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MCR 2030 Making Cities Resilient

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With support from

Ministry of the Interior and Safety

Incheon Metropolitan City

Residential Workshop on Urban Resilience and Making Cities Resilient 2030 (MCR 2030)

5th – 8th December 2022
SAARC Disaster Management Centre (IU)
Gandhinagar, Gujarat, India

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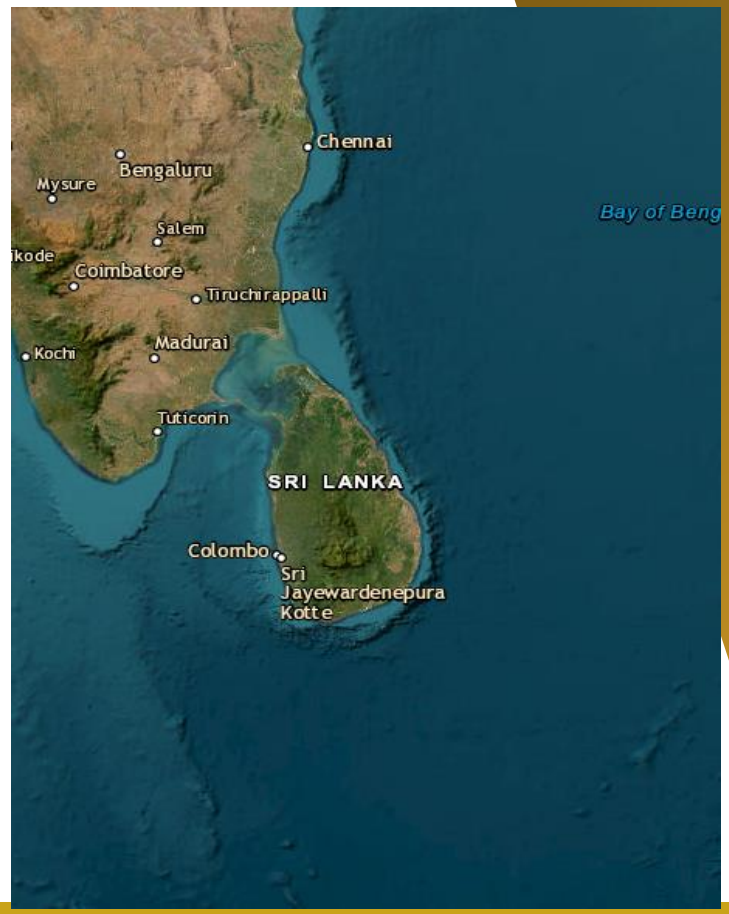
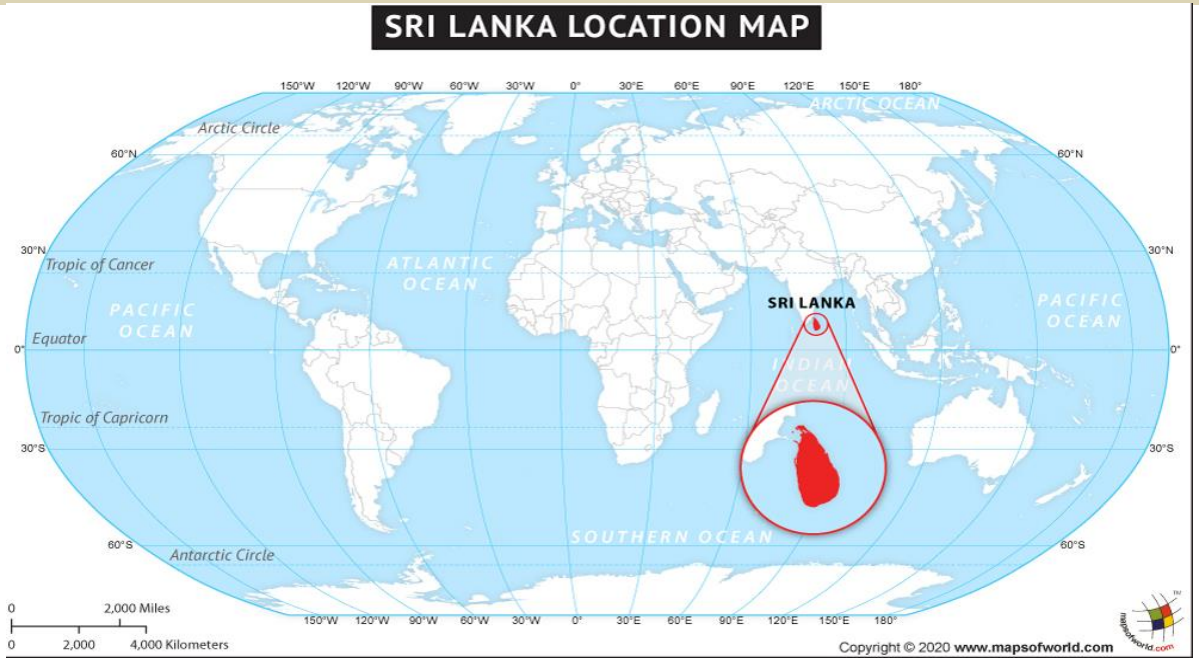
SRI LANKA

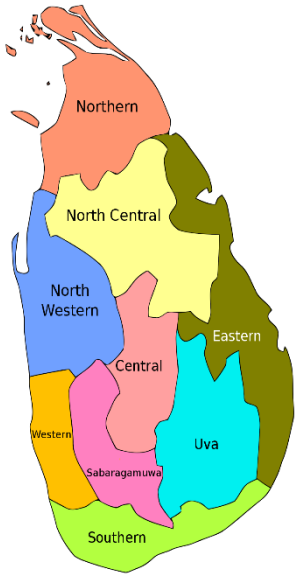
Prasanna De Silva
M.P. Ranatunga
Y.A.G.K. Gunathilaka



DEMOGRAPHIC DETAILS

Official name	Democratic Socialist Republic of Sri Lanka
Population	22.16 Million (2021)
Land Area	65,610 Sq.Km
Population Density	341 per Sq.Km.
Capital City	Sri Jayawardenepura Kotte
Commercial City	Colombo
Currencies used	SL Rupees
Languages spoken	Sinhala & Tamil
Provinces	09
Districts	25





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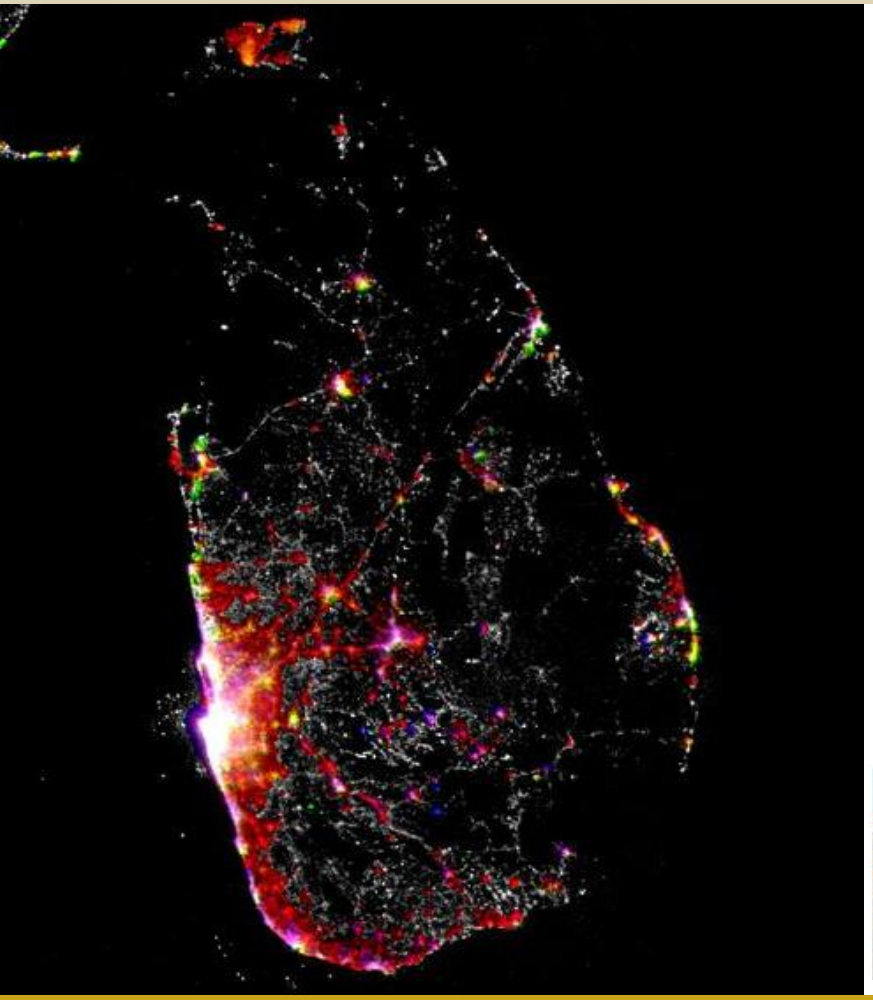
State of Urbanisation



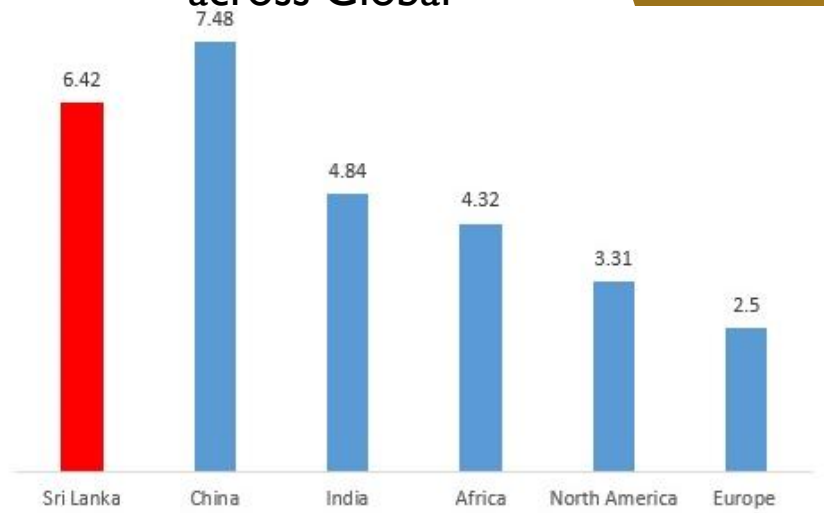
Sri Lanka Rate of urbanization – 0.8% of urban population growth annually

Share of urban population from total population (2021)- 18.86%

Demographic details

Population(2021)	22.1Mn
Population Density(sqkm)	353
Growth Rate	1.1%
Dependency ratio (2021)	49.4%
Average household size	3.7 persons

Average annual rates of urban expansion (Spatially) % across Global



Sources: Sri Lanka, SoSLC Project ; Others, Seto et al. (2014)
Sri Lanka reference period 1995-2017 for 9 provincial capitals; others, 1970-2000

Source : Professor Christopher Small, Lamont Research Professor, Columbia University

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State of Urbanisation

Status of facilities and infrastructure

Accessibility to safe drinking water- 94.9%

Electrification level (2016)- 99.3%

Age specific enrolment ratio to general education (Grade 1-9) -94.8%

Age specific enrolment ratio to University education – 8.7%

Persons per doctor -1,167

Number of beds per1000 persons -3.5

Internet Penetration (2021) – 100.0

(2017) – 79.9

2019 Global Competitiveness Report

Overall Infrastructure Performance Indicator

Ranked 61 out of 141 countries

- **ROAD** - Sri Lanka has a developed transport system, including a road network of approximately 100,000 kilometers. A rail network consisting of about 1,944 kilometers of tracks links Colombo with the rest of the country.

Status of welfare & development schemes

Main Welfare Programmes

1	Samurdhi Subsidy/ Divineguma Programme -	32% of Total pop
2	Nutrition Allowance Programme (For pregnant and lactating mothers)	
3	Dry Ration Programme	
4	Elderly Allowance	
5	Disability allowance	
6	CKD Patients	
7	Helpless Community Groups	

Present Day Challenges

Transportation

- Traffic congestion is a result of the imbalance of the traffic load and related infrastructure facilities such as roads and parking.
- In Colombo, road density is quite equal to the developed city in the world however average speed of vehicle is lower when compared to the regulated speed limits

Solid waste disposal & Management

- Lack of waste segregation
- Lack of resource availability to waste collection and transport
- Lack of technology to waste disposal & management
- Pollution
- Lack of capacity within Institutional set-up
- Public commitment
- Political arena

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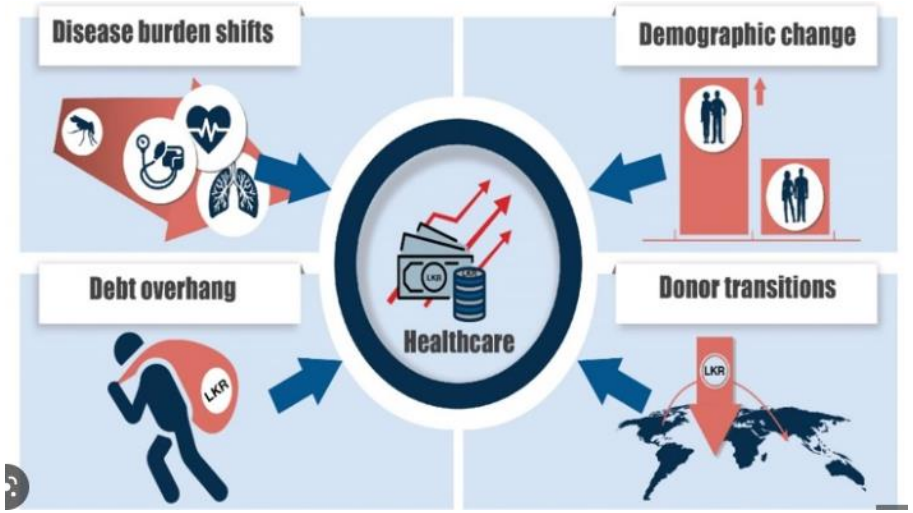
Present Day Challenges

Health

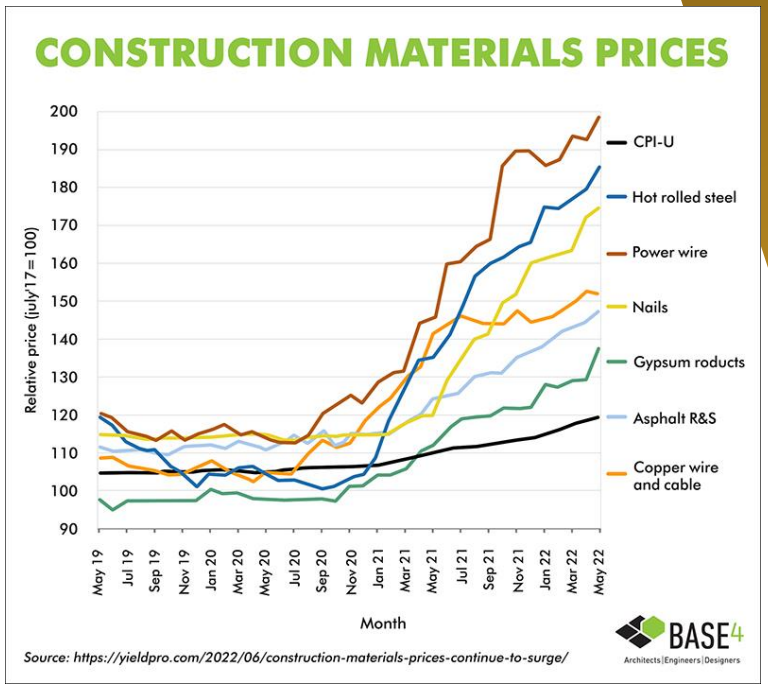


Land Use & Land Planning

- Growing scarcity of land
- Land fragmentation
- Encroachment of state lands
- Lack of property Rights
- Land degradation
- Complex administrative structure

Building Code & its implementation

- Political Interferences for the development
- High construction cost



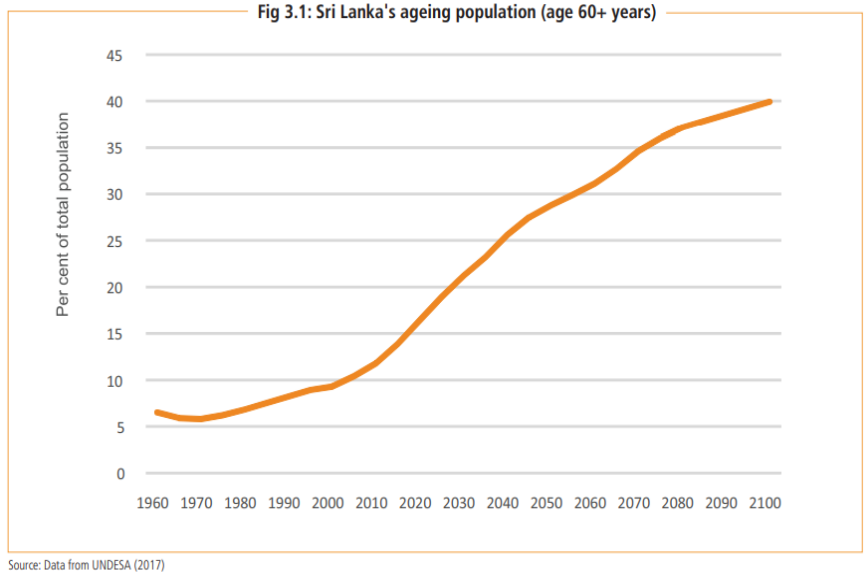
Present Day Challenges

Population growth

- Demographic transition of increase ageing people

  Sri Lanka is experiencing a demographic transition, with a steadily aging population, which will peak by 2041. By 2050 ageing people would be 28.8% from total population

- Out migration



Source: Data from UNDESA (2017)

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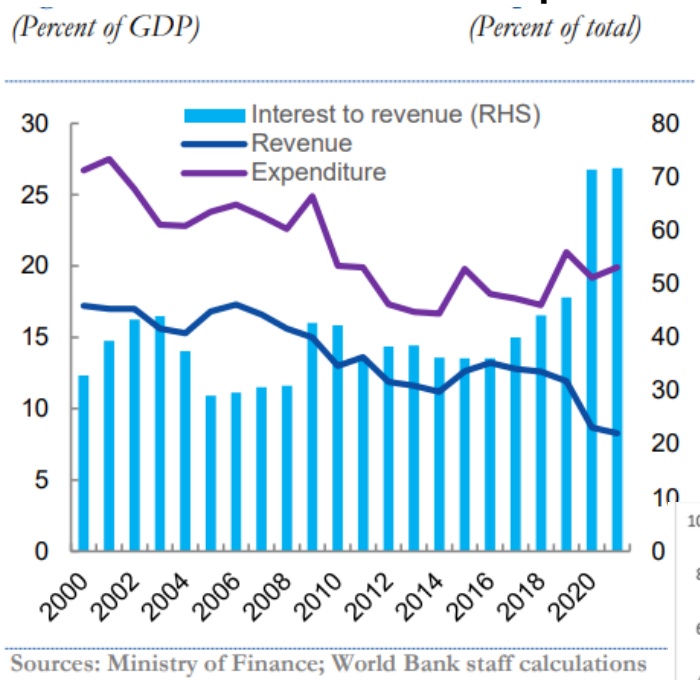
Present Day Challenges

Economic Crisis

Sri Lanka is facing an unprecedented macroeconomic crisis

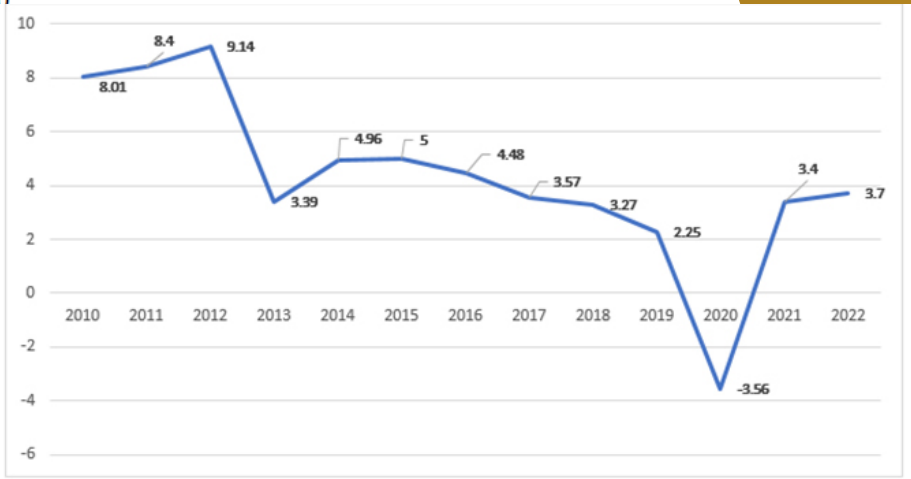
The foreign exchange liquidity constraint has translated into shortages of fuel, food, medicines, cooking gas, and inputs needed for economic activity

Government revenue and expenditure



Sources: Ministry of Finance; World Bank staff calculations

Sri Lanka's Real GDP Growth Rate (2010-2020)



Source: *World Bank, 2022 Projection by Central Bank of Sri Lanka*[3]

Present Day Challenges

Development challenges

- **High Cost of Living**
- **Degradation of Agriculture sector**
- **Massive debt Payments**
- **High cost on materials Impact to construction industry**
- **Lack of material imports**

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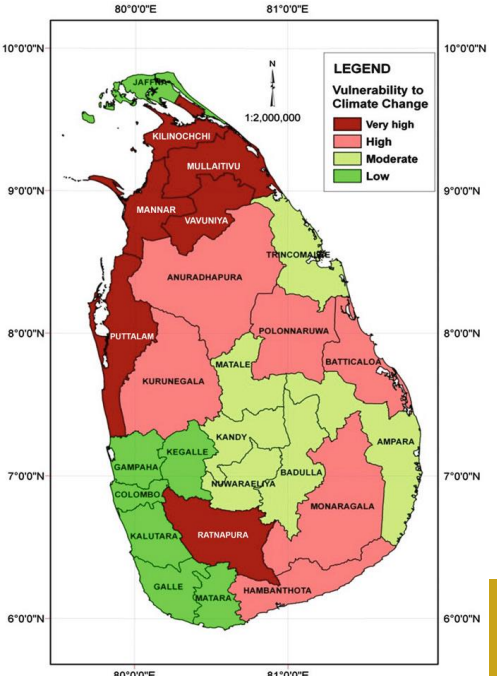
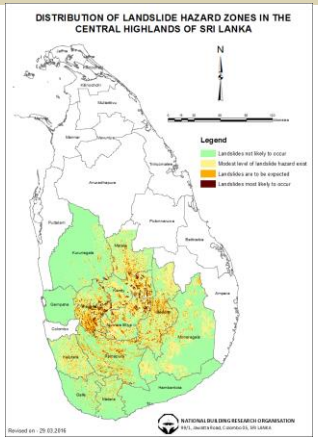
Emergent Risks & Future Challenges

1. Climate Change Scenarios

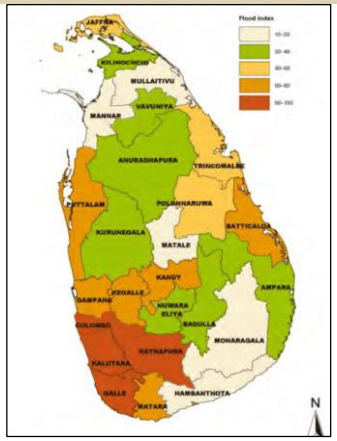
- Climate action Failure
- Extreme weather
- Biodiversity loss
- Human Environmental Damages
- Natural Resource crisis



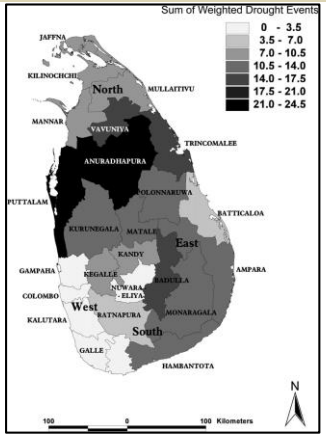
Overall 6 Districts are very high vulnerable to climate change scenarios



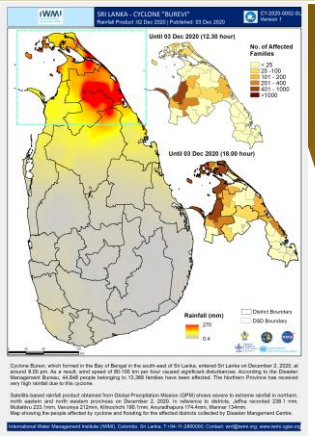
Land slide



Flood

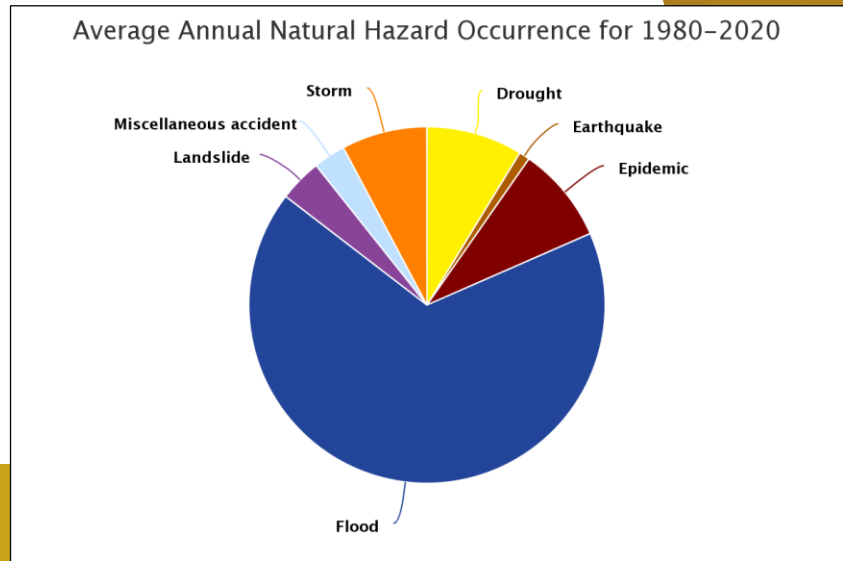


cyclone



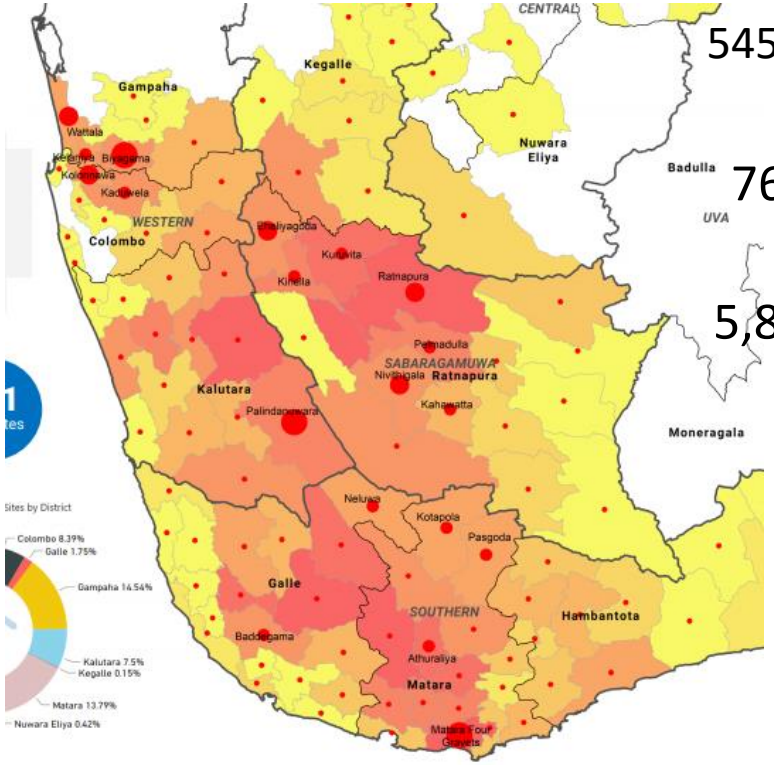
Drought

Sea level arising



Urban Flooding

SRILANKA FLOOD 2017

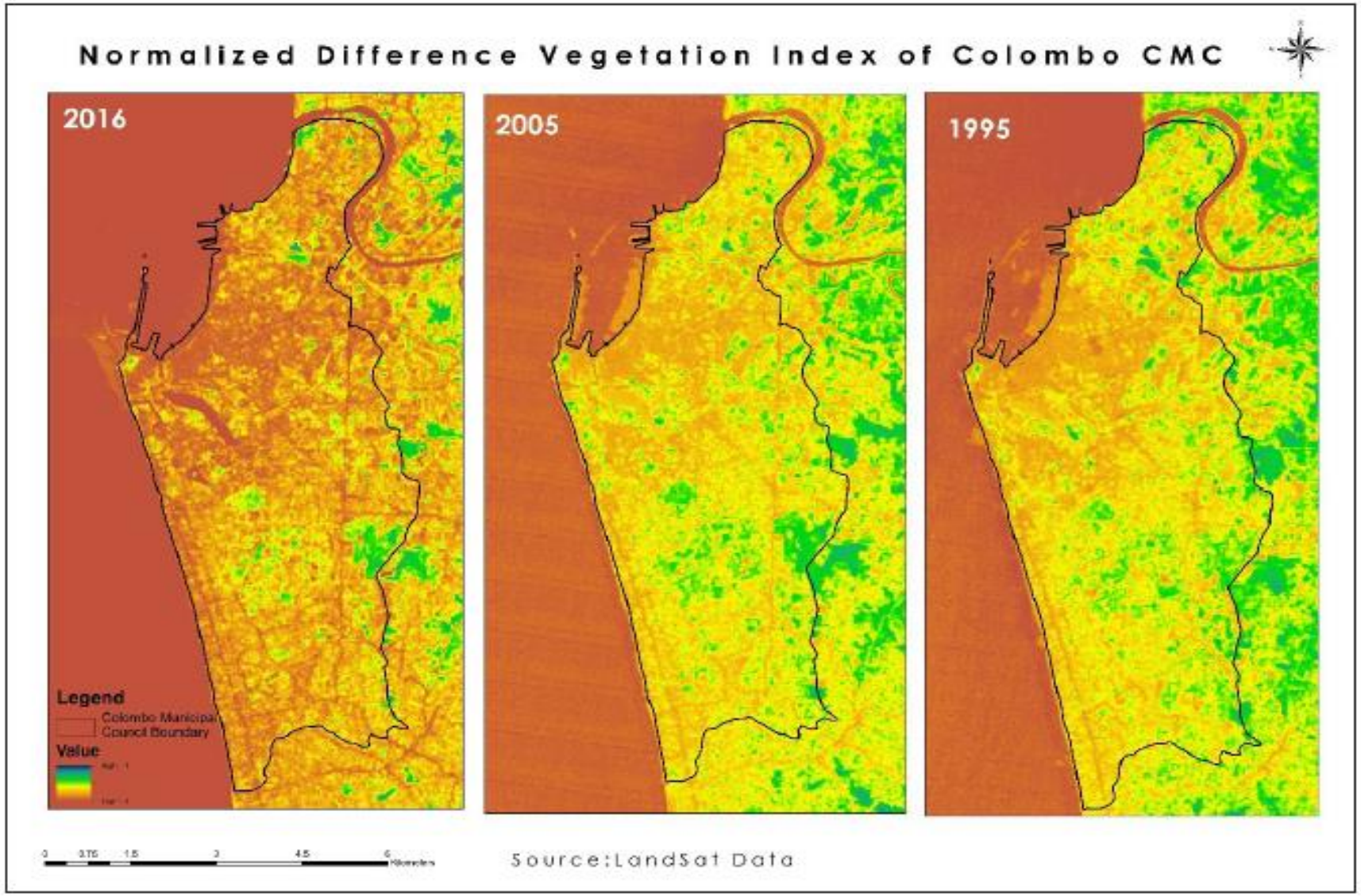


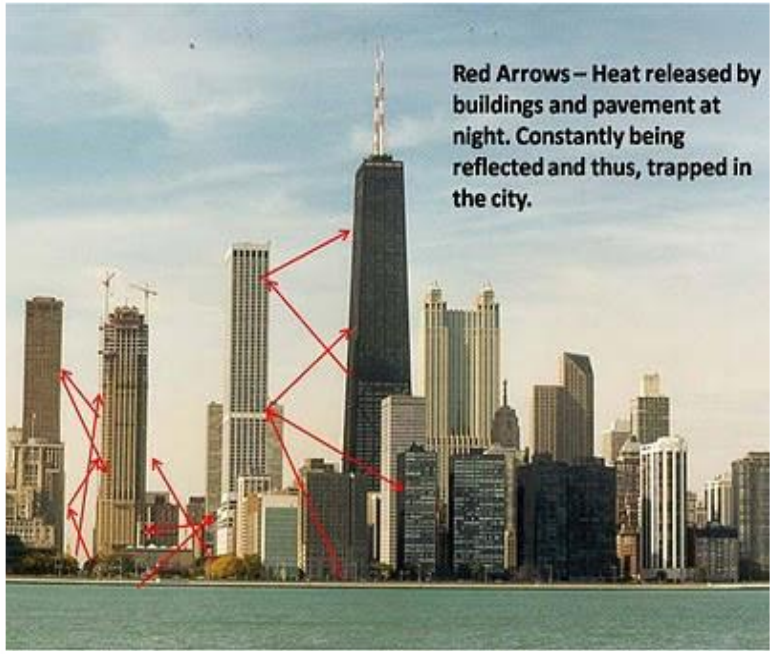
545,283 Total Affected Individuals

768 Fully Damaged Houses

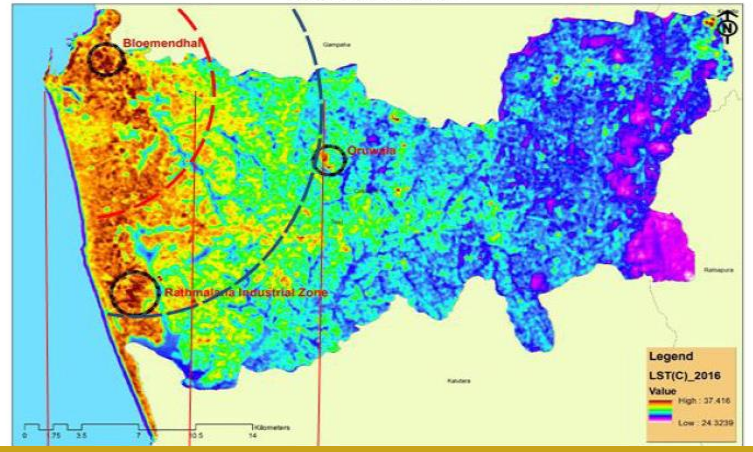
5,869 Partially Damaged Houses

Urban Heat Island Effect





URBAN HEAT ISLANDS



STEPS TAKEN TO ENSURE RISK-INFORMED DEVELOPMENT & RESILIENCE

01. ESTABLISHMENT OF DISASTER MANAGEMENT CENTRE

- DMC was established as per the provisions of the Sri Lanka Disaster Management Act No. 13 of 2005 as the executing agency of the National Council for Disaster Management (NCDM).
- Disaster Management Centre (DMC) is the leading agency for disaster management in Sri Lanka. It is mandated with the responsibility of implementing and coordinating national and sub-national level programmes for reducing the risk of disasters with the participation of all relevant stakeholders.
- The main activities of the Disaster Management Centre (DMC) are **Research and Development, Mitigation, Planning Preparedness, Dissemination of Early Warning for the vulnerable population, Emergency Response, Coordination of Relief and Post Disaster Activities in collaboration with other key agencies.**

DMC
SRI LANKA

02. SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

Priority 1. Understanding Disaster Risk.

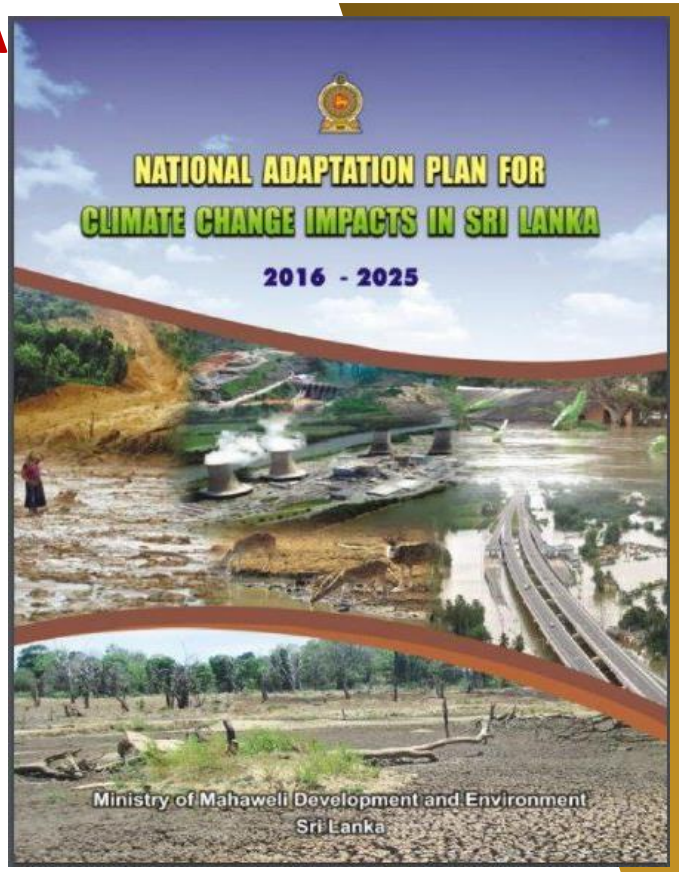
Priority 2. Strengthening Disaster Risk Governance to Manage Disaster Risk.

Priority 3. Investing in Disaster Risk Reduction for Resilience.

Priority 4. Enhancing disaster preparedness for effective response to “Build Back Better” in recovery, rehabilitation and reconstruction.

03. NATIONAL ADAPTATION PLAN FOR CLIMATE CHANGE IN SRI LANKA

- Sri Lanka launched a National Adaptation Plan for Climate Change Impacts from 2016 to 2025.
- The report shows what sectors are most vulnerable and how the country plans to adapt and protect its resources.
- National Adaptation Plan for Climate Change Impacts of 2016-2025 was devised by the government, with a focus on mainstreaming adaptation to key vulnerable sectors such as agriculture, livestock and fisheries, water, health, human settlements, energy and tourism



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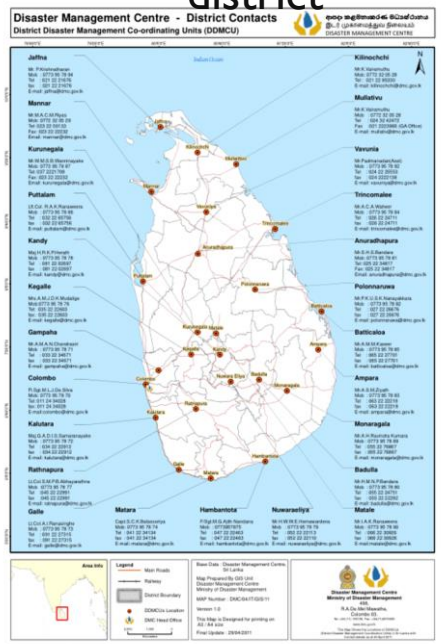
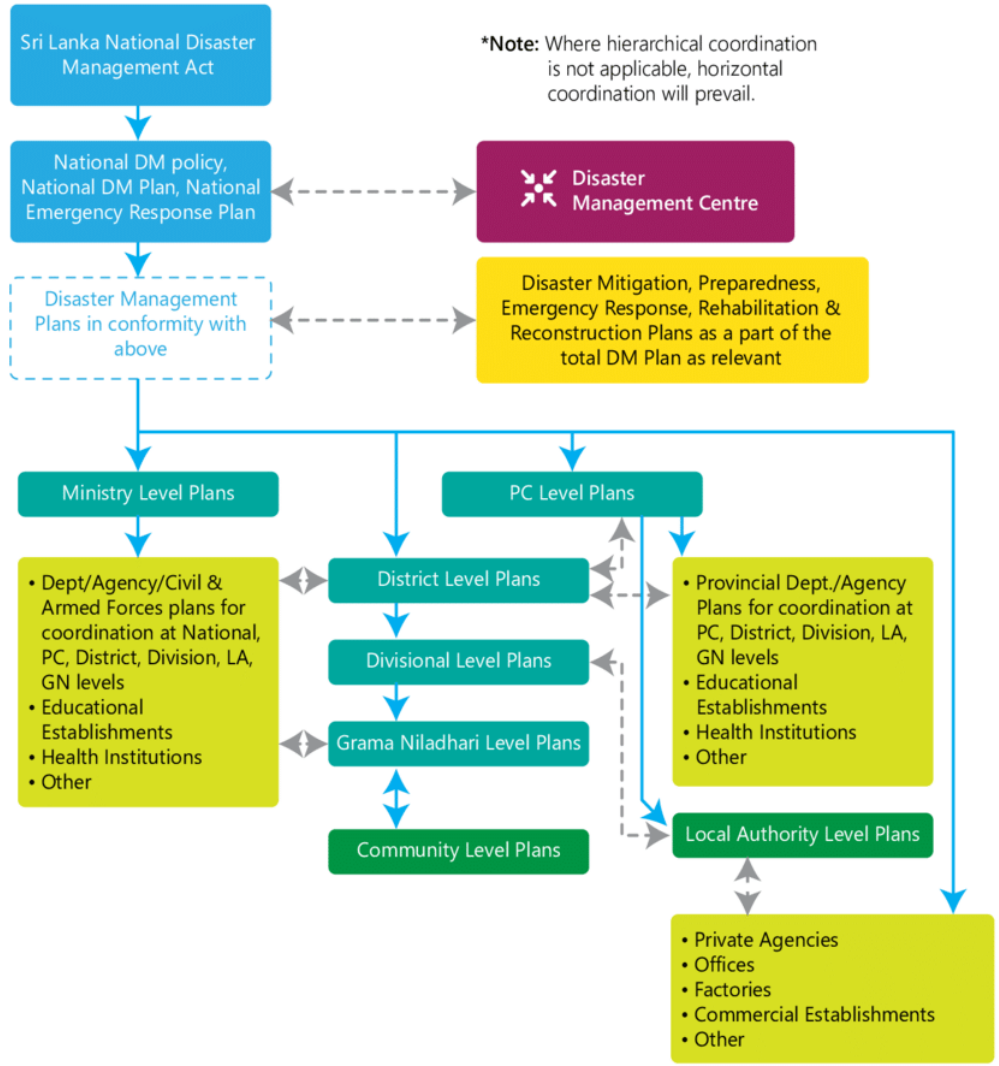
Steps taken to ensure risk-informed development & resilience

Support from the National Government to the Local Governments to foster disaster risk reduction (DRR) & climate action

- 25 DMC representatives from each district



- Conformity of Disaster Management Plans at all Levels and in all Sectors :



Sector	Priority actions
Food security	• Develop tolerant varieties (paddy, OFC, horticulture) and breeds (livestock and poultry) to heat stress, drought and floods and resistant to diseases and pest attacks • Develop and promote water efficient farming methods • Adjust cropping calendars according to climate forecasts • Develop systems for timely issuing and communicating of climate information to farmers • Develop research institute capacity for conducting research on tolerant varieties/breeds and climate resilient farming methods
Water resources	• Develop and implement watershed management plans for critical watershed areas • Increase the efficiency of use and reduce losses of irrigation water • Assess the current practices of water management for climate resilience and identify ways to improve them • Identify and map areas vulnerable to droughts and flood hazards and prepare disaster risk management plans • Design rational intra-basin and trans-basin strategies to harness periodic surpluses of water in storage facilities
Coastal and marine sector	• Implement a continuous programme for monitoring shore line changes • Develop shore shoreline management plans including M&E programmes • Study impacts of sea level rise on costal habitats over short-, medium- and long-term horizons • Identify, declare, collect information and prepare maps on vulnerable areas to extreme events and inundation • Conduct awareness programmes on sea level rise and extreme events to coastal communities to empower them for facing the risks of climate change
Health	• Establish a surveillance programme for detection and monitoring of climate induced diseases • Conduct research studies on impact of climate change prevalence and spread of vector borne and pathogenic diseases • Develop research institutes' capacity conducting research on health impacts of climate change • Strengthen the mechanisms for sharing information between disaster management and health management agencies • Launch awareness programmes on climate and health risks for healthcare workers and the public
Human settlements and infrastructure	• Promote climate resilient building designs • Revise building approval systems to increase the climate resilience • Conduct research studies on climate resilient building designs, green building concepts and alternative materials • Conduct training programmes on climate resilient buildings for industry stakeholders • Prepare hazard preparedness plans for urban, rural and estate settlements
Ecosystems and biodiversity	• Conduct research studies on climate change impacts on ecosystems and biodiversity • Establish a comprehensive programme to monitor climate change impacts on key natural ecosystems and biodiversity • Prepare adaptive management programmes for climate sensitive ecosystems • Prepare recovery plans for highly threatened ecosystems and species • Develop research institutes' capacity for conducting research on climate change impacts on ecosystems and biodiversity
Tourism and recreation	• Increase the awareness of tour industry operators on climate change and its impacts • Establish emergency communication channels for tourists and operators • Identify tourism facilities in vulnerable areas and make arrangements to increase the climate resilience of them • Assess the current promotional strategies with connection to emerging scenarios of climate change and adjust them accordingly • Conduct research studies on climate change impacts on tourism and recreation
Export agriculture sector	• Introduce new cultivars/clones tolerant to heat, drought and flood and resistant to disease and pest attacks • Promote improved nursery and plant management practices and sustainable cropping systems to increase the climate resilience of plantations and crops • Conduct research studies on climate change impacts on export agriculture crops • Identify and collect information on areas most vulnerable to disasters and prepare hazard vulnerability maps for all crops • Develop research institutes' capacity for conducting research on climate change impacts on export agriculture crops

Industry, energy and transportation	• Minimize the fluctuation hydropower generation potential through improvements in system management • Diversify the energy mix with increased share of renewable energy • Diversify the supply sources of climate sensitive agro-based raw materials • Establish an early warning and hazard communication system for commuters and managers of energy, transport and industrial facilities • Conduct research studies on climate change impacts on industry, energy and transportation
Cross-cutting needs of adaptation	• Undertake a review of relevant macro and sectoral policies, ordinances, acts, statutes and procedures to identify options for mainstreaming climate change adaptation activities in Sri Lanka • Develop policy recommendations necessary for addressing vulnerability to impacts of climate change in all development /management projects
	• Restructure and strengthen the Climate Change Secretariat as the National Focal Point (NFP) for implementation of NAP
	• Develop an inventory of international climate donors, funding schemes, training providers, training programmes, research agencies/consortiums and events (conferences, seminars etc.) for the benefit of local stakeholders of adaptation
	• Create a *National Adaptation Fund* with the collaboration of the Ministry of Finance to support the implementation of NAP actions and supportive programmes
	• Establish a national network of research agencies and universities that are carrying out research on climate adaptation for promoting coordinated research and information dissemination • Develop a coordinated multi-disciplinary small research grant programme on thematic areas relating to climate change adaptation to be facilitated by the National Focal Point and managed by the national research support agencies (e.g. NSF, NRC, CARP) • Establish a common repository of scientific and awareness materials on climate change adaptation
	• Initiate a joint island wide programme for identification of religious, cultural and archaeological assets vulnerable to climate change impacts and conservation of threatened assets
	• Conduct training programmes for government officers, CSO members, and private sector employees on climate change adaptation • Establish a national research programme on climate modeling for long-term climate projections

ISSUES IN IMPLEMENTATION OF THE DRR AND CLIMATE POLICY

1. Lack of early warning dissemination at local levels.
2. Slow response.
3. Lack of community preparedness
4. Lack of coordination and information management between stakeholders.
5. Lack of capacities for enforcement.
6. The number of policies and overlapping responsibilities between organizations.

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