



# Disaster Risk Reduction in Maldives

# Background

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- The disaster risk scenario for Maldives can be described as moderate in general.
- Despite this, Maldives was severely affected by the Indian Ocean tsunami.
- The tsunami caused severe damages to the physical infrastructure of many islands.
- 108 lives were lost.
- The economic loss amounted to 62 per cent of the Gross Domestic Product or GDP (World Bank, 2005).

# Vulnerability

- Geographical location



- Topographical features
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- Probable effects of climate change



- Trends of population concentration
- 



- Nature of economy
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# Hazard : Tsunami

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Three main tsunami source zones have been identified on the basis of seismotectonics and historical events.

1. Sunda Arc including three segments of Sumatran Subduction Zones.
2. Transform Fault Zone in Carlsburg Ridge
3. Makran Coast region

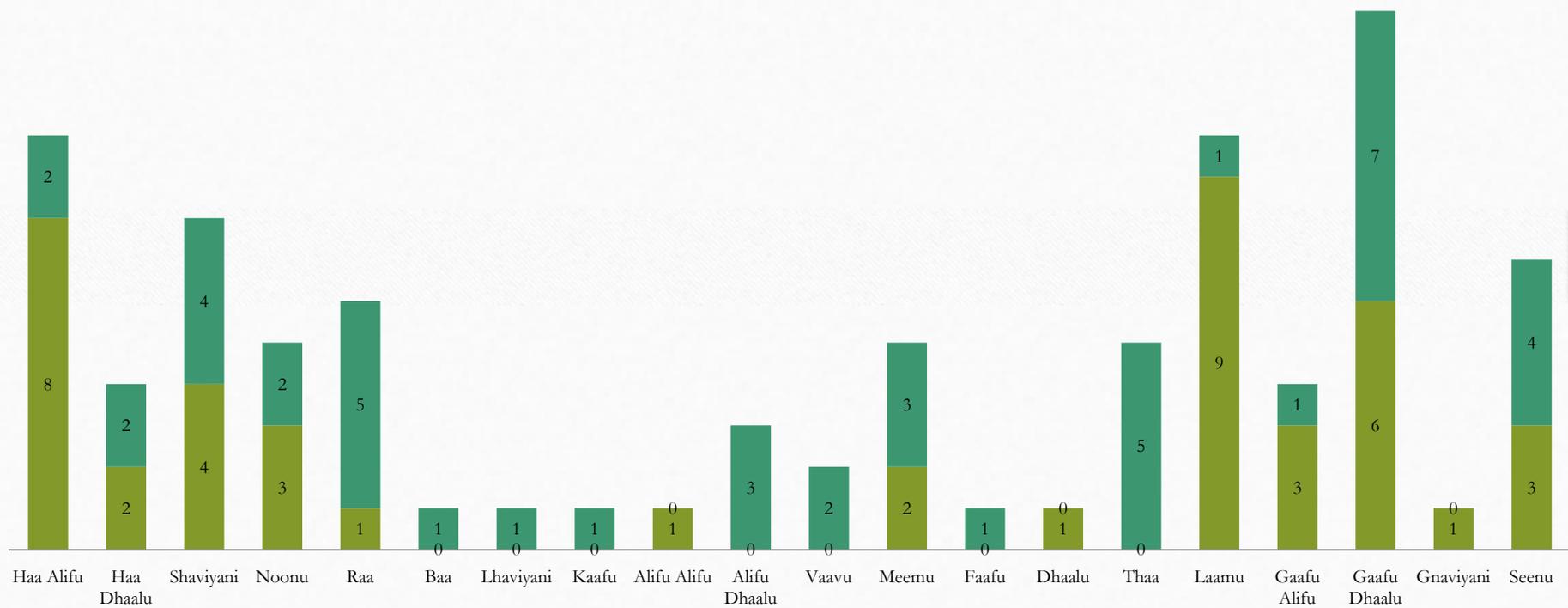
# Hazard : Storm

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- Affected by severe local storms- thunder storms/ thunder squalls.
- Besides heavy rains and strong winds during monsoons, hazardous weather events which regularly affect Maldives are tropical storms/cyclones.
- Cyclonic winds sometimes can cause a sudden rise in sea-level along the coast, leading to a storm surge (Udha).

## Flood and Sea Swell events reported to NDMC in 2016

■ Flood prone islands ■ Sea Swells



## October 2012 - Impacts of Cyclone Neelam

52 islands were flooded, 3 severely flooded. The worst was Haa Alifu Hoarafushi



Photo credits Sun Media

## November 2015 - Record Rain Fall – Addu City Feydhoo

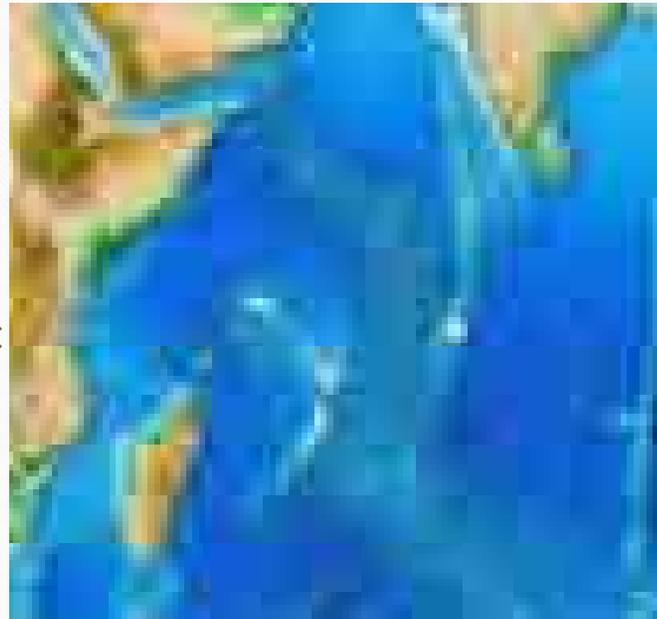
Sudden event without any warning, 228mm in approximately 5 hours



Photo credits Sun Media

# Hazard: Earthquake

- The southern islands of the Maldives are threatened earthquakes from the seismic zone of Carlsberg Ridge.



## Hazard: Fire

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- The rise in urbanization has increased the hazard of fire in Male'.
- In addition, the geographical dispersion of the islands makes it a challenge for the first responders to attend incidents.
- A total of 7 fire stations have been established across the country.

# Hazard: Fire

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Fire Stations have been established in

1. Haa Dhaal Kulhudhuffushi
2. Lhaviyani Naifaru
3. Dhaalu Kudahuvadhoo
4. Laamu Kahdhoo
5. Gaafu Dhaal Thinadhoo
6. Gnaviyani Fuvahmulah
7. Seenu Hithadhoo

# Disaster Risk Reduction Act

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- First act enacted on October 2006
- Amended and rectified on 6 September 2015
- This Act refers to the responsibility of the State to protect its people, their health and well-being, their property, and the natural and built-up environment they live in from natural and man-made disasters, and hazards.

# Disaster Risk Reduction Implementation

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- Several Soft and Hard intervention tools are being used by Maldives in DRR.
- Main programs include
  - ✓ Community Based Disaster Risk Management program
  - ✓ Flood mitigation projects for islands
  - ✓ CAP on a MAP
  - ✓ Loan Scheme
  - ✓ Insurance Scheme
  - ✓ Building partnerships

# Community Based Disaster Risk Management

- CBDRM Programs commenced in 2013.
- Program has been conducted in 51 islands.
- Main outcome: Disaster Management Plan at island level.
  - ✓ Response plan
  - ✓ Mitigation Plan
  - ✓ Community Emergency Response Teams formed.
  - ✓ Regular emergency drills carried out.
- Improves the overall resilience of the community



# Dhandhaana System (Cap On a Map)

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- Sends out alert messages to all disaster focal points.
- Message goes out as text, email and also via RSS feed.
- Contact information of disaster focal points from all islands, government companies, corporations and major NGOs have been collected.
- Message will go out immediately to the disaster focal points, in case of a disaster.

# Flood Mitigation project

- Flood mitigation equipment being provided for the islands in order to enhance response time.
- Pump, pump storage facility, dewatering accessories are all provided for the islands.
- Island communities are empowered to respond to the disasters without having to wait for support to arrive.
- 2 pump systems per island.
- Will further integrate with CBDRM program and CERTs where they will be trained to use the pump systems effectively.



# Disaster Loan Scheme

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- Introduced in 2016.
- Loan scheme introduced under MOU signed with BML.
- BML provides loans up to 40% of the total costs to recover from total damage.
- Has a long term repayment period of 15 years.
- Provides a maximum loan amount of MVR 510,000
- Interest rate is 9% (lowest interest rate by BML)
- One year grace period

# The Disaster Insurance Scheme

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- MOU with Allied Islamic window Ayady Takaful to introduce an insurance scheme that covers all natural disasters and fire incidents.
- Compensation for infrastructural and structural damages to buildings and properties.
- Individuals joining the scheme have to pay 0.18% every year for the insured infrastructure and properties.
- Scheme also has further add-on packages.

# Building partnerships

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- Enhancing existing partnerships with the local island councils and atoll councils.
- Building new partnerships with the major stakeholders of Disaster Management from public and private sector.
- Strengthening partnerships with international organizations.
- Bringing together government agencies to build the conversation to carryout DRR activities and successfully implement SFDRR.

# Challenges

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- The dispersed islands make it difficult to reach out.
- Less number of trained people
- Goods are mostly imported and it affects when other countries are effected.
- Due to the weather changes fishing rate has decreased

# Recommendations

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- Capacity building and Training more people
- Exchange of knowledge.
- Include DRR in school curriculum.

Thank you.