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Maldives Country Presentation



Fathmath Saushan Moosa
Senior Administrative Officer
National Disaster Management Center
Maldives
fathmath.saushan@ndmc.gov.mv

The Maldives

- 1,192 coral islands in a double chain of 26 atolls
- 192 inhabited islands
- Population: 345,000
- Capital Male': One of the most densely populated cities (49th)



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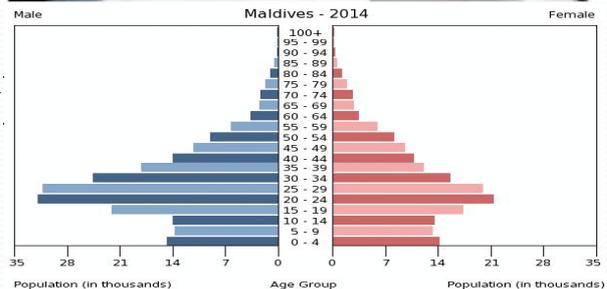
Climate

- Warm and humid tropical climate
- Two monsoons:
 - Southwest (rainy) and
 - Northeast (dry)
- Yearly temperatures: 27°C to 34°C



Demography

- Ethnicity: South Indians, Sinhalese, and Arabs
- Religion: Islam (Sunni Muslim)
- Language: Dhivehi (English is spoken by majority)
- Script: Thaana



Government

- Presidential republic
- Unicameral legislature
- Independence: July 26, 1965 (from the British)
- Current President: Mr. Abdullah Yaamin Abdul Gayyom
- Administrative divisions: 20 atolls



Economy

- Currency: Rufiyaa (1 USD = 15.42 MVR)
- GDP: 2.3 billion USD
- GDP per capita: 9,100 USD
- Main export: Tuna (frozen, canned, dried, salted)
- Main industries: Tourism, fishing
- Heavily dependant on imports



Hazards

Natural Hazards

- Tsunami
- Floods
- Tropical Storms
- Cyclones
- Sea surge
- Drought / Water shortage
- Sea level rise
- Earthquake

Man-made Hazards

- Internal conflict
- Fire
- Airport emergency
- Marine accidents
- Economic
- Health



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Likely hazards in the Maldives:

Storms

- Disrupts transportation
- Detrimental to fishing
- Destroys crops
- Storm surges in low-lying islands
- Flooding (secondary: sanitation, spread of waterborne diseases)



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Likely hazards in the Maldives:

Cyclones

- Less Prone to tropical cyclones.
- Northern islands are effected by weak cyclones that are formed in Sothern parts of bay of Bengal and Arabian sea.
- Over 128 Yrs – 11 cyclones crossed over Maldives



Likely hazards in the Maldives:

Water shortage

- 2004 tsunami turned the freshwater lens salty.
- During dry seasons, islands run out of fresh drinking water.
- Government provides freshwater the islands during shortages.



Likely hazards in the Maldives.

Floods

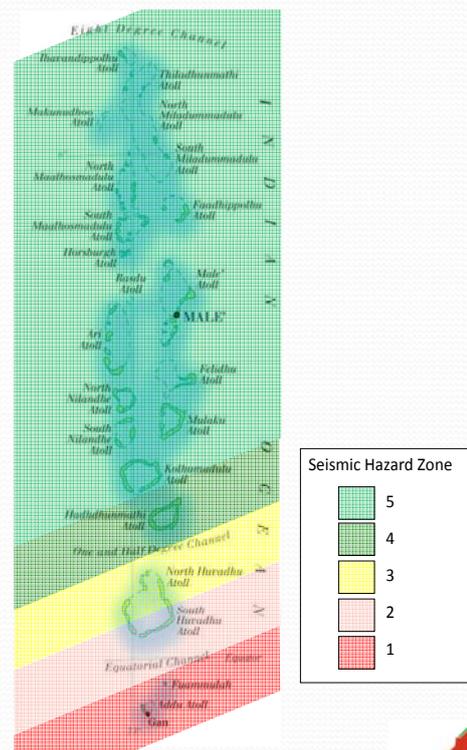
- Floods are caused mainly by sea surge and heavy rainfall.
- sanitation, spread of waterborne diseases
- Flooding causes many adverse effects to number of sectors.



Likely hazards in the Maldives.

Earthquake

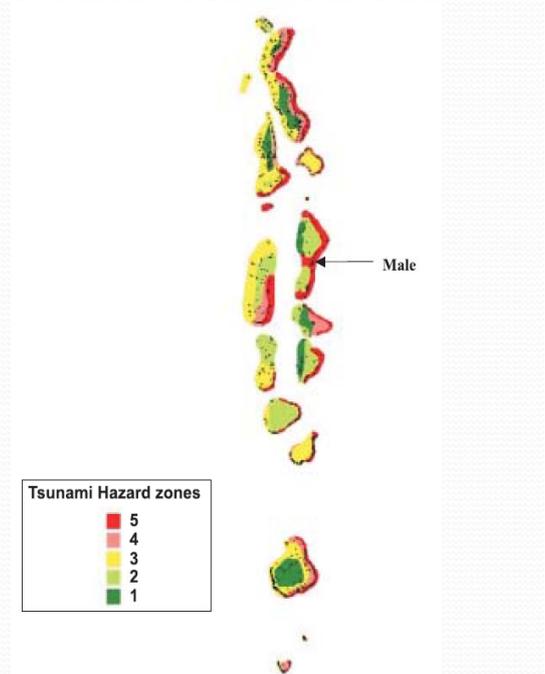
- Earthquakes of large magnitude are not common in the Maldives.
- Active seismic zones around the country



Likely hazards in the Maldives.

Tsunamis

- 2004 Indian ocean tsunami
 - 82 deaths
 - 26 missing
 - 107 casualties
 - 65% GDP loss
 - First time large number of IDPs
- Low elevation makes a tsunami the most dangerous hazard the country could face.
- Huge impact on the economy.
- National Disaster Management Center established in 2005



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Likely hazards in the Maldives.

Sea level rise

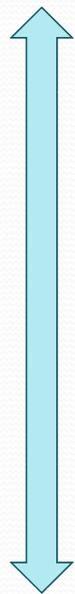
- Biggest long-term hazard.
- Effect of global warming.
- If sea level continues to rise the worst case scenario is that majority of the Maldives would be underwater by 2050.



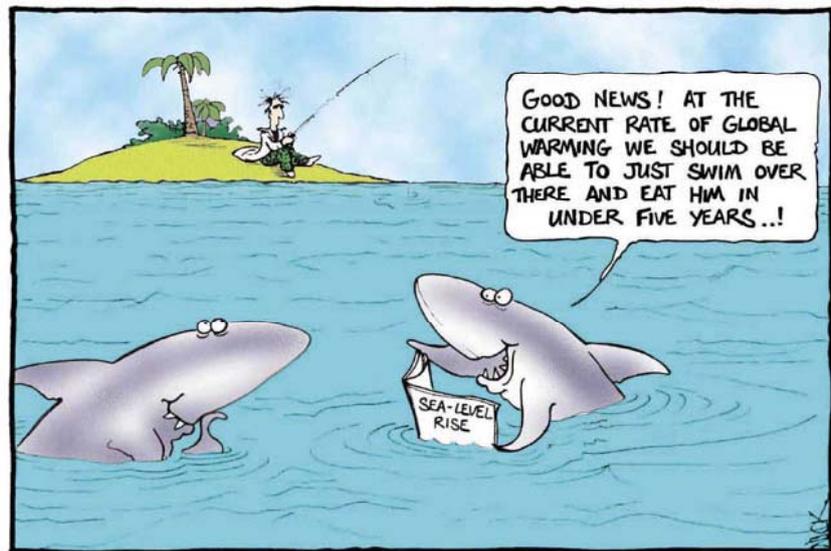
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Maldives is the lowest lying country in the world



2.4 metres
(7 ft 10 in)



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The capital - Male

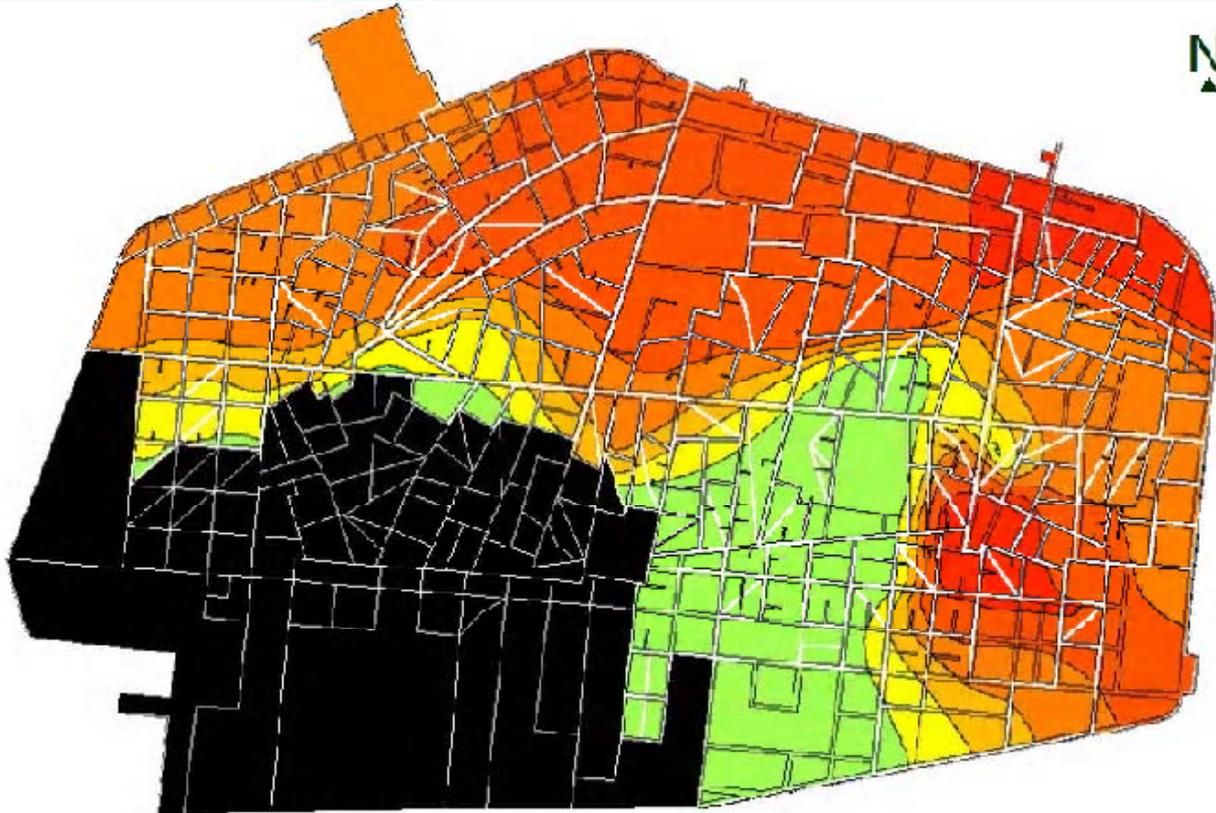


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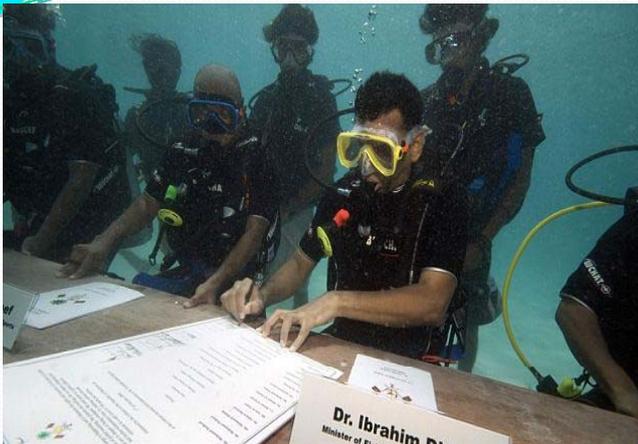
Male' in the year 2050

31% of Male' inundated under IPCC worst case scenario (IS92e)

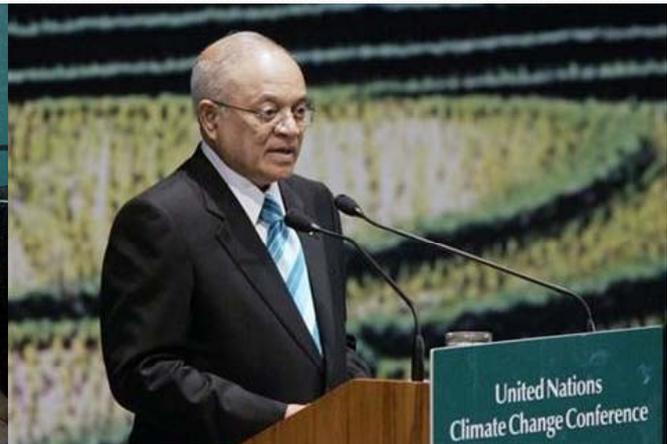


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President Mohamed Nasheed Under water cabinet meeting



President Maumoon Abdul Gayoom UN Climate change conference

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Recent disasters:

Storms / flooding / tsunami

Data collected in 2013

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 (2013) 25 Families still live in 6 islands as IDPs. (2014)	88	20	470 million USD Estimated cost of reconstruction is 406 million USD

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Recent disasters:

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	Water provided by province offices		
2011	108	3,920	142,178.30
2012	86	2,500	286,075.80
2013	28	1,225	537,363
2014	77	2909	349,691.75

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DISASTER MANAGEMENT SYSTEM

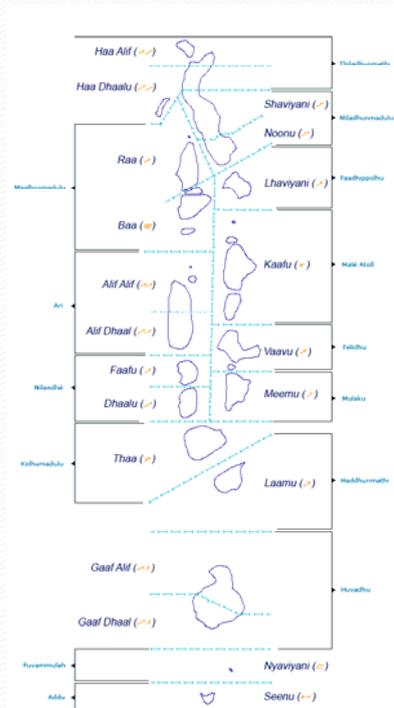
- National Disaster Management Centre is the coordinating body for preparedness and response
- Main response force is the National Defence Force
- Maldivian Red Crescent was established in 2009, as an auxiliary to the government and works in disaster risk reduction and response
- NDMC coordinates response and implements DRR Projects funded by partner agencies

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Administrative system in the Maldives

- Decentralized system of government.
- Island councils, Atoll/City councils, and the central government.
- Constitution dictates that all disaster management efforts fall on the State.
- Disaster management is currently under the mandate of the Ministry of Defence and National Security.



National Disaster Management Center



Disaster Management in the Maldives

- National Disaster Management Center established in 2005

Areas of work includes:

- Relief
- Disaster Risk Reduction and Preparedness
- Advocacy and Awareness
- Emergency Response

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Relief

- Provide immediate relief in emergencies
 - Floods
 - Fire
 - Maritime incidents
- Provide drinking water during shortages
 - In 2014 spent USD 349,691.75
 - Logistics is expensive

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Strengthening post disaster assessment and relief

- Forms

1. Situation Report – type of disaster, affected area, casualties, displaced people, temporary shelters
2. Immediate Relief Aid requisition form
3. Rapid Impact Assessment form – damage to infrastructure, households, livelihoods, casualties and deaths (after 24 hours)
4. Damage and Loss Assessment form (after 2 weeks)



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Strengthening post disaster assessment and relief

– Relief guideline

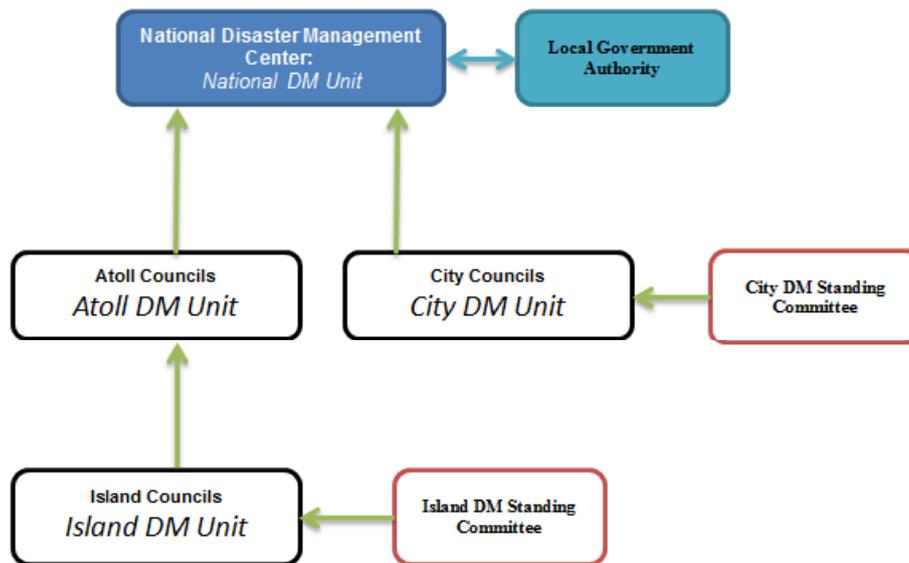
- Relief guideline based on Sphere standards is in development
- Covers basic items for immediate relief and compensation for loss



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Island Disaster Management Unit structure



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Legal system and framework

- A presidential decree established the National Disaster Management Centre (NDMC) soon after the 2004 tsunami.
- Initial mandate was to coordinate relief effort for victims of the tsunami.
- The mandate of disaster preparedness and risk reduction was given to NDMC later on.
- There is no legal framework yet but a Disaster Management Act has been drafted and will be sent to the parliament for ratification once the Attorney General's Office validates the bill.

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Structure of Disaster Management

- NDMC is under the Ministry of Defence and National Security.
- Armed forces of the Maldives, Maldives National Defence Force is the first responders in a disaster.
- Current mandate of NDMC includes disaster preparedness, prevention, response, and recovery.



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National platform for DRR

- There is no national platform for DRR
- There is a multi-sectorial Technical Working Group that provides technical input to projects. It has representatives from all developmental sectors and stakeholders in Disaster Management.
- Mainstreaming DRR into development is a priority among sectors but is not implemented at an adequate level.

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National organizations for disaster risk reduction

- Maldives has very few national organizations that undertake the DRR process.
- Maldivian Red Crescent has Disaster Management as a core strategic area. Works as auxiliary to government. MRC's main strength is their reach to community level.
- NDMC conducts workshops and awareness programs in collaboration with MNDF to raise DRR capabilities at the island level.

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Local organization for DRR

- Non-governmental Organizations such as CARE Society, Maldives Youth Climate Network etc have a focus on DRR and Climate Change.
- Other thematic NGOs working in areas such as women, children, people with disabilities, autism, heart disease etc advocate for mainstreaming DRR into development and the planning processes that cater to the needs of the most vulnerable people.

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Disaster management strategy, policy and plan

- Maldives lacks legislative backing on DM
- Strategic National Action Plan on Climate Change Adaptation and Disaster Risk Reduction for 2010-2020 is formulated but implementation is not monitored
- Development sectors have their own policies and guidelines for risk reduction
- NDMC promotes a decentralized approach to DRR
- NDMC has formulated National Emergency Operation Plan.
- NDMC is in the process of introducing a damage assessments toolkit, risk and vulnerability assessment tool

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Budget size on national level

- No state budget for preparedness and awareness. NDMC budget only covers administrative costs and staff salaries.
- DRR is implemented mainly through partnership projects
 1. UNDP
 2. ADPC
 3. UNICEF
 4. Resort programmers
- Partnership projects do not allow for investment in infrastructure and equipment
- A separate fund for response is allocated at the Ministry of Finance and Treasury.

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Progress of implementation of HFA

- Significant progress has been made
- Progress is hindered by lack of capacity at local level and lack of resources and budgetary allocation
- The delay in ratification of the DM Bill is hindering progress

Recent Major projects on DRR

UNDP Project

1. Institutional and legal systems for DRR established and strengthened
 - DM Bill
2. End-to-end early warning operating procedures strengthened
3. Increased public awareness and knowledge on disaster risk reduction and climate change adaptation
4. Increased community capacities for disaster preparedness for effective response

Recent Major projects on DRR

ADPC Project

1. Develop a Community-based Disaster Risk Reduction model
 1. National CBDRR Framework
 2. CBDRR Training Manual
2. Mainstreaming DRR into local development process
 1. Identify entry points for DRR in the Island Development Plan
3. Capacity building in CBDRR and Mainstreaming DRR into Development



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Recent Major projects on DRR

UNICEF Project

- Main project on strengthening response capacity
1. Develop Protocols and Standard Operational Procedures to strengthen NDMC's coordination role
 2. Establish the EOC setup
 3. Establish emergency information database
 1. Maps
 2. Online submission of forms



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Recent Major projects on DRR

Resort programme

- Public-Private Partnership model
- NDMC gives technical support to resorts to develop DM Plans and build capacity
- Resort makes in-kind contribution to NDMC and at risk communities to strengthen DRR and Response capacities
- NDMC gives official Disaster Resilient Resort badge to resorts who take part in the programme

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Challenges faced in disaster management

- Lack of budget
- Lack of DM Bill and legal framework
- Lack of local capacity
- Lack of coordination between agencies and overlap of mandates
- Lack of awareness at governance and community level
- Difficult to priorities in the absence of major disasters
- Weak building code; provisions are not made for DRR.

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About my research

- My research area focuses on tsunami
- Mitigation measures
 - Structural and non structural measures
- Awareness
- Early warning systems

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Thank you

Fathmath Saushan Moosa
Senior Administrative Officer
National Disaster Management Center
Maldives
fathmath.saushan@ndmc.gov.mv