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Sri Lanka
Country Presentation
For Visiting Researcher Programme 2019B, ADRC, Kobe, Japan

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Content of the Presentation

1. General Information of the country
2. Natural hazards in the country
3. Disaster Management System
4. Disaster Management Strategy, Policy and Plan
5. International Cooperation
6. ADRC counterpart (organization name & Contact Information)
7. Research Topic
GLORY OF SRI LANKA

National Symbols

National Emblem

National Flag

National Flower
“Nil Mahanel”
Blue water lily

National Bird
“Walli kukula”
Jungle fowl

National Tree
“Na”
Iron wood
World Heritage Sites of Sri Lanka

- Eight sites of Sri Lanka have been inscribed in the UNESCO World Heritage
- 1. The ancient city of Polonnaruwa (1982)
- 5. The sacred city of Anuradhapura (1982)
- 6. The sacred city of Kandy (1988)
Total Population: 21,670,000
Urban Population: 18.5%
Business Language(s): English

Density: 346 Inhabitants/km²
Official Language: Sinhala, Tamil
Literacy Rate: 90.7%

Religion
- Buddhist: 70.2%
- Hindu: 12.6%
- Islam: 9.7%
- Roman Christian: 6.2%
- Other Christian: 1.3%
- Other: 0.05%

Ethnic Origins
- Sinhalese: 74.9%
- Sri Lankan Tamil: 11.2%
- Sri Lankan Moor: 9.3%
- Indian Tamil: 4.2%
- Other: 0.5%

Administration
Raver Basin Map of Sri Lanka

No of Revers - 103

Important areas
Due to the location of Sri Lanka the climate could be characterized as tropical.

Sri Lanka located Inter Tropical Convergent Zone (ITCZ).

The topographical features strongly affect the spatial patterns of winds, seasonal rainfall, temperature, relative humidity and other climatic elements, particularly during the monsoon season.

Rainfall in Sri Lanka has multiple origins Monsoonal, Convectional and expressional.

The mean annual rainfall varies from 950mm to 5500mm.

Due to the prevailing tropical climate in Sri Lanka, wet, dry and intermediate regions are formed by the monsoon rainfall pattern.
Climate of Sri Lanka

Sri Lanka

Annual rainfall varies between 950 mm to 5500 millimeters with an average of 1861 mm

Dry Zone (Annual Rainfall > 2500mm)

Intermediate Zone (Annual Rainfall Between 1750 and 2500mm)

Wet Zone (Annual Rainfall < 1750mm)

Intermediate Zone

Dry Zone

Topography & Rainfall

Topography

Annual Average Rainfall
Climate experienced during 12 months period in Sri Lanka can be characterized into 4 climate seasons

- **First Inter-monsoon Season** – March-April
- **Southwest monsoon season** – May-September
- **Second Inter-monsoon season** – October-November
- **Northeast Monsoon season** - December – February

**Temperature**

- The average temperature in Sri Lanka is **27.0 °C** (**81 °F**)
- The range of average monthly temperatures is **2 °C**
- The warmest average max/ high temperature is **31 °C (88 °F)** in February, March, April & May
- The coolest average min/ low temperature is **22 °C (72 °F)** in January & February.
Hazards Profile and Impacts in Sri Lanka

- Tsunami
- Droughts
- Landslides
- Floods
- Lightning
- Coastal Erosions
- Wild Elephant Attacks
- Epidemics
- Cyclones
- Fire
- Tornados
- High Winds
- Dam Failures

Coastline of around 1,340 Km.
Territorial sea of 21,500 sq. Km.
Exclusive Economic Zone (EEZ) of 517,000 sq. km.
Area of extent of Continental Margin 1,672,396 sq. km.
## Disaster and Impacts

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<th>Deaths</th>
<th>Injured</th>
<th>Missing</th>
<th>Houses Destroyed</th>
<th>Houses Damaged</th>
<th>Affected</th>
<th>Relocated</th>
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<td>7740</td>
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From 1980 - 2020

## Potential Disaster Risk Areas

- Landslide Prone areas
- Flood Prone areas during Southwest Monsoon (May - Sep)
- Flood Prone areas during Northeast Monsoon (Dec - Feb)
- Drought Prone areas
- Problematic Soils
- Tropical Cyclones
- Tsunami Affected Coastal Areas

(Locations are marked on the map below.)
Ancient documents testify that flood and drought have been managed through the use of excellent irrigation management techniques to better identify wet and dry seasons through advanced irrigation technology.

With the colonization of the plantation economy spreading to the central hills, sensitive ecosystems began to fall into disrepair.

Some of the post-independence informal development programs have intensified the effects of disasters and caused damage to the lives and property of the country.

### BACKGROUND OF DISASTER MANAGEMENT IN SRI LANKA

#### Establishment of Law and Institution in relation to Disaster Management from the beginning

<table>
<thead>
<tr>
<th>Early</th>
<th>Present</th>
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<tbody>
<tr>
<td>- Ecosystem Management Approaches in early Agrarian Civilization for Flood and Drought Management</td>
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<td>- Land use Management in Colonial cultivation era</td>
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<td>- Flood Ordinance 1955</td>
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<td>- 1977-1995 Department of Social Service</td>
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<td>- 1996 National Disaster Management Centre</td>
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<td>- Indian Ocean tsunami of December 2004 and “Parliamentary Select Committee on Natural Disasters”</td>
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<td>- Disaster Management Act 3 of May 2005</td>
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<td>- National Council for Disaster Management (NCDM) Chaired by H.E. the President</td>
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<tr>
<td>- Ministry of Disaster Management and the Disaster Management Centre (DMC)</td>
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</table>
BACKGROUND OF DISASTER MANAGEMENT IN SRI LANKA

- Disaster Management Centre/ DDMCU - Mitigation/Awareness/Preparedness
- Department of Meteorology / Early warning for tsunami, High Wind
- National Building Research Organization/ Early warning for Landslide
- Department of Irrigation / Early warning for flood
- Land Reclamation Division/ Urban Flood
- Atomic Energy Authority/ Technological Hazard
- Geological Surveying and Mining Burro / Early Warning for Earthquake

- Disaster Management Centre- Emergency Response Coordination
- Ministry of Defense – Search and Rescue Teams
- District Disaster Management Coordinating Units
- National Disaster Relief Coordinating Units/ DDMCU
- Ministry of Health – Disaster Response and Preparedness
- District Secretory/ Divisional Secretory/ GN Office and Local Authorities
- INGO/NGO/ CBO/ International Frameworks (HFA/SFDRR)

LEGAL FRAMEWORK AND COORDINATION MECHANISM OF DISASTER MANAGEMENT IN SRI LANKA
**ORGANIZATION STRUCTURE**

**MINISTRY OF DISASTER MANAGEMENT**

- **DMC**
  - **DIRECTOR GENERAL**
    - **ADDITIONAL DIRECTOR GENERAL**
      - **MITIGATION RESEARCH AND DEVELOPMENT**
        - Hazard Mitigation Development Projects
        - Mainstreaming DRR
        - Risk Profile and Risk Analyses
      - **PREPAREDNESS AND PLANNING**
        - National/District/Divisional DM Plan Preparation
        - Drill/TTEx
        - Institutional DM Plans
      - **AWARENESS AND TRAINING**
        - National/District/Divisional DM Committee Meeting
        - Public Awareness Through Media/Exhibition
        - Training for Military/Youth and Professionals
      - **EARLY WARNING AND 24x7 EMERGENCY OPERATIONS 117 Call Center**
        - Receiving Early Warnings
        - Dissemination of Warning
        - Maintaining Radio Communication
        - Tsunami Towers
        - Coordinating Emergency Response
      - **DDMCU**
        - General Public
      - **AVM**
        - **General Audit**
        - **Internal Audit**
      - **HR/Finance**
      - **Media Unit**

**TYPES OF DISASTERS** (As per the Act)

1. Landslides
2. Cyclones
3. Flood
4. Droughts
5. Industrial Hazards
6. Tsunami (Seismic Wave)
7. Earthquakes
8. Air Hazards
9. Marine Hazards
10. Fire
11. Epidemics
12. Explosions
13. Air Raids
14. Civil or Internal Strife
15. Chemical Accidents
16. Radiological Emergency
17. Oil Spills (Inland & Marine)
18. Nuclear Disaster
19. Urban and Forest Fire
20. Coastal Erosion
21. Tornadoes, Lightening Strikes and Severe Thunder Storms
Disaster Management Framework
National to Local Level

- National
  - National Disaster Management Coordinating Committee
  - Emergency Response Committee

- District
  - District Disaster Management Committees

- Divisional
  - Divisional Disaster Management Committees

- GN
  - Village Disaster Management Committee
  - Sub Committees at GN Level

Sub Committee at GN level

- Early Warning
- Evacuation /S & R
- Medical / Health & first aids
- Camp Management
- Village Security
DRM Mechanism at Sub-National level

- District Secretary District Disaster Management Committee
- Emergency Op. Rooms
- Govt. Departments
- Div. Level Committees
- GN Committees

Disaster Management Centre

- District Assistant Directors DDMCUs
- Village volunteer Committees

Prov. Level Disaster Management Committee

- Local Authority Committees
- Military & Police
- Private Sector
- NGOs/ Civil Societies
- Business Communities

Forewarning, Medical / Health, Search & Rescue, Camp Management & Security Committees

Key DRR Activities

- Forecasting and Analysis of Disaster Risks
- Disaster Mitigation
- Strengthen of Response Capacity
- Training and Awareness
- Preparedness
- Simulation Exercises
- Early Warning & Emergency Response
Mitigation Activates

Preparedness Activities
Awareness Activities

Response Activities
Early Warning Dissemination System

- Receive data and information
- Generate warning messages for the community
- Dissemination of Warning Messages
- Last Mile Dissemination
- Awareness & Training: Conducting Mock drills

Technical Agencies
- Disaster Management Centre
- District Level
- Divisional Level
- GN Level

Technical Information from International and National Agencies

- Multihazard Early Warning Dissemination System

Government Agencies, Critical Providers & Stakeholders
- Police
- Media & General Public
- Military
- Regional & International Organizations
- UN System, NGOs, NGOs

Outlets
- Radio Comm.
- Net/Telephone
- SMS
- Flags
- Cellular
- Police
- Warning
- Media

24 Emergency Operation Center
- District Disaster Management Committee
- Divisional Disaster Management Committee
- Village-level Disaster Committee

Dissemination of Warning

Speaker Sys., Bells/Sirens, Messengers, Riders/Cyclists
Emergency Call Centre

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Self evacuation system as a local system for the Landslides

Standard threshold limits of the Rainfall

<table>
<thead>
<tr>
<th>Alert</th>
<th>75 mm/day</th>
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<tbody>
<tr>
<td>Warning</td>
<td>100 mm/day level</td>
</tr>
<tr>
<td>Evacuation, Off limit</td>
<td>75 mm/hour or 150 mm/day</td>
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</table>
International Cooperation

All activities of DRR a line with

- Sendai Framework for DRR
- Sustainable Development Goals
- Legally binding universal agreement on climate change

International Assistant

Good and Services

- Nepal – Earthquake in 2015
- Philippine – Cyclone Haiyan in 2013
- Haiti – Earthquake in 2010
Disaster Insurance

Coverage
Covers lives and properties, specifically all households and small business establishments (any business of which annual turnover does not exceed LKR 10 M) covered up to 2.5 million rupees each in respect of damages (per event) caused to their property and contents due to Cyclones, Storms, Tempest, Flood, Landslide, Hurricane, Earthquake, Tsunami and any other similar natural perils, excluding Drought.

Limitations
- Death compensation other than fisherman death - Rs. 100,000.00
- Property damage (House and MSF): Max Rs.2.5 Mn
- Fisherman death - Rs. 1,000,000.00 (1 Mn)

Supporting Agencies
- UNDP
- ADRC
- JICA
- ADPC
- UNHCR
- OCHA
- WHO
- WFO
- NGOs
- INGOs
### Challenges/Gaps

- Insufficient Vulnerability and Risk Analysis in the country.
- Different mandates, priorities and attitudes of Stakeholder agencies.
- Political intervention for disaster management at every time.
- Insufficient financial allocation for DM. Specially the supply of equipment.
- Less active volunteer participation.
- Night time evacuation.
- No dedicated traffic plan.
- Limited human resources in the DMC.
- EW equipment maintenance. (Cost / Monopoly Market)
- Poor recording of disasters.
- Lack of knowledge transferring system.
- Less adaptation of DM practices and Rules and regulation also DM frameworks.
- No master Plan to the country
- Research

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**ADRC Counterpart**

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Colombo 07

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Fax (General): +94-112-670025
E-mail: info@dmc.gov.lk, dgdmc@slt.net.lk
Website: www.dmc.gov.lk
Research

“Study on Preparation of Emergency Response and Recovery Plan in Japan for flood hazard”

After the lecture about Urban Flood Damages Area and Measures in Infrastructure
By Associated professor Kenji Kawaike

“Study on Preparation of Emergency Response, Recovery Plan and Structural Counter measures in Japan for flood hazard”

Specific Aims

• Identify a methodology / process to identify the hazard using GIS technology

• Study on a timely early warning system (for formulation, and dissemination) to all concerned parties according to the mandate or as a practice of the institution.

• Study on Immediate and effective emergency response, especially considering the gender sensitivity (children, women, elderly, disabled etc.)

• Study on proper and timely evacuation in accordance with requirement of flood hazard to pre identified safe locations / evacuation centers using new technology such as GIS and Remote Sensing

• Study on how to develop an emergency response and recovery plan for flood hazard and it practices.
• Study on Implement mitigation & preparedness programmes
• Study on rehabilitation & reconstruction programmes incorporating Disaster Risk Reduction components (Build Back Better).
THANK YOU FOR YOUR ATTENTION