- City level disaster drills: Shinjuku – supported by the private sector as part of CSR.
- Willingness to learn about disasters

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### III. LITERATURE REVIEW AND FINDINGS - JAPAN

#### 5. Challenges in CBDRR

- False sense of security
- Declining economy
- Declining population – youth leaving disaster prone communities for city life.
- Disjointed and traumatized communities

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### III. LITERATURE REVIEW AND FINDINGS - JAPAN

#### 6. Summary of key findings in Japan

- A holistic approach to CBDRR
- Look-Learn-Participate
- Continuity is vital for an effective CBDRR process

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## IV. CONCLUSION

### 1. Discussions

- Japan's biggest strength is the culture and the intrinsic nature of the community.
- Disaster management is a priority at the grassroots level and the legal framework identifies and mandates stakeholder agencies to promote CBDRR.
- Local governments have better outreach to remote communities and involve these communities in the DRR process.
- CBDRR effort in Japan relies on empowerment of the individual through coordinated efforts at every level of the government.

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## IV. CONCLUSION

### 1. Discussions...

- Maldives faces a tough battle in establishing a comprehensive CBDRR program.
- Must establish a strong disaster management framework.
- Concurrent efforts to bring in relevant stakeholders at the national level and remove any redundancies in the mandates of different organizations .
- Local governments need to lay aside the political differences and proactively coordinate with the national government.
- These are the basic requirements!

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## IV. CONCLUSION

### 2. Recommendations

1. Maldives needs to enact the Disaster Management Act as soon as possible. In a passive community such as the Maldives, assigning legal mandates and responsibilities is the only way to institutionalize a comprehensive disaster management process.
2. NDMC needs to lobby in the national government and make DM a priority by showing the fiscal advantages of a good DM system and efficient and effective DRR measures.
3. Institutionalize evacuation drills and conduct island-wide evacuation drills that rely on using what is available on site.

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## IV. CONCLUSION

### 2. Recommendations...

4. NDMC needs to take the lead and coordinate with the current organizations that conduct DRR projects to be on the same page.
5. Strengthen the continuity of ongoing programs like the volunteer firefighters program by MNDF and the CBDRR project by MRC.
6. Conduct innovative programs for disaster education such as Kaeru Caravan that would leave a lasting impression on the participants.

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## IV. CONCLUSION

### 2. Recommendations...

7. Find ways to make current disaster education programs empower individuals. One example is whenever there is a tree-planting program in the country; make the individuals grow a plant instead of picking a plant from somewhere else. This is similar to the project by Rokko Sabo Office. This would give the participants a sense of accomplishment in addition to empowering them.

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## IV. CONCLUSION

### 3. Future studies

- This study focuses on the CBDRR efforts in Japan. The next step would be to conduct a thorough research on the Maldives with special focus on the local governments.
- A research on how Japan set up its disaster management process would be of use to the Maldives and would help in establishing the system in the Maldives.
- Study on how DRR measures are coordinated with climate adaptation measures in Japan would be another field of study that would benefit the Maldives.

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# *QUESTIONS/COMMENTS*

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We cannot stop natural disasters from occurring. What we can do though is try to prepare for disasters, mitigate the damage as much as possible, and achieve quick relief and recovery even if we been hit by them. – Tatsuo Yada, Mayor of Kobe