

SRI LANKA

1. General Information

1.1. Geography

Sri Lanka is an island country located in the Indian Ocean. Total land area is about 65,610 square kilometers. The central part of the southern half of the island is mountainous with heights more than 2.5 Km. The core regions of the central highlands contain many complex topographical features such as ridges, peaks, plateaus, basins, valleys and escarpments. The remainder of the island is practically flat except for several small hills that rise abruptly in the lowlands. These topographical features (Figure 1) strongly affect the spatial patterns of winds, seasonal rainfall, temperature, relative humidity (RH) and other climatic elements, particularly during the monsoon season.

Sri Lanka's highest Mountain is Pidurutalagala which is 2,524 meters in height and the elevation map of Sri Lanka shows in (Figure2). Most of the island's surface consists of plains between 30 and 200 meters above sea level. Hundred and three rivers in the Central Highlands and flow in a radial pattern toward the sea. Most of these rivers are short. There are 16 principal rivers longer than 100 kilometers in length, with twelve of them carrying about 75% of the mean river discharge in the entire country. The longest rivers are the Mahaweli Ganga (335 km) and the Aruvi Aru (170 km). The river system map of Sri Lanka shows in (Figure 3), in the highlands, river courses are frequently broken by discontinuities in the terrain, and where they encounter escarpments, numerous waterfalls and rapids have eroded a passage. Once they reach the plain, the rivers slow down and the waters meander across flood plains and deltas. The upper reaches of the rivers are wild and usually un-navigable, and the lower reaches are prone to seasonal flooding. Human intervention has altered the flows of some rivers in order to create hydroelectric, irrigation, and transportation projects. In the north, east, and southeast, the rivers feed numerous artificial lakes or reservoirs (tanks) that store water during the dry season. More than 90% of Sri Lanka's surface lies on Precambrian strata, some of it dating back 2 billion years. The granulites faces rocks of the Highland Series (gneisses, sillimanite-graphite gneisses, quartzite, marbles, and some charnokites) make up most of the island and the amphibolites gneisses, granites, and granitic gneisses of the Vinjayan Series occur in the eastern and southeastern lowlands.



Fig1.showing the topographical map of Sri Lanka

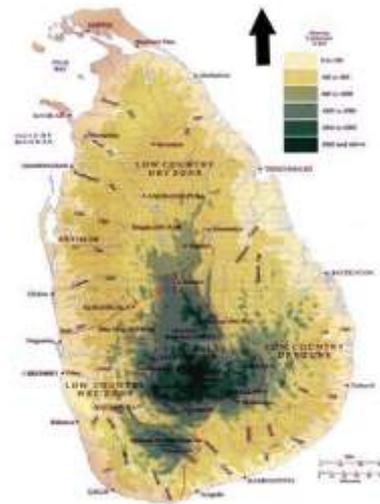


Fig2.showing the elevation map of Sri Lanka



Fig1.showing the topographical map of Sri Lanka

1.2 Climate

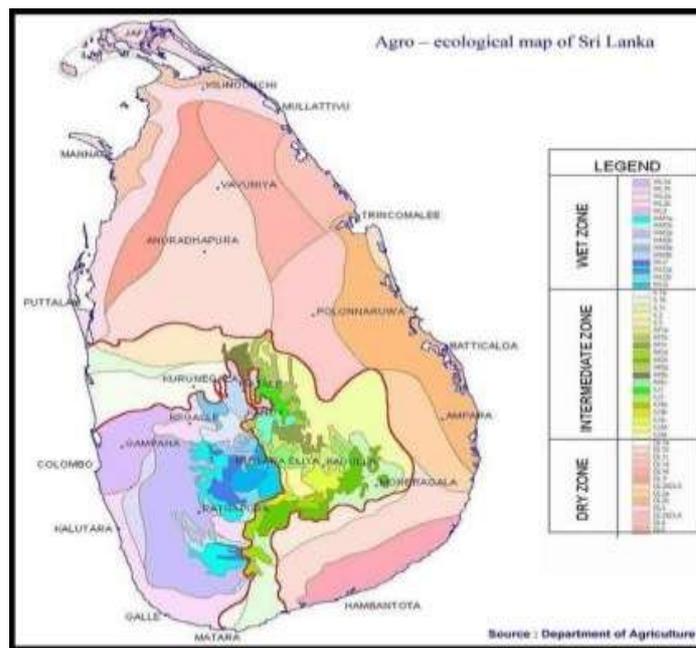


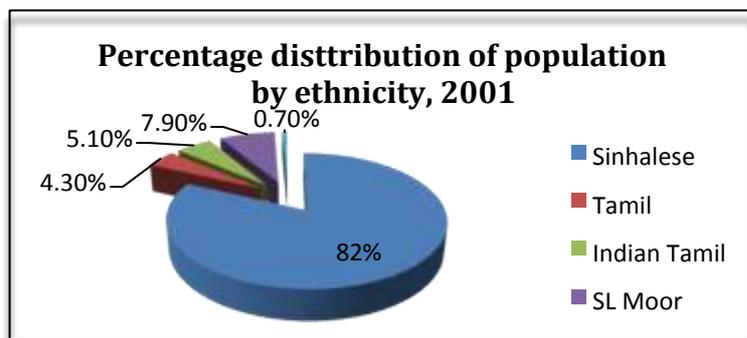
Fig.04. Agro-Geological map of Sri Lanka

Due to the location of Sri Lanka, within the tropics between 5o 55' to 9o 51' North latitude and between 79o 42' to 81o 53' East longitude, the climate of the island could be characterized as tropical. The Climate of Sri Lanka is dominated by the above mentioned topographical features of the country and the Southwest and Northeast monsoons regional scale wind regimes. The Climate experienced during 12 months period in Sri Lanka can be characterized in to 4 climate seasons (Figure 3) as follows.

1. First Inter-monsoon Season - March - April
2. Southwest monsoon season - May - September
3. Second Inter-monsoon season - October - November
4. Northeast monsoon season - December - February

Due to increase of global warming and climate change scenarios above mentioned time period has slightly been changed. The rainfall pattern is influenced by the monsoon winds of the Indian Ocean and Bay of Bengal and is marked by four seasons. The mean annual rainfall varies from under 900mm in the driest parts (southeastern and northwestern) to over 5000mm in the wettest parts (western slopes of the central highlands) (Figure 4). Sometimes tropical cyclones bring overcast skies and rains to the southwest, northeast, and eastern parts of the island. The average yearly temperature for the country, as a whole, ranges from 26° C to 28° C.

1.3 Demography



According to the last population census held in 2011 the whole population of the country was 21,045,222 while being 50.66 females and rest was males. As the ethnic groups in the country Sinhalese 82.0%, Sri Lankan Moors 7.9%, Indian Tamil 5.1%, Sri Lankan Tamil 4.3%, other 0.7% (2001 census provisional data)

Sinhala (official and national language) 74%, Tamil (national language) 18%, other 8% note: English, spoken competently by about 10% of the population, is commonly used in government and is referred to as the link language in the constitution

The Sinhalese make up 74.9% of the population (according to 2012 census) and are concentrated in the densely populated south-west and central parts of the Island. The Sri Lanka Tamils live predominantly in the north-east of the island forming the largest minority group at 11.2% (according to the 2012 census) of the population.

The Moors, who descend from Arab traders that settled in Sri Lanka, form the third largest ethnic group at 9.2% of the population. They are mostly concentrated in urban areas in the southern parts of the island with substantial populations in the Central and Eastern provinces. During times of Portuguese colonization, Moors were persecuted, and many forced to retreat to the central highlands and the eastern coast. There are also Indian Tamils who form distinct ethnic group which comprises 4.2% of the population. The British brought them to Sri Lanka in the 19th century as tea and rubber plantation workers, and they remain concentrated in the "tea country" of south-central Sri Lanka. In accordance with a 1964 agreement with India, Sri Lanka granted citizenship to 230,000 "stateless" Indian Tamils in 1988. Under the pact, India granted citizenship to the remainder, some 200,000 of whom now live in India. Another 75,000 Indian Tamils, who themselves or whose parents once applied for Indian citizenship, now wish to remain in Sri Lanka. The government has stated these Tamils will not be forced to return to India, although they are not technically citizens of Sri Lanka.

Smaller minorities include the Malays who descent from South East Asian settlers, and the Burghers, who are descendants of European colonists, principally from Portugal, the Netherlands and the UK. (Wikipedia)

1.4 History of Sri Lanka

History of Sri Lanka begins around 30,000 years ago when the island was first inhabited. The Chronicles, including the Mahawansa, the Dipawansa the Chulawansa and the Rajawaliya, record events from the beginnings of the Sinhalese monarchy in the 6th century BC. The Buddhism was introduced in the 3rd century BC by Arhath Mahinda (son of the Indian emperor Ashoka the Great). The European Colonialist arrived in the 16th century and disestablishment of the monarchy in 1815. The Portuguese arrived in 1505 and ruled a part of the country's coastal Area. Then the Dutch rule Lasted from 1656 to 1796 and ruled a part of the country. The British ruled the country from 1796 to

1948. However by a peaceful process and constitutional evolution, Sri Lanka won back her independence in 1948 and is now a sovereign republic. In 1983 a civil war was started and it ended in 2009.

2 Natural Hazards in the Country.

2.1 Natural Hazards likely to affect the country

Over the past few decades disaster losses in Sri Lanka have increased substantially. The country is prone to natural disasters caused by floods, cyclones, landslides, droughts and coastal erosion with increasing instances of environmental pollution related hazards. The devastation caused by the Indian Ocean tsunami of 2004 has highlighted that Sri Lanka also vulnerable to tsunamis. Except tsunamis, Sri Lanka is affected by different kind of natural hazards such as floods, droughts, cyclones, landslides and coastal erosion. Other localized hazards include lightning strikes, epidemics, high winds, fires and wild elephant attacks. Figure 5 shows the loss of human lives due to disasters from 1974 to 2008 in the country.

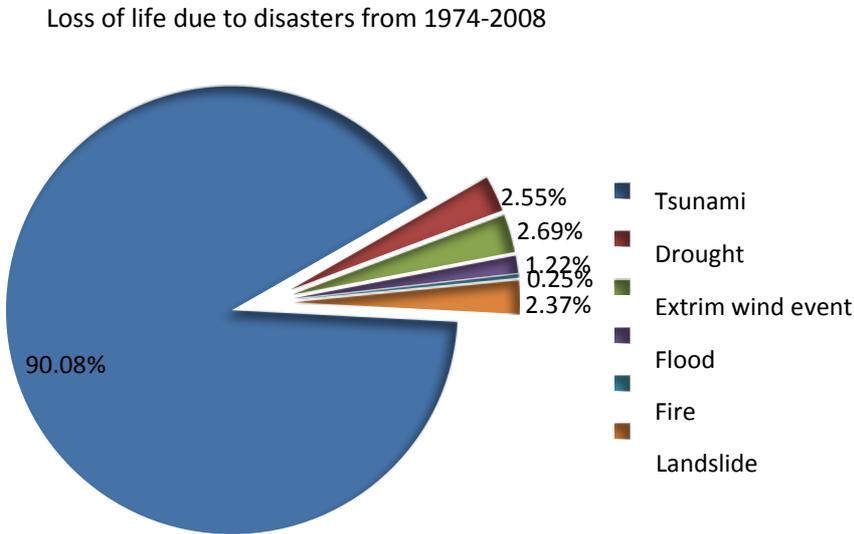


Figure.05. the loss of human lives due to disasters from 1974 to 2008 in the country.

Table 1 shows the disaster Impact in Sri Lanka by all hazards from 1974 to 2008. Number of people affected due to disasters by district wise from 1974 to 2008 is shown in the Figure 6 and Number of people died due to disasters by district wise from 1974 to 2008 is shown in the Figure 7.

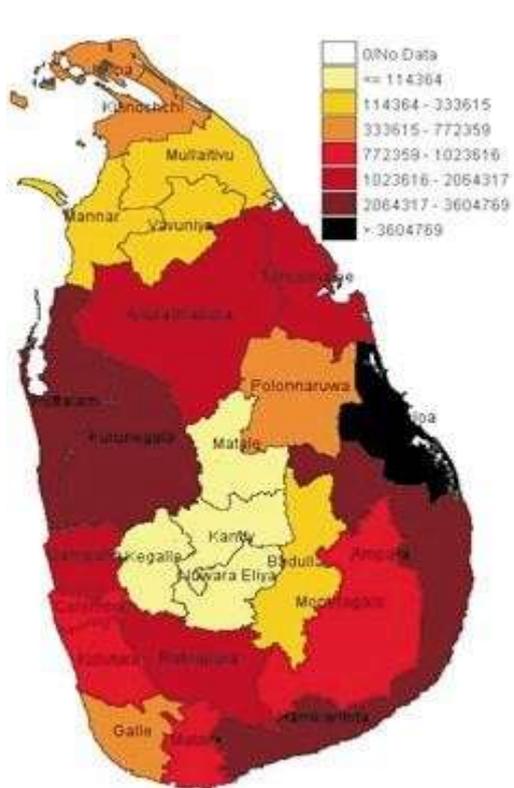


Figure.06. people affected due to disasters
Spatial distribution: 1974 -2008

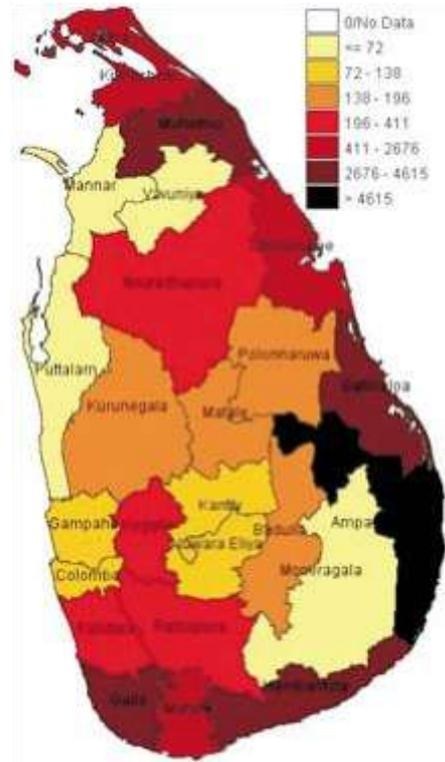


Figure.07. Loss of life due to disasters
Spatial distribution: 1974 -2008

Event	Data cards	Deaths	No. of people affected	No. of families affected	No. of destroyed houses	No. of damaged houses	Damage to paddy (Ha)	Damage to crops (Ha)	Relief distribution (Rs)
Epidemic	12,129	1,384	139,698	3,038	NA	NA	NA	NA	2,4647,000
Animal Attack	4,747	1,055	10,549	3,216	1,263	2,734	15,334	24,590	330,680
Flood	2,851	498	5,831,413	2,405,364	49,891	144,916	274,056	170,159	713,796,761
Fire	2,057	2	1,583	407	336	146	NA	NA	NA
Drought	1,249	NA	10,578,284	2,621,668	NA	NA	303,956	530,685	1,110,434,179
Landslide	643	870	148,970	22,753	2,079	6,899	479	114	15,360,969
Cyclone	627	2,344	396,485	392,388	65,756	101,816	1,747	4,409	225,024,322
Lighting	394	437	115	134	5	66	NA	NA	NA
Gale	346	41	86,977	4,790	58,210	9,611	103	440	NA
Coastal Erosion	180	9	11,045	2,168	1,301	998	NA	NA	18,620,429
Storm	133	60	5,027	310	332	2,967	NA	1,000	NA
Urban Flood	125	NA	2,015	4,491	4	75	NA	NA	NA
Tsunami	71	39,331	426,622	150,651	44,250	49,914	90	NA	153,460,200
Plague	45	NA	NA	NA	NA	NA	1,935	NA	NA
Forest fire	37	3	1,175	NA	15	NA	NA	1,128	NA
Sneeke bite	33	32	NA	NA	NA	NA	NA	NA	NA
Tornado	33	28	775	284	47	1,240	NA	NA	NA
Rains	22	NA	NA	NA	NA	2	NA	NA	NA
Surge	21	3	502	NA	2	13	NA	NA	NA
Structure	15	16	NA	NA	NA	2	NA	NA	NA
Hail storm	14	NA	NA	NA	NA	70	NA	NA	NA
Sedimentation	7	NA	NA	NA	NA	NA	NA	NA	NA
Earthquake	3	NA	NA	NA	NA	NA	NA	NA	NA
Tidal Wave	3	NA	1,750	NA	NA	350	NA	NA	NA
Frost	2	NA	NA	NA	NA	NA	202	NA	NA
Leak	2	NA	325	NA	NA	NA	NA	NA	NA
Soil Erosion	2	NA	NA	NA	NA	NA	NA	NA	NA
Pollution	1	NA	NA	NA	NA	NA	NA	NA	NA

Table 01 impact of the human life by disaster from 1974 to 2008

2.2 Hazard Profile of Sri Lanka

Sri Lanka being a small island in the Indian Ocean in the path of two monsoons is mostly affected by weather related hazards. Floods mostly due to monsoonal rain or effects of low pressure systems and droughts due to failure of monsoonal rain are the most common hazards experienced in Sri Lanka. In 2009, Disaster Management Centre (DMC) and United Nations Development Programme (UNDP) initiated a hazard profiles development process in collaboration with the relevant technical agencies, which are responsible for disaster mitigation activities of the country. Hence, it was decided to develop nine hazard profiles of the country namely; Coastal Erosion, Drought, Floods, Landslides, Lightning, Sea Level Rise, Storm Surge, Tropical Cyclone and Tsunami.

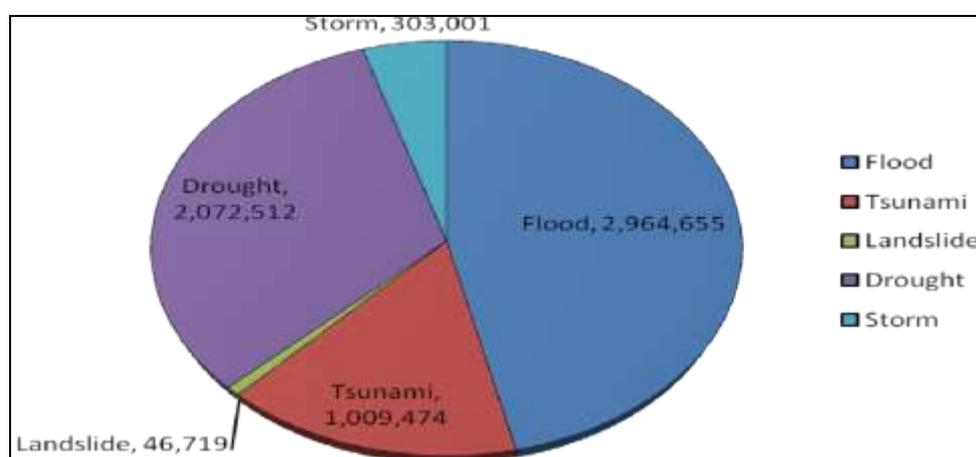


Figure.08. affected no of people during recent past for different disaster

2.3. Major Disasters

The tsunami on 26th of December 2004 was the biggest havoc the Sri Lanka has ever faced. The southern, western, eastern and northern coastal belt was prone that tsunami event. It was almost the two third of Sri Lanka's coastal belt. More than

30,959 people were killed while 5,644 people were missing and around

100,000 houses had been completely destroyed. A number of 500,669 people were displaced. The Figure 8 shows the tsunami affected area of the country. Figure 9 and Figure 10 shows two pictures of tsunami



Figure.09. impact of tsunami calamity

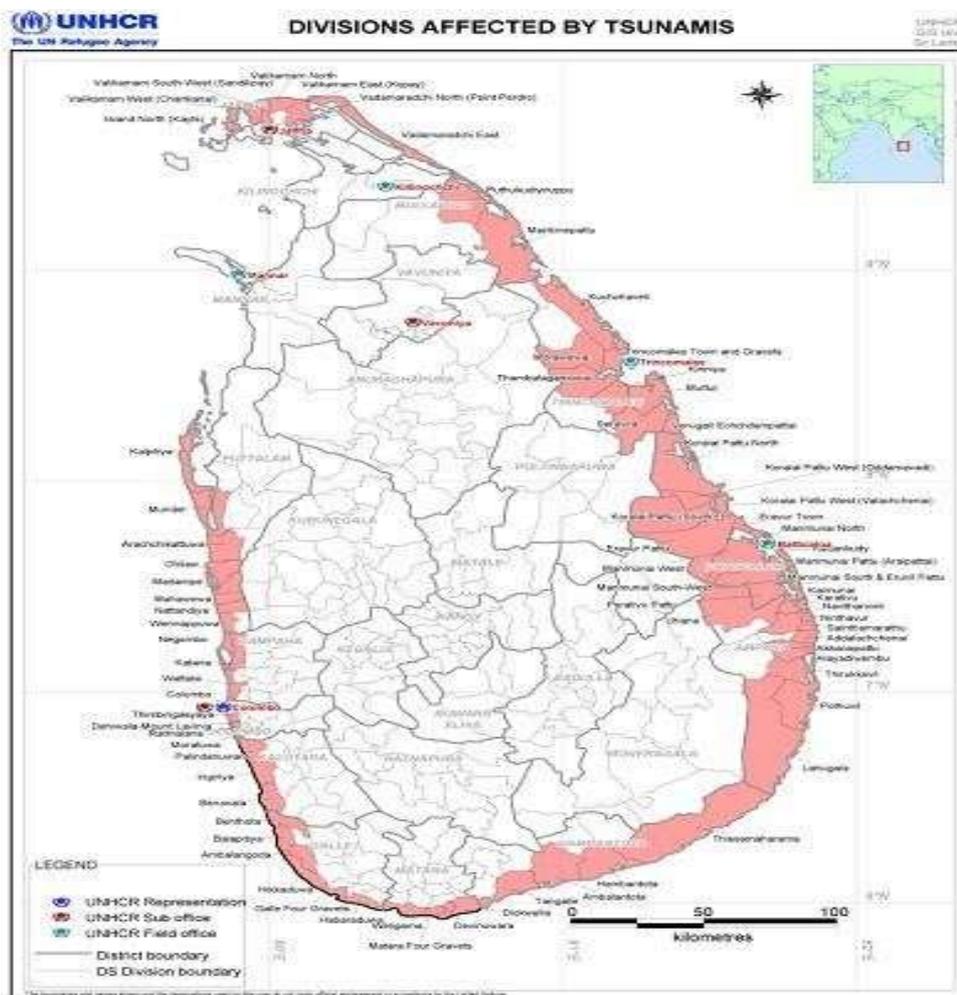


Figure .10 Tsunami affected areas in Sri Lanka

In past, 1957 flood considered as the severe flood occurred in Sri Lanka. After 2003 was the severe flood created great impact of Sri Lankans. Due to that catastrophic event, floods as well as landslides were occurred in many parts of the country. Reported human deaths were 369 while 123 people were injured. Thirty three people were reported missing and 756027 were affected. 8652 houses were completely destroyed and 26942 houses were damaged partially



Figure.11 Flood impact in some districts in Sri Lanka

In 2010 and 2011 again with floods and landslides 26 people were died and 19 people were injured. Completely destroyed houses were 1196 while 7281 houses were partially damaged and 1165618 people were affected. Except the above mentioned major disaster events lots of people were affected and big economic lost was occurred by the droughts, wild elephant attacks and other small scale disaster events in June 2014 due to landslides and cutting failure 36 people died after unprecedented rain more than 300mm within few hours. Due to bad practices of land use and anthropogenic activities, the cutting failures had been created. Recently National Building Research Organization (NBRO) has introduced the rules and regulation system with building codes for general public specially for landslide prone areas unawareness and ignorance, and political interference those policies are not implemented smoothly. Figure 11 shows the recent flood impact in some districts

Drought

One of the major disasters which severely impair food production is agricultural drought. Unlike other disasters it is a slow onset natural hazard often covering large area with duration ranging from few months to several years. One cannot define the exact beginning and end of drought event so much so the exact boundary of the drought affected region. These characteristics make drought particularly challenging to quantify and provide relief as compared to other natural hazards. Figure 12 shows drought

during 1st inter monsoon period in year 2005.

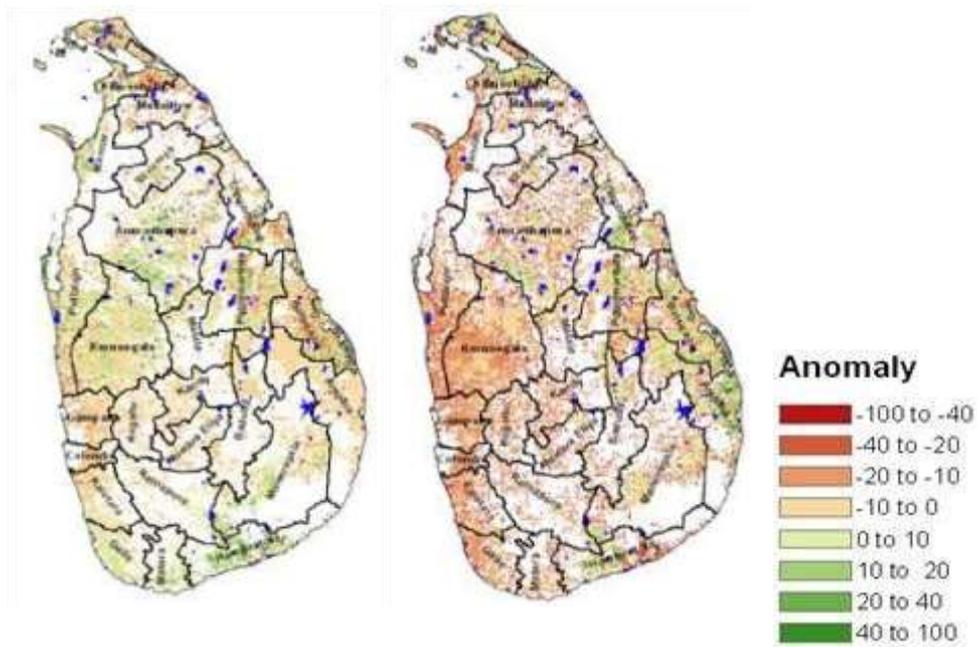


Figure .12 NDVI Anomaly (%) during March, April & May relative to 2005

3 Disaster Management System

3.1 Administration System

Politics of Sri Lanka takes place in a framework of a presidential representative democratic republic, whereby the President of Sri Lanka is both head of state and head of government, and of a multi-party system. Executive power is exercised by the government. Legislative power is vested in both the government and parliament. The Parliament has 225 members, elected for a six year term, 196 members elected in multi-seat constituencies and 29 by proportional representation. The president may summon, suspend, or end a legislative session and dissolve Parliament. Parliament reserves the power to make all laws.

Mainly, Sri Lanka have three levels in the political and administrative level. They are National, Provincial and local authority level. Under the national government all cabinet and non cabinet ministries are governing all the national and Grama Niladharee (smallest administrative unit) level administration affairs. However, provincial level provincial government is consisted of provincial level ministries. Under those ministries, several government institutions such as provincial level schools, hospital, and some government department are servicing to the people.

Sri Lanka have three administrative levels of governance; national, provincial councils and local authorities. Under the national level, Ministry of Disaster Management is the mandated organization for disaster management activities. Disaster Management Centre, Disaster Relief Service Centre, National Building Research Organization and Department of Meteorology are functioning under the Ministry of Disaster Management. Under the Provincial Councils no mandated body for disaster management activities, but in the stage of disaster relief services, the social service department operating under the provincial councils act to distribute relief services. But the provincial councils don't have a disaster management organization or budget line for disaster management. The local authorities (may be Municipal Councils, Urban Councils or Pradeshiya Saba) also don't have a mandated section for disaster management as the both local council and Divisional Secretariat division considered as same geographical area, and however they work in the both stages of disaster management that means in pre-disaster management activities and post disaster management activities.

The main administration system for disaster management of the country operates under the central government and through the Ministry of Disaster Management by district level. There are 25 districts and each district is administered under a District Secretary, who is appointed by the central government. The main tasks of the District Secretariat are to coordinate, implement and communicate activities of the central government Through Divisional Secretariats. The District Secretariat is also responsible for implementing and monitoring development projects at the district level and assisting lower-level

subdivisions in their activities, as well as revenue collection and coordination of elections in the district. A district is divided into a number of Divisional Secretary Divisions (commonly known as DS divisions), which are in turn subdivided into Grama Niladari Divisions.

3.2 Legal System and Framework



Figure.13 Structure of National Disaster Management Council

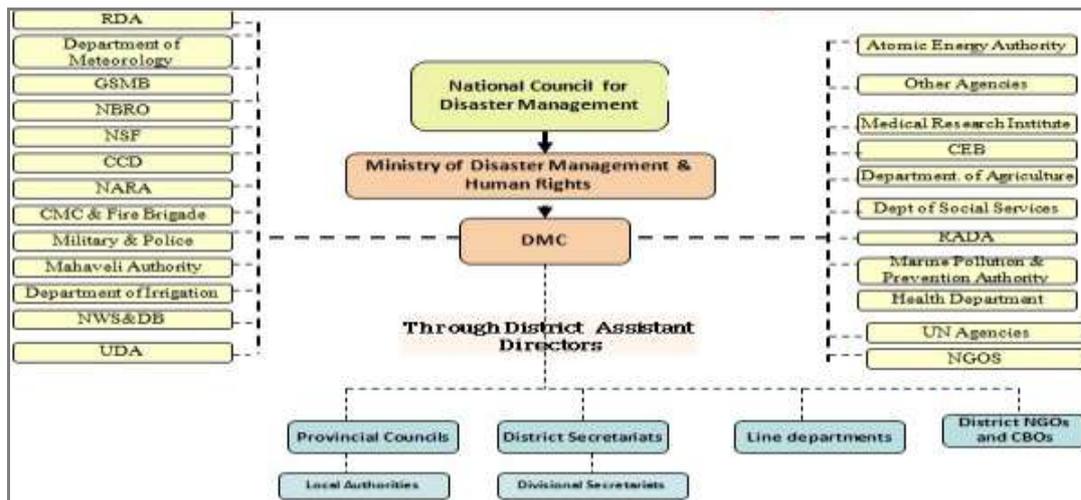
The Sri Lanka Disaster Management Act No.13 of 2005 is the main legal document for disaster management in Sri Lanka and it was enacted in July 2005 which provides the legal basis for instituting a disaster risk management system in the country. The National Council for Disaster Management (NCDM) is a high-level inter-ministerial body. The chairman and vice chairman of the NCDM is H.E. The President and Hon Prime Minister respectively. Other members are Leader of the Opposition, Ministers in charge of 20 selected subject areas, Provincial Council Chief Ministers and five members of the Opposition. The Act also provides for establishing the Disaster Management Centre (DMC) under the Council to be the apex body for the purpose of planning, co-coordinating and implementing of certain natural and other forms of disasters. The Figure 13 shows the structure of the National Council for Disaster Management.

Sri Lanka Disaster Management Act No.13 of 2005 provides for a framework for DRM in Sri Lanka and addresses disaster management (DM) holistically, leading to a policy shift from response based mechanisms to a proactive approach towards disaster risk reduction (DRR). Twenty one hazards come under the purview of the act. DMC was established in July 2005. In December 2005 the Ministry for Disaster Management and Human Rights (M/DM&HR) was established with the subject of DM listed

under its purview. The principal functions of the Disaster Management Centre as per the act are as follows.

- 1) Assisting the Council in the preparation of the National Disaster Management Plan and the National Emergency Operation Plan and proposals for upgrading the same when it becomes necessary
- 2) Taking responsibility for the implementation of the National Disaster Management Plan and the National Emergency Operation Plan, and upon the declaration of a state of disaster to direct and coordinate the implementation of the National Emergency Operation plan
- 3) Ensuring that the various Disaster Management Plans prepared by Ministries, Government Departments or public corporations conforms to the National Disaster Management Plan
- 4) Based on Disaster Management Plans prepared by various Ministries, Government Departments and public corporations under section 10, preparing and implementing programs and plans for disaster preparedness, mitigation, prevention, relief, rehabilitation and reconstruction activities and coordinating of organizations which implement such programs and plans and obtain financial assistance from the Treasury for such activities and release the same to the relevant regions and monitor and evaluate these activities
- 5) Issuing instructions and guidelines to appropriate organizations, non-governmental organizations, district secretaries and divisional secretaries on activities relating to disaster management and initiating and implementing work programs in co-ordination with such organizations and secretaries
- 6) Promoting research and development programs in relation to disaster management and setting up and maintaining a data base on disaster management
- 7) Submitting reports to the Council from time to time and whenever required by the Council in regard to its activities.
- 8) To implement the above functions, the Disaster Management Centre has organized

The disaster management mechanism in intermediate and local level is shown below in figure 13 and devolved mechanism for DMC is showed in figure 14.



The coordination mechanism of disaster management from the national level to divisional level is shown in Figure 13.

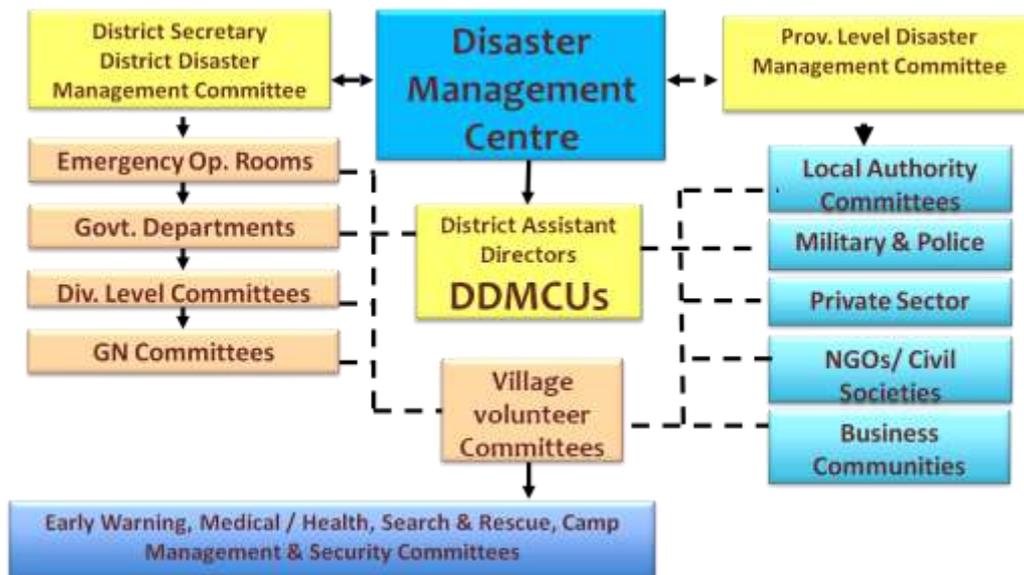


Figure 14 Coordination mechanism in DMC

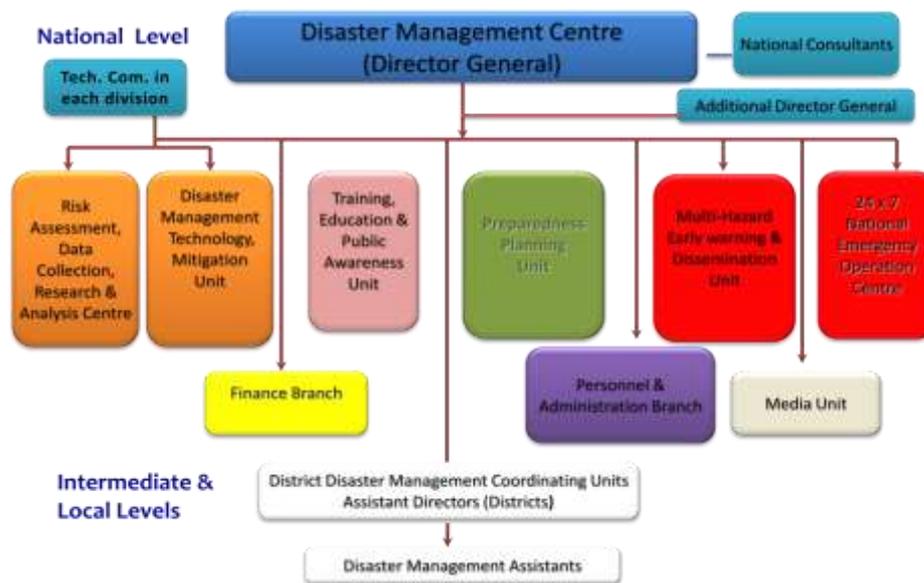


Figure.15 Structure of Disaster Management Center

District Disaster Management Coordinating Unit (DDMCUs) under the Disaster Management Center has been set up at district level for the coordination of local level disaster management activities. By this time, under the Ministry of Disaster Management, one officer was been assigned as disaster management coordination officer at divisional level to coordinate disaster management activities at local level as shown in figure 15. DDMCU is doing all most all kind of disaster management activities under the supervision of particular District Secretary at district level.

4. Disaster Management Strategy, Policy and Plan

“Towards a Safer Sri Lanka: A Road Map for Disaster Risk Management” is the master plan for disaster management in Sri Lanka. DMC has been accorded the lead role in directing the strategic planning process for disaster prevention, mitigation, response and recovery. A comprehensive DRM framework for Sri Lanka will unify the efforts of all agencies working in various sectors across all regions and levels of development activity. The DMC has prepared the road Map to identify and coordinate multi stakeholder efforts in the next 10 years through a holistic strategy. According to the Road Map it is focused on seven thematic components which are consistent with ongoing and past efforts in the field of disaster risk management and development planning, and as in the Hyogo Framework of Action 20052015. The seventh thematic components are as follows.

1. Policy, Institutional Mandates, and Institutional Development
2. Hazard, Vulnerability and Risk Assessment
3. Tsunami & Multi- hazard Early Warning Systems
4. Preparedness and Response Plans
5. Mitigation and Integration of Disaster Risk Reduction (DRR) into Development Planning
6. Community-based Disaster Risk Management
7. Public Awareness, Education and Training

The projects and activities for disaster management of the country are based on above seventh components.

4.1. Comprehensive Disaster Management Plan

Sri Lanka comprehensive Disaster Management Plan 2014-2018, was introduced in new road-map for DRM activities by Ministry of Disaster Management. It is mainly focused on next five year disaster management countermeasures and Disaster Risk Reduction program hope to be carried out by Sri Lankan government. In the comprehensive Disaster Management Plan clearly identified the 45 institutions which are contributed their service when its implementation. Currently the plan has been taken the approval from National Planning Department and the cabinet of Sri Lanka. UNDP and the Treasury funds will be used for the implementation

4.2. National Disaster Management Policy

The National Policy on Disaster Management (the 'Policy') is a core component of Sri Lanka's national regime for disaster management. It articulates agreed overarching principles and preferred outcomes for disaster management in Sri Lanka. It also provides policy directives to address the issues such as inadequate coordination among stakeholder agencies, duplication of efforts and insufficient policy directives to reduce the human and economic impacts of disasters which were identified in the aftermath of the 2004 Tsunami and the other recent disaster situations.

The 2005 *Parliament Select Committee on Natural Disasters* recommended formulation of a national policy to manage disasters after the 2004 Indian Ocean tsunami. The *Disaster Management Act, No.13 of 2005* (the 'Act') provides that the National Council for Disaster Management (the 'Council') shall formulate such a policy.¹ Its preparation was the first listed of 60 outcomes for the period 2006-2016 under the document *Towards a Safer Sri Lanka: A Road Map for Disaster Management* ('the Road Map'). In accordance with the Road Map, the Ministry of Disaster Management, as Secretariat of the Council,

led a consultative process to formulate the Policy with input and guidance from relevant agencies and stakeholders.

4.3. National Disaster Management Coordination community

Disaster risk reduction (DRR) is a cross-cutting and complex issue. Therefore, it requires political and legal commitment, public understanding, scientific knowledge, careful development planning, responsible enforcement of policies and legislation, people centered early warning systems, and effective disaster preparedness and response mechanisms. A multi-stakeholder national coordination for DRR can provide or mobilize the combined knowledge, skills, and resources required for DRR and its mainstreaming into development policies, planning and programmes.

Under the Chairmanship of the Secretary, Ministry of Disaster Management the NDMCC's roles and responsibilities are:

- It is a national mechanism by which the country can address inter-related social, economical and environmental problems;
- It supports the identification of urgent needs in the area of DRR, allocating resources, presenting time table for actions and monitoring and reviewing the implementation of DRR activities in line with HFA and Road Map;
- It works towards better resourced, effective and integrated DRR efforts amongst national stakeholders and amongst national, regional and international organizations. It supports development goals, by providing a framework for systematic thought and commitment to priority actions across sectors and the territory;
- It serves as catalyst for national consultations and consensus building, as well as for DRR priority identification and policy formulation, implementation and monitoring DRR activities. The emphasis should be on managing progress towards DRR objectives rather than producing a "Plan" as an end product; and
- It facilitates the allocation of resources from donors, development banks, and UN agencies that are not represented in their respective countries. This can be advanced by advocating the importance and necessity for UN country offices to support the integration of DRR into UN backed development programs.

Primary activities

- Establishing baseline information for DRR, including disaster and risk profiles, national policies, strategies, capacities, resources and programmes;
- Identify targets, gaps, concerns and challenges and setting forth accepted priority areas in DRR; Advocating the urgent need for developing or adopting policies and legislations for DRR;
- Benchmarking progress made in promoting DRR and its mainstreaming into development policies, planning and programmes;
- Developing result-oriented work plan for National DM Coordination Committee to coordinate the DRR activities in line with the HFA and “Road Map for Disaster Risk Management; Towards a Safer Sri Lanka”;
- Coordinating joint efforts among members of National DM Coordination Committee to reduce the vulnerability of people at relatively high risk;
- Monitoring, recording and reporting of DRR actions at national and community levels in line with HFA and “Road Map for Disaster Risk Management; Towards a Safer Sri Lanka”;
- Documenting lessons learned and good practices, and share the findings at national, regional and international levels;
- Working towards better integration of DRR into national planning, policies and programmes in development and humanitarian assistance;
- Initiate the Community Based/Led Disaster Management (CBDM) approach at national level to strengthen community’s decision making process; and

5. Recent major project

In Sri Lanka, major disaster mitigation projects are currently going on in various places giving high priority for vulnerability and needy of the country. In Kandy district, Garadialle project for landslide mitigation; Jaffna, Kalutara, and Dhabulla flood mitigation projects etc are major projects Sri Lankan government implemented recently for disaster mitigation. For next five years, by comprehensive disaster management plan, all prioritized disaster mitigation projects were identified and based on budgetary provision those projects will be implemented and some new projects were already started.

5.1 Progress of Implementation of Hyogo framework for Action (HFA)

- Sri Lanka has prepared the National progress report on the implementation of the Hyogo Framework For Action (2009-2011) – interim. According to the report, lot of outcomes, have been able to achieve by the Sri Lanka. Only a few of them have been mentioned here.
- National Planning Department of the Ministry of Finance has agreed to consider DRR in approving development plans provided guidelines are developed for such a process. DMC is working with Central Environmental Authority (CEA) and other agencies to develop such guidelines. National Water Supply and Drainage Board has initiated implementation of augmentation programme in western, central, and southern provinces. New water supply schemes are been developed for northern and eastern provinces. (Area 1)
- NDMCC meets regularly and discuss programmes implemented by members and policy requirements to make the implementation more effective. Hazard cycle for Sri Lanka has been developed and given to district administration to prepare disasters such as floods, landslides and cyclones. Nearly 40% of the activities identified in the Road Map have been commenced. DM Act is being modified giving more authority to DMC for coordination of DM Activities. Draft Act has been forwarded to Attorney general Department. Disaster Management concepts were included in the Local Government policy which has been approved by the govt. DMC has already provided disaster concerns to be incorporated in to the act based on the LG policy. Development DM plans for Northern Province has been commenced. Training of officials in Govt and LG sector on DM and development of plans commenced. (Area 2)
- DMC with the assistance of Urban Development Authority, practical Action and ADPC has commenced three pilot projects in southern and eastern provinces to prepare Urban development plans for selected towns. UDA has agreed to issue instructions to planning officers to follow Guidelines developed in future urban development planning process. Mainstreaming disaster risk reduction in to housing is being undertaken with the assistance of

ADPC. All agencies in state sector were involved. Training programme conducted for technical Officers in the Eastern province to introduce the guidelines developed for construction of disaster resistance buildings. Building application used by Local Authorities for approval of land subdivision plans and building plans are being modified with the Concurrence of UDA to include DRR concepts. Draft format has been submitted to UDA for their consideration. Environment Authority invites DMC for the meetings where EIA reports are discussed. Integrated Strategic Environment Assessment (ISEA) for the Northern Province is being developed with the assistance of all stakeholders. Proposed development plans are incorporated in the ISEA and areas for development have been identified. Discussions are in progress with relevant development agencies to identify conflict areas and find solutions. Hazard maps for landslides in Nuwaraeliya districts were given to agencies involved in development and development control and officers were trained for the use of hazard maps.

6. References

1. Sri Lanka National Report on Disaster Risk, Poverty and Human Development Relationship.2015.
2. Disaster Management Act No 13 of 2005.
3. Disaster Management Policy of 2014.
4. Disaster Management Center. (2014).*National Disaster Management Plan*. (Rev. ed.2013-2017). Colombo.
5. Disaster Preparedness. In Wikipedia. Retrieved August 12, 2014, from <http://en.wikipedia.org/wiki/Preparedness>
6. International Federation of Red Cross and Red Crescent Societies. (2006) *Disaster Preparedness and Contingency Planning*. The International Federation's Global Agenda. (2006-2010) Switzerland.
7. Ministry of Disaster Management. (2014) *Sri Lanka Comprehensive Disaster Management Programme*, (2014-2018), Government of Sri Lanka, March, 2014.
8. MoEF, 2002. Initial National Communication under the United Nations Framework Convention on Climate Change (UNFCCC), Government of Bangladesh, Dhaka, October, 2002.
9. <http://www.dmc.gov.lk/attchments/Corporate%20Plan/document.pdf>
10. <http://www.dmc.gov.lk/Publications/Roadmap%20Vol.1.pdf>
11. www.desinventar.lk
12. <http://www.preventionweb.net/english/professional/news/?cid=162>
13. http://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/hfa/15598_Ika_NationalHFA_p rogress_2009-11.pdf
14. <http://www.meteo.gov.lk>
15. <http://www.treasury.gov.lk/FPPFM/fpd/pdfdocs/annualReport2010/AnnualReport2010-eng.pdf>