

2009

Country Profile



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Disaster Management Center

Sri Lanka

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Country Profile

Sri Lanka

1. General Information

Island country in the Indian Ocean, off the southeastern coast of India. Area: 25,332 sq mi (65,610 sq km). Population (2005 est.): 20,743,000. Capitals: **Colombo** (executive), Sri Jayewardenepura Kotte (legislative and judicial). About three-fourths of the population is **Sinhalese**; other ethnic groups include **Tamils** and Muslims. Languages: Sinhala, Tamil (both official); also English. Religions: Buddhism; also Hinduism, Islam, Christianity. Currency: Sri Lanka rupee. Highlands make up Sri Lanka's south-central region and core, with narrow gorges and deep river valleys. The surrounding lowlands include hills and fertile plains. The developing mixed economy is largely based on agriculture, services, and light industries. Clothing, tea, gemstones, and rubber are exported. The island is world-famous for its gemstones, which include sapphires, rubies, and topaz. It is also a major producer of high-grade graphite. Sri Lanka is a republic with one legislative house; its head of state and government is the president, assisted by the prime minister. The Sinhalese people are probably the result of aboriginal inhabitants mixing with Indo-Aryans who began migrating from India c. the 5th century BC. The Tamils were later immigrants from Dravidian India, migrating over a period from the early centuries AD to c. 1200. Buddhism was introduced during the 3rd century. As Buddhism spread, the Sinhalese kingdom extended its political control over the island but lost it to invaders from southern India in the 10th century. Between 1200 and 1505, Sinhalese power gravitated to southwestern Sri Lanka, while a southern Indian dynasty seized power in the north and established the Tamil kingdom in the 14th century. Foreign invasions from India, China, and Malaya occurred in the 13th–15th centuries. In 1505 the Portuguese arrived, and by 1619 they controlled most of the island. The Sinhalese enlisted the Dutch to help oust the Portuguese, and the island eventually came under the control of the Dutch **East India Company**, which relinquished it in 1796 to the British. In 1802 it became the British crown colony of Ceylon, which gained independence in 1948. It became the Republic of Sri Lanka in 1972 and took its present name in 1978. Civil strife between Tamil and Sinhalese groups has beset the country since the early 1980s, the Tamils demanding a separate autonomous state in northern Sri Lanka. In 2004 Sri Lanka was struck by a tsunami that badly damaged much of the coastline and killed tens of thousands of people. Island country lying in the **Indian Ocean** and separated from peninsular India by the **Palk Strait**. It is located between latitudes 5°55' and 9°51' N and longitudes 79°41' and 81°53' E, and has a maximum length of 268 miles (432 kilometers) and a maximum width of 139 miles (224 kilometers). Proximity to the Indian subcontinent has facilitated close cultural interaction between Sri Lanka and India from ancient times. At a crossroads of maritime

routes traversing the Indian Ocean, Sri Lanka has also been exposed to cultural influences from other Asian civilizations. Ancient Greek geographers called it Taprobane. Arabs referred to it as Serendib. Later European mapmakers called it Ceylon, a name still used occasionally for trade purposes. It officially became Sri Lanka in 1972. The distinctive civilization of Sri Lanka, with roots that can be traced back to the 6th century BC, is characterized by two factors: the preservation of Theravāda Buddhism (the orthodox school of Buddhism having its literary traditions in the Pāli language) and the development over two millennia of a sophisticated system of irrigation in the drier parts of the country. This civilization was further enriched by the influences of Hinduism and Islām. In 1948, after nearly 150 years of British rule, Sri Lanka became an independent country, and it was admitted to the **United Nations** seven years later. The country is a member of the Commonwealth and the South Asian Association for Regional Cooperation. **Colombo**, which emerged as the main urban centre during British rule, remains the capital of Sri Lanka. For administrative purposes, the country has been divided into nine provinces and subdivided into 25 districts. Sri Lanka is densely populated. The majority of its people are poor, live in rural areas, and depend on agriculture for their livelihood. A physical environment of wide-ranging diversity makes Sri Lanka one of the world's most scenic countries. As the home of several **ethnic groups**, each with its own cultural heritage, Sri Lanka also has a highly varied cultural landscape. The climate of Sri Lanka is typically tropical with an average temperature of 27°C. In the higher elevations it can be quite cool with temperatures going down to 8-16°C at an altitude of nearly 2,000 meters. Normally-Bright, sunny, warm days. The south west monsoon -May to July western (southern and central regions) North-east monsoon –December and January (Northern and eastern regions) On the evening of April 14th, 1615, a strong earthquake struck Sri Lanka unleashing widespread damage and casualties in western sections of the island, most notably in Colombo. It is thought that 200 houses collapsed. A part of the western city wall of the Colombo Fort collapsed destroyed. A bastion also collapsed and destroyed a neighboring house killing 4 persons. A stone bridge was also destroyed in the earthquake. Deep fissures opened in the earth. According to a historical text (reproduced below), flames and sulphur are said to have been emitted from these fissures. It is thought that 2000 persons were killed in and around Colombo as a result of this earthquake. If the description of the damage described in this text is to be believed, this earthquake would most likely have a maximum intensity (MMI) of VIII or perhaps even IX. Knowledge of this earthquake is derived from a 4 page pamphlet published in Lisbon in 1616, the contents of which were brought to light by late Fr. S.G. Pereira, SJ a pioneer historian, proficient in several languages, "A true relation of the Terrible Earthquake that in the past year of 1615 took place in the Isle of Ceylon in the East Indies: giving an account of the buildings that were destroyed, and the deaths of many persons, as also of the portents and signs that precede it for

many days both in the heavens and on earth, with many other things on the same subject...Printed with permission at Lisbon by Jorge Rodriguez and sold in his shop, in the year 1616." Sadly the writer does not give specific details but wraps the incident in a number of inane reflections and general statements. Reproduced herewith is text from that document, which appeared in an article in the Sri Lankan newspaper, the Sunday Observer, on 4th June 2000. "The Isle of Ceylon is one of the best in the East, as well for the fertility of its soil as for the cinnamon it produces, which is the best that comes from those parts. It enjoyed for many years past the greatest prosperity both in health and abundance of harvest, with the result that the inhabitants became so proud that they almost forgot that those gifts were distributed by the hands of one who was able to turn to chastisement if they did not give him thanks for them. "At last one day, which was the 7th of March 1615, soon after prayers there appeared in the air a terrible comet, which continued for many days to the great wonder of many but to the amazement of none. The comet had three tails, the end of which were like the heads of arrows, and so fiery and red that they seemed to be emitting rays of fire threatening therewith the total destruction of that Island. "This sign in the heavens ceased, God showed many others on land which being nearer to men might produce in them an effect which the other had not. There died animals on the fields and men in the city without any other cause of death than the infection of the atmosphere, without even time to confess their sins. "There were thrown up from the sea numbers of dead fish, so poisonous that all who ate them died, which caused such terror to all that there was no one who ventured to the beach to give them burial: thus the putrefaction and bad odour so infected the air that not men but even the birds of the air fell dead.

"In this way the Island continued to be depopulated as some quitted it for fear and others gave themselves to the hands of death, but these signs and rigorous chastisements did not produce the amazement of those to whom they were sent. But God is a divine surgeon and as such he heals men who are sick in soul with mild remedies till, when a member is putrefied and cankered, he applies fire and the iron to amputate it, and so he acted with these folk for seeing that they were so hardened that they did not mend at sight of the signs in the heavens nor of the chastisements on land, he wished to cut them and destroy them by a terrible earthquake, which took place on the fourteenth of April in the following manner:

"On that day the sun set half an hour earlier than on other days, for it would seem that he even hastened the chastisement as if weary of the obstinacy of the inhabitants of the Island. It was seven in the evening when thunder shook the air with such force and the earth quake so violently that, unable to remain in the houses people rushed out to the streets fearing to be buried under the

falling ruins of the buildings. Then bolts of thunder fell from the heavens, whereupon the terrified people ran into the houses hoping to shelter themselves from the rigour and justice of God. The thunderbolts had their effect, destroying and laying low not only the most sumptuous edifices but also the meanest cottages leveling all, and the few that the fire had not consumed were destroyed by the earthquakes." "Some of those who escaped declared that they heard many voices which sounded so terrible amidst the fire that when they reached the ears that they caused fear and panic in addition to that of imminent death in which they were, though the same seemed to others to be the cries of those who were perishing under the fire of heaven and the falling stones, which rolled from side to side like light feathers or as if some strong hand were moving and hurling them about. "This lasted till about morning, which dawned bright and serene, either to show that its Author had already received satisfaction for the offences of the inhabitants of that land or in order that the survivors may seem more clearly the calamities of the dead." Fissures in the Earth "There were seen in many parts of the Island vast openings and fissures in the earth, some of which so deep that no one could find the bottom, nor were they closed up for a long time, from which there issued at certain times flames of fire as of sulphur, as terrible and awful that some people thought they were the mouths of hell and that God showed them open to engulf them if they did not reform. "The damage which this earthquake did was moreover general throughout the Island not only to fruits, trees and crops but also to cattle and other things necessary for human life. "Great grief was caused by the destruction of a large stone bridge, built at great cost and very necessary as it was the most important passage in that Island, the stones of which were afterwards found many leagues away.

Natural Hazards in Sri Lanka

There had been little concern within Sri Lanka of natural disasters until the Tsunami of December 2004. Cyclones, floods, landslides, and droughts have been the more frequent natural disasters experienced by Sri Lanka, however Cyclonic storms, Tornados, High Winds Lightning, Sea Erosion, Sea Surge, Epidemics and Animal Attacks also acting as other disasters in the Sri Lanka.

2-1. Natural Hazards Likely to Affect the Country

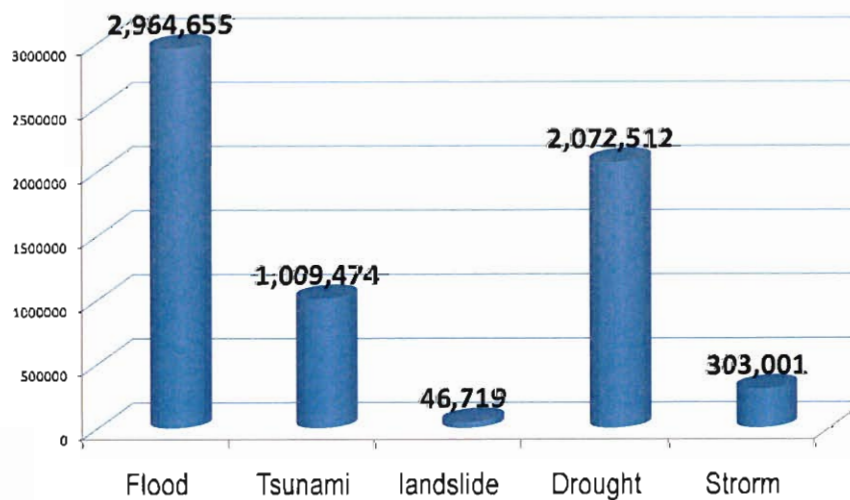
- ❖ Floods, Cyclones, Landslides
- ❖ Droughts, Cyclonic storms
- ❖ Tornados, High Winds Lightning
- ❖ Sea Erosion, Sea Surge
- ❖ Tsunami, Epidemics
- ❖ Tremors/Earth uakes

2-2. Recent Major Disasters

year	Disaster	killed	injured	Total affected	damage (US '000s)
2004	Drought	0	0	3500000	—
2003	Flash Flood	235	0	695000	29000
2004	Flood	6	0	200000	—
2005	Flood	6	0	145000	—
2004	Tsunami	35399	23176	1019306	1316500

The Hazard Profile

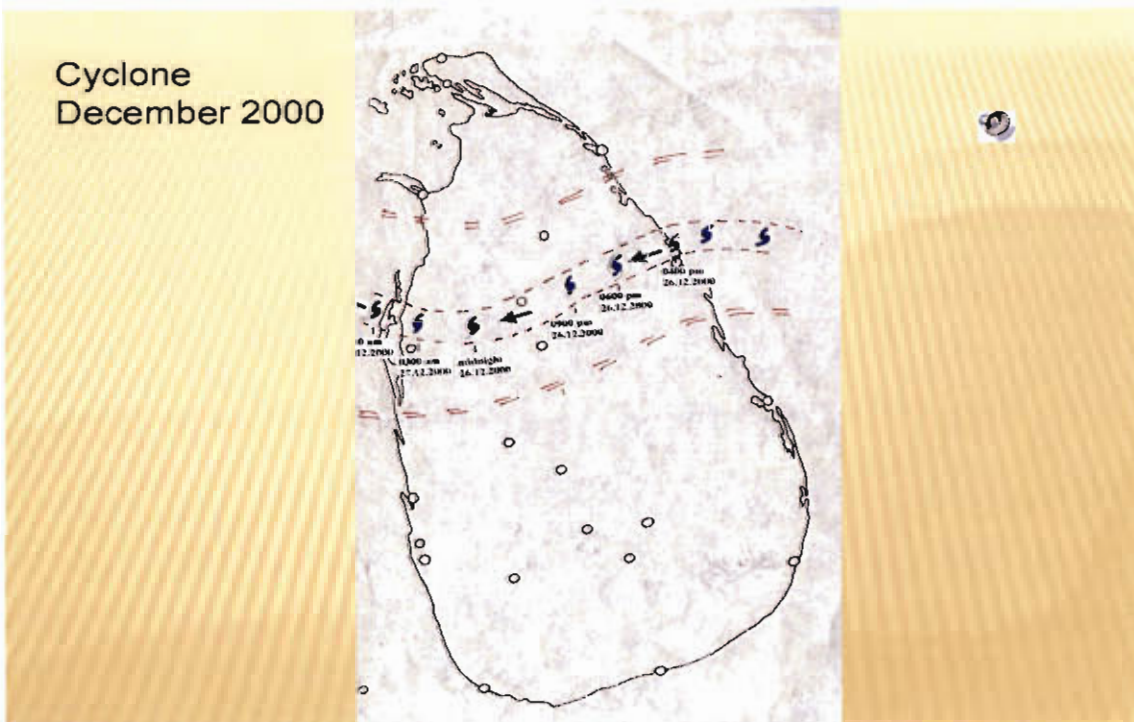
Number of people affected by different disasters in Sri Lanka
(1974 – 2008)



1. Earth Quakes



2. Cyclones



3. Animal Attacks

DAMAGE TO PROPERTY BY ELEPHANTS.

Year	Number properties
2004	532
2005	669
2006	708
2007	800+

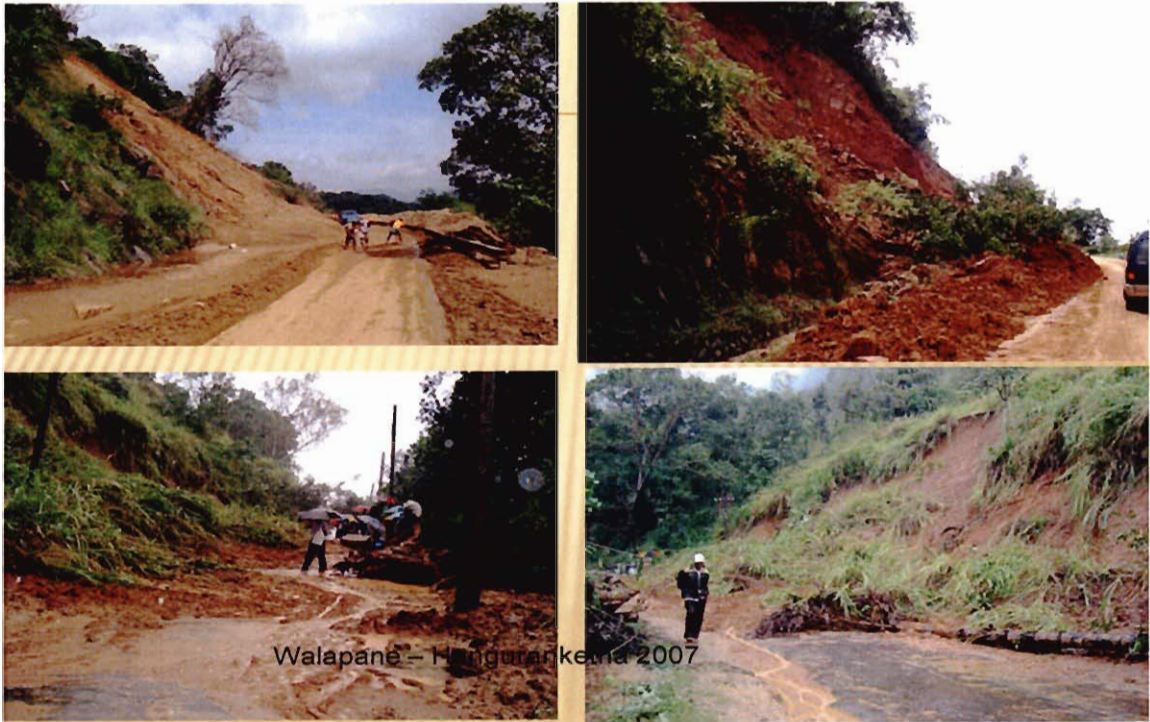


4. Land Slides



Road damages due the
Landslides along the Valleys
Hanguranketha – Walapane
2007 - 01- 11/12





5. Man Made Disasters





Man made cutting failure at Beruwala

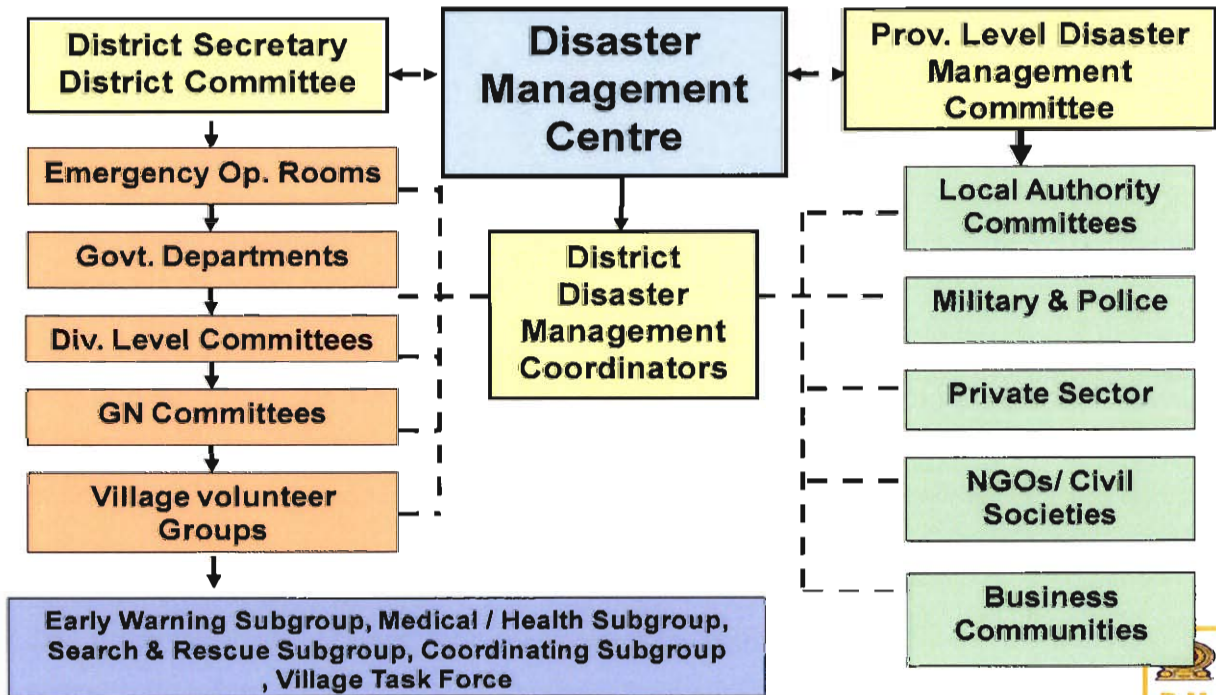
6. Tsunami



Some of the devastation



2. Disaster Management System



The disaster Phase category distinguishes among four parts of a cycle those progresses over time:

- ▶ **Preparedness** Activities prior to a disaster.
Examples: preparedness plans; emergency exercises/training; warning systems.
- ▶ **Response** Activities during a disaster.
Examples: public warning systems; emergency operations; search and rescue
- ▶ **Recovery** Activities following a disaster.
Examples: temporary housing; claims processing and grants; long-term medical care and counseling.
- ▶ **Mitigation** Activities that reduce the effects of disasters.
Examples: building codes and zoning; vulnerability analyses; public education.

Further explanation of the Disaster Management Cycle as it applies to information sources and services follows.

Phases of the Disaster Cycle



Prior to the actual occurrence of a disaster event, the dominant disaster management activity is "preparedness". As the event unfolds, disaster management actors become involved in the "response" phase. There is a period of "recovery" following the response to the disaster event. The "mitigation" phase then occurs as disaster management improvements are made in anticipation of the next disaster event.

Preparedness: During the Preparedness phase, governments, organizations, and individuals develop plans to save lives, minimize disaster damage, and enhance disaster response operations. Preparedness measures include preparedness plans;

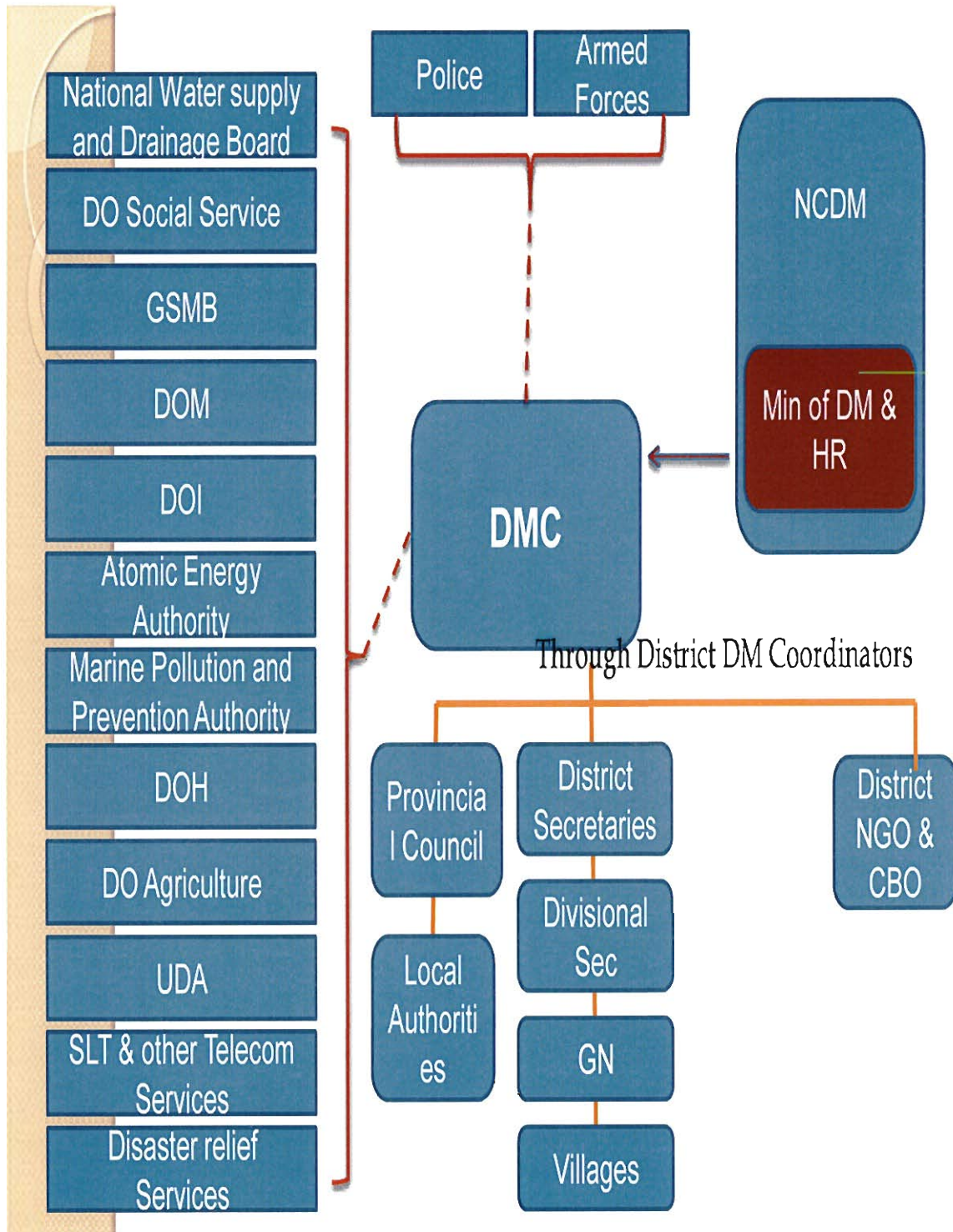
emergency exercises/training; warning systems; emergency communications systems; evacuations plans and training; resource inventories; emergency personnel/contact lists; mutual aid agreements; and public information/education.

Response: Response activities follow a disaster. These activities provide emergency assistance for casualties, reduce the probability of secondary damage, and speed recovery operations. Response measures include activating public warning; notifying of public authorities; mobilizing emergency personnel/equipment; emergency medical assistance; manning emergency operations centers; declaring disasters and evacuating; mobilizing security forces; search and rescue; and emergency suspension of laws.

Recovery: Recovery activities continue until all systems return to normal or better. Recovery measures, both short and long term, include returning vital life-support systems to minimum operating standards; damage insurance/loans and grants; temporary housing; long-term medical care; disaster unemployment insurance; public information; health and safety education; reconstruction; counseling programs; and economic impact studies. Information resources and services include data collection related to rebuilding, claims processing, and documentation of lessons learned.

Mitigation: Mitigation activities actually eliminate or reduce the probability of occurrence of a disaster, or reduce the effects of unavoidable disasters. Mitigation measures include building codes; vulnerability analyses updates; tax incentives and disincentives; zoning and land use management; building use regulations and safety codes; allocations and interstate sharing of resources; preventive health care; and public education. Information resources and services important in mitigation activities include GIS-based risk assessment; claims history; facility/resource identification; land use/zoning; and building code information. Use of modeling/prediction tools for trend and risk analysis is also important.

Coordination with the other Organizations



National risk assessment in Sri Lanka

Objectives

To assist development decision making at all levels in Mozambique by facilitating the appropriate incorporation of disaster risk considerations, through:

- the preparation of a National Risk Information System;
- the establishment of a National Disaster Observatory;
- the enhancement of the National Early Warning System;
- the production of guidelines for the implementation of the National Disaster Risk Reduction Master Plan.

Main activities

- National Risk Information System: local institutions will produce a complete risk assessment at the national scale for earthquakes, floods, cyclones, droughts, and landslides, building upon existing studies and capacities. The system will be made accessible to all its potential users following the national decentralization agenda. Capacity building activities will be implemented targeting especially local authorities and users at the district level;
- Enhancement National Disaster Observatory: the institution will be established at the National Disaster Management Council, and the necessary training, methodology, and coordination will be provided to promote the systematic organization of disaster data into databases for analysis and use. Current and historic disaster data will be collected to allow the production of loss analysis;
- Enhancements to the national Early Warning System: The new information and risk understanding will be utilized to implement simulation exercises to test the suitability of the Early Warning System as well as the effectiveness of its application to local communities;
- Revision of the National Disaster Risk Reduction Strategy: guidelines for the implementation of the National Disaster Risk Reduction Master Plan will be set up and risk reduction projects initiated in the most at risk areas identified by the National Risk Information System.

Outcomes

- National Risk Information System;
- National Disaster Observatory;

3-1. Administrative System

National Council For Disaster Management



In May 2005, the Government of Sri Lanka passed the Sri Lanka Disaster Management Act No 13 of 2005 in the Parliament. The National Council for Disaster Management (NCDM) was established, as per the act the Disaster Management Centre (DMC) was established under the National Council for Disaster Management (NCDM) as the lead agency on disaster risk management in the country in implementing the directives of NCDM. In December 2005, the Ministry for Disaster Management was established. On January 2006, above Ministry was renamed as the Ministry of Disaster Management & Human Rights with human right portfolio being added to the Ministry framework for Disaster Risk Management (DRM) in Sri Lanka. This would Addresses Disaster Management (DM) holistically, leading to a policy shift from response based mechanisms to a proactive approach National Council for Disaster Management (NCDM) and Disaster Management Centre (DMC) established in accordance with the Act.

Preparation & implementation of National Disaster Management Plan for the country. Preparation & implementation of National Emergency Operation Plan for the country and Assisting various Ministries, Government Departments, or Public Corporations in preparing their disaster management plans.

Implementing programmes and plans for disaster preparedness, mitigation, prevention, relief, rehabilitation, and reconstruction activities and coordinating of such organizations Issuing instructions and guidelines to appropriate organizations, non-governmental organizations, district secretaries and divisional secretaries on activities related to disaster management. Promote research & development programs

3-2. Legal System and Framework

Disaster Risk Management (DRM) has been defined as the systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards (ISDR Secretariat, 2004).

- ▶ Based on recent consultations, it is agreed that the DRM framework in Sri Lanka would focus on addressing the following components.
- ▶ Risk Management: Priority measures that the stakeholders have considered reducing disaster risks center around.
- ▶ The roles and responsibilities of the Early Warning Division of the proposed DMC.

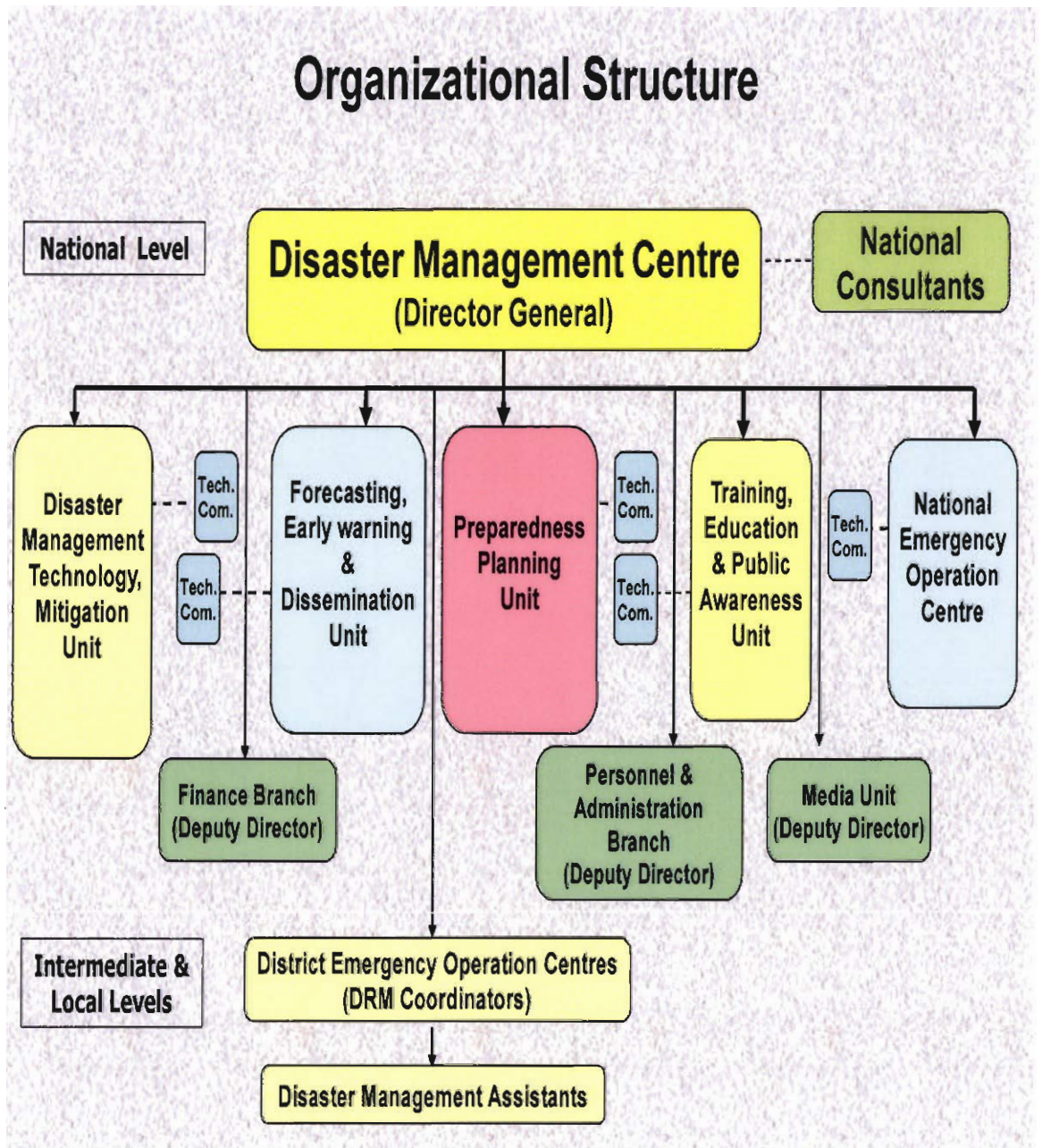
- ❖ Based on recent consultations, it is agreed that the DRM framework in Sri Lanka would focus on addressing the following components:

Strategic :- Policy and Institutional Context: The DRM framework will enable the different partners to identify why disaster risks are increasing, who can lead the responsibility to assess and manage the present and future situation, and through what strategic measures can this system be consolidated to form a sustainable institutional basis for DRM in Sri Lanka.

Risk Identification:- The broad objective in Sri Lanka's context will be to identify the probability of occurrence of specified hazards such as floods, landslides, tsunamis, drought, seismic activities, cyclones in a specified future time period, as well as the intensity and area of impacts. Risk assessments include detailed quantitative and qualitative information and understanding of risk, its physical, social, economic, and environmental factors and consequences.

Risk Evaluation: - This requires the improvement of broad stakeholder capacity to receive timely early warning (EW) messages, act proactively and respond more effectively when warning is provided. Risk communication is closely related to capacities for timely evaluation of risks. Multi-hazard Early Warning Systems have thus been identified as an urgent requirement in Sri Lanka. The key objectives of the EWs are to generate advance warnings and thus improve the capacity of decision-makers to take the required action even prior to the occurrence of a disaster. It consists of the collection, consolidation, analysis and dissemination of the information to the right decision-makers and vulnerable communities at the right time to minimize the possible, adverse impacts of a hazard event.

3-3. Structure of Disaster Management



a) National Platform for Disaster Risk Reduction

b) National Organizations for Disaster Risk Reduction

- UDA- Urban Development Authority
- RDA- Road Development Authority
- Department of Meteorology
- GSMB- Geological Survey and Mines Beuro
- NBRO- National Building Research Organization

- CCD- Coastal Conservation Department.
 - NARA-
 - Fire Brigade
 - Military & Police
 - Department of Irrigation
 - Atomic Energy Authority
 - CEA- Central Environmental Authority.
 - CEB- Central Electricity Board.
 - Marine Pollution & Prevention Authority
 - Medical Research Institute
 - Department. of Agriculture
 - Health Department
- c) Local Organizations for Disaster Risk Reduction**
- Various Local NGOs – SAHANA, etc..
 - Provincial Councils
 - Urban Council
 - Village Committee
 - Youth Committee

3. Disaster Management Strategy, Policy, and Plan

Including components like preparation of a national disaster management plan, a national policy for DM, a national emergency response plan, reviewing, formalizing mandates and identifying capacity development needs of agencies to perform their DM functions as well as steps to implement policies already in place.

Policy, Institutional Mandates and Institutional Development

1.	P-1	Implementation of Provisions of DM Act
2.	P-2.1	Reviewing Institutional Mandates for Line Agencies to Perform Disaster Related Activities
3.	P-2.2	Reviewing Institutional Mandates for Provincial Councils and Local Government Agencies to Perform Disaster Related Activities
4.	P-3	Developing Institutional Mandates and Capacities
5.	P-4	Formulation of CBDRM Policy
6.	P-5	Enforcement of Policies
7.	P-6	Establishment of the National Centre Building housing the DMC, Risk Assessment, Data Collection, Research and Analysis Centre, Tsunami Warning Centre, Multi-Hazard Warning Centre and National Emergency Operations Centre
8.	P-7	Facilitating the Reconciliation Process
9.	P-8	Good Governance and the Law-Making Process
10.	P-9	Strengthening Human Rights: Constitutional Reform
11.	P-10	Strengthening Human Rights: Making Laws more effective
12.	P-11	Strengthening Women's Rights
13.	P-12	Voting Rights of Migrant Workers
14.	P-13	Issues Pertaining to Durable Peace in Sri Lanka
15.	P-14	Encouraging Good Governance within the Ministry

4. Budget Size on National Level

Summery – Disaster Mitigation

Pr.No	Thrust area - Mitigation	No of Projects	Cost - Rs M	No of Districts
01	Floods	01	190	4
02	Landslide	01	60.94	6
03	Flood	01	25.6	1
04	Human -Elephant Conflict	01	38.4	6
<u>Sub total: Rs 314.94</u>				
<u>Project cost less than Rs 20.0 M</u>				
05	Risk assessment	02	11.6	15
06	Flood	29	164.09	10
07	Access Clearance	14	69.34	2
08	Drought	3	17.9	3
09	Water supply	3	9.1	3
10	Drought mitigation	2	5.3	2
11	Landslides	4	5.5	1
	Total	61	595.0	

5. Progress of the Implementation of Hyogo Framework for Action (HFA)

National progress report on the implementation of the Hyogo Framework for Action

Last updated on: 27 May 2009

Strategic goals 1

Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Strategic Goal Statement:

Sri Lanka has a pronged strategy for combating disasters in terms of poverty alleviation. These strategies are fully integrated with the development plans and programmes at all levels with directly aiming at those who have not benefited. The strategies incorporated following microfinance schemes such as Samurdhi Programme, Janasaviya Trust Fund, Gamidiriya, Samurdhi Naya Niyamake (Credit Scheme), & National Development Trust Fund. UNDP's new Country Programme will support the Government's development agenda and objectives captured within the framework of the UNDAF. The first UNDAF priority: Equitable and sustainable pro-poor growth will be supported by UNDP through a combination of upstream policy advice and Downstream project activities in three main areas: (a) pro-poor policies and achievement of the MDGs; (b) aid coordination; and (c) environment and energy and disaster risk management. The National Campaign for Achieving the MDGs is spearheaded and administered by the Ministry of Finance & Planning, with the support of UN Country Team and with direct implementation assistance by the UNDP. The National Council for Economic Development (NCED) brings together stakeholders from the private and state sectors to develop economic policies and action plans. Number of 18 MDG targets set out to achieve and 2 targets mentioned below under environment sustainability will help to reduce impacts of disaster

- Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. The Forest Department promoted a partnership with the private sector and local communities for a tree-planting project which included community participation.
- Halve by 2015, the proportion of people without sustainable access to safe drinking water and basic Sanitation. The Water Supply and Drainage Board has set its own target to provide safe drinking water to 85% of the whole population by 2010 and to 100% by 2020.

Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Strategic Goal Statement:

The National Disaster Management Coordination Committee (NDMCC) was established, with Representatives from government organizations, donors, UN agencies, I/NGOs, Media and Academic institutions under the chairmanship of the Secretary, Ministry of DM & HR. The National DM Policy has addressed the DM holistically. However priority is given to DRR normal Time and search & rescue and relief operations during disasters. In May 2005, Disaster Management Act No.13 of 2005 was enacted, which provides the legal basis for instituting a Disaster Risk Management (DRM) system in Sri Lanka with special emphasis to maintenance and development of disaster affected areas. The "Road Map" developed based on the goals and priorities given in HFA guidelines that government agreed in principle. The Road Map Volume II contains over 100 detailed proposals that aim to provide development partners with more information on each activity listed under the seven thematic areas mentioned. National Disaster Management plan already prepared & waiting cabinet approval. Further it was developed in line with community focused disaster management requirements and also emphasis the Proactive approach. The local government institutions considered as more appropriate mechanism for respond disasters. Government has taken action to strengthen their capacities to respond effectively for disasters by providing physical assets & training. Multi disaster school awareness and training programmes are regularly conduct and Mock drills in practice to evacuate for safe locations. DM response teams formed. Community Based Disaster Risk management Programme is under implementation in all disaster prone districts. Formation of DM plans at all levels (District/Divisional/Village), establishment of DM committees and make them aware to identify mitigation programmes at village level is in progress. Training is being imparted to DM teams in first aid, leadership, team work, early warning mechanism, evacuation drills, Prepare Hazard maps and relief coordination.

Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of Emergency preparedness, response and recovery programmes in the reconstruction of affected Communities.

Strategic Goal Statement:

The DM Policy promotes mitigation/Prevention, Preparedness, Response, Recovery and Sustainable Development giving due consideration to the national economy of the country. Land use policy initiated by Ministry of land is approved by the parliament and preparation of land use plans are in progress. Training programmes for incorporation of Disaster Management concerns in the process of preparation of Urban Development plans were conducted for town planners and technical officers in districts. Discussions are underway with Urban Development Authority to incorporate disaster risk reductions in town planning process. Initial discussion held to develop National Emergency Response Plan. However plans for specific hazards such as oil spill, nuclear and hydrological disasters have been developed Building guidelines (Building codes) for construction in disaster prone areas developed and regulations formed to implement guideline at local authority level. Implement development of disaster response and preparedness plans for district, division and village levels.

Tsunami and Flood mock drills for villages & schools are in progress. Training programmes to handle mass casualty in 3 main base hospitals have been completed. Fire brigades are established in 17 local authorities on cluster basis and required equipment was provided. Government issued instruction to develop agencies to reconstruct houses destroy /damage by Floods, Tsunami & landslide to withstand future disasters following a build back better philosophy. Houses construct after 2003 flood and landslides have stood strong for the 2008 flood as they were constructed better according to set building codes. This policy will be further improved and applied for future constructions. Agreement entered with the environment authority to include disaster impact concerns for new projects in the EIA procedures. Identification of proper landslide hazard free sites & adhere to proper guidelines made compulsory in resettling people in landslide prone areas.

Priority for action 1

Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

Core indicator 1

National policy and legal framework for disaster risk reduction exists with decentralised responsibilities and capacities at all levels.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

National disaster management policy was developed and awaiting approval from the National Council for Disaster Management. The National Policy has addressed the Disaster management holistically. However priority is given to DRR normal time and search & rescue and relief operations during disasters. School awareness programmes, mock drills ,Gender based programmes and public mental health approaches have been accepted as guideline principles in the formulation of DM policy which covers some targets of MDG. Consideration of Disaster Impact in the existing Environment Impact Assessment process has been included in the policy which covers environment aspect of MDG targets. Ministry of Environment has agreed to appoint a representative to Scoping Committee where ToR for EIA and for new projects are considered. Urban Development Authority has initiated a pilot project to prepare a development Plan for Ambalanthota Pradeshiya Saba taking in to consideration floods, Droughts and Thunami. Disaster management policy is implemented through some programmes. DM policy has to be compared with other sector policies and amendments needed have to be incorporated. National DRM plan is developed with the participation of all public and private sector stakeholder agencies but not made legally binding as yet. Disaster Management Center is the focal point that coordinates and oversees the DRM system. At present there are a few Ministries and Govt. agencies involved in various stages of DM cycle. DM& HR ministry has been empowered to coordinate activities of all concerned ministries and agencies to avoid duplication and overlap of functions. Only the government officers at management level aware of their decision making responsibilities in terms of DRM. The organizational structure of government agencies who are involved in DRR is existing and known to them. More consultations are required to make them understand the necessity to shift from relief to DRR to ensure sustainable development.

Context & Constraints:

The national policy formulated and the approval has not been obtained as yet. Therefore disaster reduction policy cannot be included in other policies in the sector. The strategies are being developed and awaiting the acceptance of the National Policy. Only the officers at the management level are aware of the content of the NDRM plan. Hence the compliance is not up to the expected level. There is a requirement to make the officer at lower level be made aware of the plan for successful implementation. Absence of policy approval is affecting the implementation of the DRM policy and DRR programmes. However some activities are been implemented in consultation with some stakeholders. Regulations for enforcement the requirement of the act are not available .Hence the level of compliance for DM act varies and depends on the personalities. Act doesn't make authorities legally responsible for compliance. Responsibilities of agencies regarding DRR in their area of work must be defined in respective

acts Amendments of disaster management act is urgently needed as;

- Powers vested for Disaster Management center is insufficient to implement DRR policies.

- Powers are not given to formulate regulations.

- Decentralization of powers needs to be affected through an amendment to the act.

Deficiencies of the DM Act was identified in consultation with all stakeholder agencies. Approval of the Cabinet of Ministers obtained to amend the Act. Consultants appointed to review the Act has submitted the 1st draft. The building codes used at present do not consider DRR requirements for construction. Legal responsibility of applying standards, codes and guidelines for designing & construction in disaster prone areas are not very clear. It is not clear how the available acts make the officers responsible and accountable for implementation of DRR programmes.

Supporting document:

Core indicator 2

Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

World Bank cover 65% of the investment for the Dam Safety and Water Management project proposed in the Road map for DRR in Sri Lanka. Investment for establishing Emergency Communication and Early Warning system covered by a soft loan provided by an International Bank. UNESCAP provided funds to improve the Emergency Communication capacity in two districts. JICA has provided a grant to undertake comprehensive flood management study in 4 river basins and establishing a flood warning system in one of the river basins Investments on DRR activities identified in the EIA reports have been integrated in to the estimates of new projects. The DM Act has a provision to establish a fund, managed by the NCDM to be used in all activities including mitigation, emergency relief and response. NCDM approve criteria developed by the Ministry to operate the fund. Approval of the Treasury awaited to commence the operation of the fund. Initial Capital is provided by the Treasury. The approximate national budget allocated for DRR activities is Rs 1375 mn in 2006, Rs 1547 mn in 2007, Rs 1070 mn in 2008 and Rs.1336 in 2009. Flood insurance and crop and property insurance packages are available, but the high insurance premiums keep the people away from these programmes. Implementing a micro insurance scheme involving Community groups is proposed with WB funds in 2009 as a pilot project. Available human resources on Disaster Management at all levels and across all sectors of government are insufficient. Universities have initiated few

diplomas and Master programme to produce qualified professionals in the DM field. The presently available human resources for DRM need more training to improve their expertise. Physical resources such as Communication, transportation, emergency response equipment, etc and infrastructure are insufficient to meet challenges of disaster risk reduction programmes

Context & Constraints:

The financial allocation is not sufficient to address the disaster risk management issues at present. Disaster Management is not yet recognize as a separate sector. At present it is a component of Social Protection sector therefore no percentage of annual budget allocated to disaster risk reduction. Further since the DM is not a devolved function of the Government, Provincial Councils do not allocate funding for DM in their budget. Disaster Management is not mainstreamed and therefore govt. agencies do not provide funds in their budget for DRM activities. The methodology to assess the disaster risk is needed urgently to convince the authorities to allocate more funds for disaster risk reduction activities. Although there is national emergency fund established, operational mechanism for the management of fund is not finalized. Delays in realization of international funds through the government need to be streamlined. Insurance packages available at present for properties and life are not attractive. Need strategies to promote. Human resources development in all levels of government and across all sectors is urgently required for implementation of disaster risk reduction effectively. Available physical resources and buffer stocks are inadequate. This need to be developed and maintained at regional and also at village level to response to disasters. More storage facilities at district level are required.

Core indicator 3

Community Participation and decentralisation is ensured through the delegation of authority and Resources to local levels

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

Provincial councils are responsible for implementation of development activities and Local Authorities are empowered to implement programme for the welfare and safeguarding the health of people, enforcing the regulations against those creating nuisances within the LA limits. Powers and responsibilities between central and local authorities are well defined. Local authority has some powers to carry out relief and response activities but it lacks resources to meet the disaster risk reduction requirements. The private sector, fulfilling their social responsibility, provides relief to disaster victims when there are appeals by the government for assistance. Participation of civil societies and private sector agencies in the formulation and

implementation of policies and plans are inadequate. The other stakeholders (government, INGOs & NGOs) play an active role in this exercise. Up to some extent the affected /vulnerable populations are involved in defining need and find solutions To mitigate disaster risks. However it was noted that there more female participatiion in these activities. Community training and community based preparedness activities for hazards such as tsunami, landslides and floods implemented in covering most of the disaster prone areas. The government declared 26th December as the “National Safety Day“ and arranged following public awareness activities on DRR to remind the population about the need to contribute to the disaster risk reduction to ensure disaster free Sri Lanka.

- School level essay and art competitions.
- National and district level awareness meetings.
- National competition organized to develop a logo for Disaster management Center. Logo for Disaster Managemenr Centre was developed and acceptwd by the Govt. International safety day was celebrated in several selected districts with awareness and training programmes. Media prefer to cover disaster events when there is news value appealing to the public. Loss of human lives, property damages and relief provided are covered to large extent.

Context & Constraints:

The community leaders, community based organizations and NGOs working at village level mainly focused on disaster relief and emphasis on disaster risk reduction activities as whole is inadequate. Implementation of DRR activities needs to be improved Conduct programmes to make civil societies more dynamic organizations and strengthen their capacity to negotiate with public sector agencies to implement DRR programmes. DRR programme should be formulated and implemented in such a manner which encourages the male participation in the process. Frequent dialog need to be conducted with local political leaders to emphasis on DRR rather than relief. Commercial inspired initiatives to mitigate disaster risk, strengthening preparedness for emergencies are not being considered at present by the private sector.

More media coverage is required for disasters and Pre-disaster activities (Preparedness, mitigation and prevention measures) in order to educate and prepare general public in advance for disasters. Conducting regular press briefing will facilitate this process. In Ambalanthota DS division in Southern Sri Lanka Community group was formed to cut open the sand barrier of Walawe River mouth to drain off storm wate. Local NGO provided the seed capital and payment for hire of machinery is made from the interest. Committee Chaired by the Divisional Secretary and consisting of village leaders manage the funds. Some legal coverage should be provided to ensure the sustainability of such funds.

Core indicator 4

A national multi sectoral platform for disaster risk reduction is functioning.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

National Platform for DRR established in October 2007, named as National disaster Management

Coordinating Committee (NDMCC) and functioning regularly to coordinate the activities of all stakeholders. A program is developed with UNOCHA to monitor who is working where and on what activities. NDMCC is a multi-sectoral organization composed of senior executives from public and private sector organizations, media, academics, I/NGOs and Research Institutes.

Followings are the accomplished activities since its inception

Primary activity

1 Establishing baseline information for DRR, including disaster and risk profiles, national policies, strategies, capacities, resources and programmes.

Sub activities

a) Preparation of a format with a guideline to collect information about disaster management programmes conduct by stake holders

b) Distribution of the format and guideline among the stakeholders. Format and the guidelines are

prepared according to the thematic areas in the road map.

Primary activity

2) Identified targets, gaps, concerns and challenges and setting forth accepted priority areas in DRR.

Sub activities

a) Decentralization of risk reduction activities concerning prioritized areas (responding to climatic change, establishing a mechanism to control Chronic Kidney Disease (CKD) and to promote human elephant coexistence) The percentage of women participation in NDMCC is approximately 30%. Active participation of NDMCC members and providing resources to organize a Regional workshop on the theme "Disaster Free Asia" has been encouraging.

Representatives from Govt and I/NGOs involved in Disaster Management activities from SAARC countries participated. Declaration was issued to strengthen Regional Corporation for DFA. National and regional initiatives to action the critical issues highlighted are required.

Publication of quarterly news letter DRR on behalf of NDMCC published in Aril 2009. Experience

of stakeholder agencies in DRM field will be published. It is hoped that news letter will improve the coordination among NDMCC members.

Context & Constraints:

Participation of government agencies is not adequate. It was observed that interest of agencies in taking part at meeting faded away as the subject matter discussed has no relevance. Therefore in 2008 NDMCC restructured and three core groups established. Core gr. 1. - Training and Awareness Core Gr. II - Disaster Risk Reduction Core gr. III – Response Core groups meets monthly and report to NDMCC one in three months. This change has created more interest of members. Sharing of DRR work plan among all agencies has not happened as expected. Development of disaster calendar based on the disaster inventory for Sri Lanka has created an environment to share resources more readily. Special attention was paid to improve the coordination at sub national level. Request was made at the monthly conference of Government Agents to improve coordination of stakeholder agencies in disaster management field working in the district. National platform represent only selected number of organizations and annual review of activities by all involved in DRR activities need to be conducted:

Priority for action 2

Identify, assess and monitor disaster risks and enhance early warning

Core indicator 1

National and local risk assessments based on hazard data and vulnerability information are available

and include risk assessments for key sectors.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

The national level hazard maps for landslide are developed by National Building Research Organisation and available for practitioners. Risk profiles for landslides are being developed for some of the landslide prone areas. Risk profile for Kandy Municipal Council area developed as a pilot project. Local level hazard maps that prepared by community for tsunami affected areas are available. International workshop was held on 30.03.2009 in Wadduwa to share experience on development of risk profile and agree on a methodology for developing risk profile for flood, tsunami, cyclone, drought and landslides. Agreement entered with following institutions for the development of risk profile by end of 2010 Floods- Irrigation Dept with Peradeniya University Tsunami- Coast Conservation Dept. with Peradeniya and Moratuwa universities Drought-

Agricultural Dept. Rapid assessment for flood impact conducted in 2006 and 2008 for flood affected Kalutara, Gampaha, Colombo and Rathnapura districts for the development of mitigation programme. A Data base on climate change is maintained by Meteorological Department. The Ocean Observation Centre (OOC) of National Aquatic Resources Research and Development Agency (NARA) also maintaining a physical ocean environmental database. DMC has developed a data base on disasters from 1974 published in a separate website www.desinventar.lk. Records for past 30 year's data on disasters collected from news papers were revalidated with actual records from districts before publishing in the website. A mechanism for updating data with the assistance of divisional offices is established. EOC collect data and enter in to data base on daily basis. Policy level approval obtained to consider disaster impact in environment impact assessments process. However small projects which could create disaster situations are not cover by EIA.

Context & Constraints:

Risk profile not available for hazards other than landslides. Capacity of focal agencies responsible for developing risk profiles should be developed. Technical assistance required to formulate criteria for assessment of disaster impacts of new development projects. National level workshop was held to obtain views of development agencies and EIA practitioners to strenthen the EIA process to consider disaster impacts. It is compulsory to undertake EIA for all projects above certain limit to get the approval for implementation and funding. However projects of lower value do not require EIA and are not monitored by any agency. Development of criteria for evaluating smaller project, which donot require an EIA or IEE and training local and district level staff to undertake disaster impacts need to be undertaken. Community level hazard mapping should be undertaken for all hazard prone villages.

Core indicator 2

Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

Database for disaster information for last 30 years have been developed and available in the website. (www.desinventar.lk) Mechanism to update data with assistance of Divisional Secretary offices is in place. EOC DMC enter the data to data base on daily basis.

Sri Lanka Disaster Resource Network Database (SLDRN) is being developed and to be updated by

district level organizations. Any responding organization could have an access to this web site. National Aquatic Resources Research and Development Agency (NARA) is operating emergency centre on 24 hrs, 7 days basis and monitoring and gathering real time and near real time ocean physical environmental data around Sri Lanka Waters from reliable sources. Disaster Management Centre (DMC) and the Department of Meteorology to provide the necessary technical information and guidance for early warning and mitigation of impacts from natural ocean disasters. Intra- governmental net work connecting DMC, Irrigation Dept. Met Dept. Police, Media Institutes, and seven district offices, in the I phase of Project implemented with JICA assistance, to exchange data and information on disaster. 35 automatic weather stations are established covering the entire Island with JICA assistance and Available for use of the public. Meteorological department exchange weather information on daily basis with the Disaster management center which is the focal point to disseminate early warning messages and information. Vulnerability and capacity indicators are still not developed.

Context & Constraints:

Records are available at individual institutional level. However there is no system to exchange the information. Some of the institutions are reluctant to share their data and information. DMC with the assistance of JICA has established a Intra-Governmental net work to share data relevant to disaster management. This system need to be strengthened. Capacity of agencies has to be improved to develop indicators to assess vulnerability and coping capacity of communities. Officers developing DRR proposal should be trained to use data bases to identify the suitable mitigation projects based on the past experiences. Minimizing the dependency of vulnerable communities should be taken in to account. Related links:

Core indicator 3

Early warning systems are in place for all major hazards, with outreach to communities.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Nationally based early warning system for floods, tsunami, cyclone, landslides and sea surges is in place. Focal points for formulation of warning messages are identified. DMC is responsible for dissemination of early warning messages up to the last mile. An effective people centered early warning system available with the participation of early warning teams using local communication methods (Bells, Drums, Horns, etc). Community level early warning systems are implemented in selected sites on pilot basis. Assessment was made after tsunami early

warning issued in September 2007 to identify gaps and improve the system. It was observed that 80% of the populations in the coastal belt have moved away from the coast after issue of the tsunami early warning. Periodical tsunami early warnings issued at Community level for training and preparedness purposes. Island wide communication system being implementing to cover the whole island with special emphasis on coastal belt. The project will be completed by year 2009. Early warnings disseminate through TV, radio, and other local systems are in place. Mobile phone operators have initiated actions to send early warning messages to their client using their system. Three early warning towers are in operation on pilot basis at present and 25 towers are added to the system in April 2009. Balance will be completed by the end of 2009. Department of Metrology (DoM) issue early warning messages for cyclone. International links are established to receive data and information from early warning providers. DoM is in the process of establishing Doppler Radar system which will improve the prediction capability of the dept. DMC disseminate weather forecast through early warning towers. An assessment done in Hikkaduwa has shown that people are very receptive to the forecast issued. This system will keep the people alive to the early warning dissemination system.

Context & Constraints:

Sri Lanka does not have financial capacity to acquire and maintain necessary equipment for data Collection and human resources to analyze and forecast natural hazards. Shearing information regionally also not in place at present. This has become a major obstacle in issuing early warning messages in time. The community level mechanism to disseminate the early warning to the last mile within the lead time available is not adequate and should be improved. Community lose confidence and doubt about the reliability of the warning issued if the disasters do not occurred as predicted by respective authorities. Early warning system based on electronic media may not be suitable in the night and sometimes could create panic situation if they make it sensational. It is required to strengthen dissemination of EW messages through police communication network improve the capacity of Local police to disseminate the message help to evacuate vulnerable communities.

A system to network early warning committees in the area and data base available to DM workers

should be developed.

Core indicator 4

National and local risk assessments take account of regional / trans boundary risks, with a view to regional cooperation on risk reduction.

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

The Department of Meteorology maintains an effective regional data exchange and monitoring system. Met. Dept. has established link with Pacific tsunami warning center (PTWC) and Japanese meteorology agency (JMA) through Global Telecommunication System. Trans-boundary meteorological hazards are monitored by department of meteorology. Memorandum of understanding had signed by DMC with ADPC for exchange of information DMC connected with Japanese meteorology agency and receives information on tsunami and earth quakes. Technical agencies responsible for monitoring and assessing risk are connected to DMC with a inter government network. DMC has established close links with SAARC disaster management organisation for training and exchange of information. National Aquatic Resources Research and Development Agency Provide real time sea levels and other available information's at any given time to DMC, Department of meteorology and other relevant authorities for ocean based disaster early warning and mitigation.

Ocean based trans-boundary hazards are monitored by National Aquatic Resources Research and Development agency. System is been developed with the assistance of Atomic Energy Authority Sri Lanka and IAEA to monitor the trans boundary effect of nuclear accidents in the region specially from India. Contingency Plan for oil spills has been developed and contacts have been established to get the assistance to respond to major oil spills from the regional agencies.

Context & Constraints:

Financial assistance is required to develop capacity of institutions and to procure required equipment. Absence of regional contingency fund hamper the quick response to major disasters such as oil spills, tsunami etc. There is no regional early warning provided in the Indian Ocean. Countries in the asian region have to establish bi lateral links for exchange of data and information. there is an urgent need to strenthen the regional cooperation in this area.

Priority for action 3

Use knowledge, innovation and education to build a culture of safety and resilience at all levels

Core indicator 1

Relevant information on disasters is available and accessible at all levels, to all stakeholders (through Networks, development of information sharing systems etc)

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

The updated news, information and other DRR initiatives taken place in Sri Lanka is available in DMC web. (www.dmc.gov.lk) On completion of Hazard maps and risk profiles for identified hazards, DMC will place these maps in a separate web site for the use of any stakeholder. Basic infrastructure has been installed to launch a GIS data base on disaster risk at village levels. A separate division in the DMC has been identified to manage the disaster risk information. A Database on disaster events and impacts since 1974 have been developed and available on the website. (www.desinventar.lk). Database validated with data obtained from districts, divisions, village and central government agencies. These data is accessible to all the stakeholders. Resource center was established at DMC to encourage academics and school children to undertake disaster management related research. These information will be available in the DMC web site. Training programmes are conducted for districts and divisional officers for the use of data to analyze the disaster risk of the districts/divisions and develop projects for reducing the disaster risk. Officials are trained to include disasters in development plans based on disaster data available at district and divisional level. At present the projects and programs are not developed or updated based on Hazard, Risk and Vulnerable information. Discussions are in progress to consider such information in future programmes and projects. GIS data based developed in one of the division Badulla district. Landslide data included and verified in the field. Development proposals are prepared based on this information.

Context & Constraints:

Information available at district level are limited and sometimes information related to disaster losses are not available. Government Agencies keep information with them only for about last 5 years and hence the validation of data base has been done with limited amount of data. However arrangement has been made now to enter data after each and every disaster in future. Formats for collection of data have been standardized by DMC with the assistance of Ministry of Public Administration and in future collection data on disaster will be streamlined. However these officers have to be trained to use these formats and monitor the data collected to ensure that they represent correct information in the field. Personnel engaged in preparation of development plans lack the knowledge on disaster risk and Vulnerability assessment methodologies. Some organizations have legal authority to share data and only process data publish could be accessed. Data is not available freely and need to be paid to acquire. Due to security concerns digital maps are not shared freely. Policy on sharing data between public

agencies needs to be developed and agreed. DMC promote university students to undertake research project to develop simulation model floods. Training of district officials on the use of GIS information need to be conducted.

Core indicator 2

School curricula , education material and relevant trainings include disaster risk reduction and recovery concepts and practices.

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

DMC has developed few visuals on DRR which is used to conduct awareness programme. District level school DRM awareness and training programmes on multi-hazard with special reference to tsunami were conducted along the coastal belt and mock drills were practiced in all schools vulnerable to tsunami as priority activity. Awareness programmes on Multi-hazard are being conducted in other schools also. Special awareness programme on man made disasters was conducted in all school Guideline posters and video clips on hazards are developed by DMC and made available to all stakeholders conducting awareness programmes. RAdio and interNET (RANET) equipment issued to several schools on pilot basis to obtain information on disaster management through internet. Disaster Risk Reduction component already introduced in grade 6 and 7 of school curriculum as a subject and for grade 8 and 9 as a module in social science subject. The students in advance level classes are encouraged to undertake projects on disaster management and necessary material guidance provided when ever requested. DMC has established separate division to manage training/awareness programmes with responsibility to build the capacities of stakeholders in all levels. Sri Lanka Institute of Development of Administrators(SLIDA) has included a separate Module on Disaster Management in their annual training calendar. Disaster Management module in included as subject in regular programme conducted by SLIDA for senior government Officers. District /divisional level school disaster management training and capacity building progammes are underway with the coordination and involvement of district disaster management coordinating units established in districts. The I/NGOs are also take part in school awareness and DRR programmes. Several state universities have commenced Master degrees and Diploma programmes on DM in order to develop professionals required in the sector DMC standardise all training material available with stakeholde agencis .

Context & Constraints:

In the absence of a common training module for awareness programme each organization conducting training has developed its own modules. DMC is in the process of developing training modules for various programmes. Very few teachers were trained on DRR and conducting TOT programme for teachers is a priority. DMC is implementing a programme to make teacher aware of practical aspects of DRR with field visits so that they could be effective trainers. Resource personnel available at district level are very limited and those who are conducting training at local level has to depend on resource persons from the DMC. DMC launched a programme to identify potential trainers at local level, conduct TOT and develop a data base of trained personnel make it available to any organization involved in training programmes. Training material available in local languages is very limited. Supporting document:

Core indicator 3

Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

National science council provides grants to undertake DRR activities as action projects. Minister of disaster management and human rights had issued instructions to meteorological department and national building research organization to undertake research on weather forecast for drought mitigation and landslide forecasting. Symposium in place to promote the practical application of academic research in risk reduction, Identify research gaps in the area of disaster risk reduction and possible knowledge management and sharing mechanisms. symposium is planned to be held on 7th and 8th of July 2009. Department of Agriculture has done many research to develop paddy varieties resistant to drought condition. DMC is assisting the Dept. to demonstrate the practical application to farmers and field officers in selected locations in drought prone areas. It was noted that some of the research work have no practical application in the field. Research on DRR undertaken by various institutions with donor funding does not get coordinated. Gaps identified at a symposium could be forwarded to research organizations to include in their research programmes. DMC will have to facilitate the research work and identify areas where DRR is weak. Promote and assist agencies

Core indicator 4

Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Information on hazards is publishing in DMC website regularly. Early warning system established to disseminate hazard risk and warning to general public on available media(TV, Radio, Mobile, etc) Resource center with assistance of Oxfam America is been set up in DMC to facilitate information sharing and usage. At present weather information is disseminated through three early warning towers erected in Northern, Eastern and southern regions of the country. Most of the awareness programmes are conducted in three languages, Singhala, Tamil and English and reading materials are made available in English and some cases in two local languages. DMC has organized public forums to share information and good practices on DRR and adaptation to climate change especially on drought and flood hazards. Regular press briefings are arranged during disaster time to educate public. December 26th declared as "National safety day" and observed annually since 2006. First safety day was held on 26 Dec 2006 at Galle and the 2nd at Rathnapura 3rd in Kandy. Safety day in 2009 will be held in Kurunegala. Frequent visits to countries in south Asian region are taking place and DMC and other stakeholders have close relationship with the DM organizations in the region sharing good practices. Information are regularly Shared on tsunami, earthquake and weather related hazards by the DM organizations in the region. International workshops on CBDRM and Disaster Free Asia was held in Sri Lanka and discussed possibilities of sharing experience and information a series of programme open to public named 'Sanhinda" initiated by DMC with the assistance of UNDP is in progress to promote scientific knowledge, create awareness and influence policy makers on current issues leading to disasters. It is a forum for interaction with public affected by various disasters, stakeholders involve in DRR activities and focal point in public sector.

Context & Constraints:

Media is more prefer to cover post disaster activities which have more news value. Disaster risk reduction programme does not get covered sufficiently. A suitable DRM awareness programme

for journalist to understand their role in DRM is a requirement. Development of reporting format and establishing strong links with media at District level is essential to publish speedy and accurate information. Awareness programme for joirnalist in Anuradapura district was conducted. Application of regional experience and knowledge at local level is limited. Mechanism to exchange resource personnel regionally is required to share regional experience at local level through the implementation suitable DRM projects and activities. The public forums organized to express their views on existing disaster related issues are not focused to remedy the problem or the community responsibility on mitigation. The outcome of these dialogs to be made available for the public as well as the authorities concerned to act responsibly.

Priority for action 4

Reduce the underlying risk factors

Core indicator 1

Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Central Environment Authority is established under a parliamentary act to implement and monitor environment development programmes and resolve environment issues. Considering the disaster impacts in the environment impact assessment process has been accepted in principal by the environment authorities. The political commitment is very high. DMC working with Practical Action and other experts groups and practitioners to develop criteria for the assessment of disaster impacts of minor project not covered by EIA. Ministry of Envirnment agreed to appoint a representative of DMC to scoping committee of CEA, where ToR for EIA study for new projects developed and EIA report is considered for approval. Prior to approval of any major development, Impact assessments on physical environment, ecological resources, Archaeological and cultural consideration and socio economic aspects are done by the central environment authority with the consultation of respective technical agencies. Recommendations and mitigation proposals obtained from respective technical authorities are monitored and enforced by Central Environment Authority. National Environment Act declared wetland as environment protection area. Conservation and replanting of wetland mangroves are been done by the organizations involved in environmental conservation and development.

Under the forest management activities, preservation of catchments areas and water bodies are undertaken. The forest department is implementing reforestation programmes in catchments area to improve the retention capacity. DMC initiated public debate on adaptation methodology in agriculture and proposed implement projects to popularized drought prone seed varieties. Department of Meteorology developing capacities to issue weather forecast to farmers before the harvesting period to minimize losses due to floods and drought as a result of climate change. Land use policies have been developed in consultation with all stakeholders. Land use plans are available only for some areas

Context & Constraints:

Due to the ongoing conflicts in some parts of the country effects the enforcement of legal power on deforestation and unauthorized filling of water retention is weak .Responsibility controlling of filling wetland, paddy land and other low lying areas are with different authorities without any clear boundary of their implementation authority and enforcement powers. Town development plans for some areas are available but the DIA component is not integrated in to the plans. Discussions are in place to incorporate in future. The details of the proposed mitigation measures in the Environment Impact Assessment procedure are not sufficient to evaluate Disaster Impacts. The format should be amended in order to suggest more specific mitigatory measures in quantifiable manner. Enforcement of conditions given with the EIA approval are not regularly monitored or enforced due to inadequate human resources.

Core indicator 2

Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

Vulnerable population identified and socioeconomic protection programmes are being undertaken for low income population identified under the "Samurdhi" and "Gamidiriya" programmes. The disaster reconstruction process is handled by the Ministry of Nations Building. Ministry of Disaster Relief Services mandated with the relief and recovery functions. However there is an overlap in response and rescue efforts as the capacity for early response

and recovery is with the DMC. However as per the DM Act overall responsibility for pre and post disaster coordination is with the DMC. Some of the persons in hazard prone areas have assisted by micro finance schemes, implemented through financial support of UNDP and other NGOs. Insurance schemes for losses due to disasters are not popular in Sri Lanka due to its high premium. However a pilot project is being implemented involving CBOs' as insurance agents and some finance agencies as re-insurers. Implementation of mitigation programmes in flood prone areas has encouraged farmers to begin paddy cultivation in the area earlier prone to floods. Farmers are trained to cultivate in marginal lands with high saline content. To assist recovery from the impact of the devastating Tsunami on the coastal areas of Sri Lanka, UNDP launched focused interventions in the areas of Housing, Livelihood support and capacity development. In this context UNDP started a project on 'Sustainable recovery of Natural Resources of Tsunami affected Coastal areas of Sri Lanka with Peoples' Participation. This project was helped vulnerable communities in the districts through Rain Water Harvesting, Home Gardening, Organic Farming, and Establishment of Market facilities etc.

Context & Constraints:

People in low income families are not interested to contribute to the insurance schemes promoted by Insurance Companies as the premium requested are beyond their earning capacity. Community & women Organization, Benevolent societies should be encouraged to function as insurance agents. Portion of the relief provided could be diverted to establish a fund for reinsurance purposes. Resettlement programmes are in progress only for critically vulnerable communities due to lack of government funds to pay compensations. Food security initiatives in the areas prone to natural hazards need to be strengthened. Practical application of the research finding should be strengthened and extension service of Agrarian Services dept expanded to reach the farmers in disaster prone areas.

Core indicator 3

Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

As a principle the govt. has decided to restrict construction of critical public & private infrastructure in disaster prone vulnerable areas. An extensive security has been provided to all economic vulnerable areas and installations such as airports, harbours, power stations etc to prevent damages from man made disasters. Government has made a policy directive that all developers in landslide prone areas should obtain clearance from the National Building

Research Organisation, responsible for preparing hazard maps for landslides and advice on landslide prone areas.

Context & Constraints:

Hazard maps for tsunami, floods and drought prone are not developed as yet. Therefore risk maps can not be developing for the moment. Preparation of risk profile for Sri Lanka should be undertaken as priority. Digital maps of 1:5000 and 1:10000 scales are not available and making it difficult to prepare data bases to be used for response and development activities. UN agencies should assist DMC to provide satellite images of major floods and sea surges etc so that this information could be used for development of hazard maps.

Core indicator 4

Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.

Level of Progress achieved:

2: Some progress, but without systematic policy and/ or institutional commitment

Description:

The National Council for Disaster Management, the highest authority deciding the policies have decided that local authorities have to obtain technical advice from National Building Research Organization for any proposed development in landslide prone areas. The hazard zoning plans are designed for landslides. The technical development committee on development of guidelines for construction in hazard prone areas have undertaken research programme to determine suitability of building codes for cyclone resistance. Designed guidelines developed after 1978 cyclone in batticaloa district with the assistance of Australian government has been revised by the technical committee and simplified designed guidelines are published for the use of practitioners and enforcement authorities. Building guidelines that developed by Center for Housing and Planning for floods,lightening strickes ,seismic effects ,landslides ,cyclones are available.planning forTraining stakeholders in progress. The focal agencies that are mandate to enforce guidelines on disaster risk reduction have employed legal officers to enforce the relevant regulations. Buffer zone is declared in coastal belt to prohibit unauthorized constructions. Establishment of natural dense vegetation cover in the coastal belt is completed in several districts to disburse wave and wind energy to reduce the potential damage for inhabitation and their property. Discussions are in progress to implement vegetation barriers in other coastal areas. Rainwater harvesting projects in several dry zone districts are been implemented to reduce the drought impact on lives and livelihood of community. Dredging and

de-silting of water resources in flood prone areas are undertaken by several organizations to reduce flood effects on lives and livelihood. Many of the organizations dealing with environment activities are possessed with their own legal cell. The attorney general's Dept. provides legal assistance on request by govt. organizations. Development of plans for school and hospital buildings to withstand disaster and use as evacuation centres are in progress

Context & Constraints:

Some of the nonstructural mitigation measures such as coastal green belt programmes are not provided the expected progress due to lack of long term maintenance and people's participation. Future programmes will be designed to address the gaps. Public compliance for the existing laws and regulations are limited only for some areas. The enforcement mechanism is weak due to insufficient specialized officers to handle the work load. The political and some legal conditions influence and hamper proper implementation of DRR activities. The legal enforcement powers of DMC as the focal point that established to coordinate DRR activities is insufficient. Amendments to the DM act is urgently required. DMC should be made an authority with more powers to form regulation and enforcement of provisions in the act. Supporting document:

Core indicator 5

Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Build back better concept is in practice for tsunami post constructions. DRR Conditions are applied by local authorities on all new constructions in landslide affected areas in Central Province. The level of compliance to international recovery and reconstruction principles, norms and standards are not yet assessed. The Government provides Rupees one hundred thousand for reconstruction of completely damaged house and Rupees fifty thousand for partially damaged house as a relief for affected parties due to disasters. UDA is incorporating disaster concerns in preparing development plans for new settlements.

Context & Constraints:

Building guidelines and codes are not taken in to consideration by the house builders in order to reduce the cost of construction. Training of technical officers local authorities, I/NGOs and other stakeholders on building codes is necessary. Regular Monitoring and rectification process is not taken place due to insufficient number of technical officers and other influences. International recovery and reconstruction principles, norms and standards are required to be introduced to respective post disaster recovery and rehabilitation ministries and local government authorities. Officers in Local Authorities need training to consider DRR principles when development plans are recommended for approval.

Core indicator 6

Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Even though the risks are identified by disaster managers at local level, critical risk assessment information is not in place. National Building Research Organisation is consulted to locate and build public infrastructure in landslide prone areas. Preliminary zoning is adopted for cyclone in eastern province and buildings are designed for specific wind speeds in the eastern province. The old buildings designed in the eastern coast conformed to the designed guidelines to the cyclones. Public buildings along the coast are designed to avoid destructive wave impacts on the buildings. Designed all public infrastructure and bridges conformed to the standards accepted by engineering associations and critically evaluating the available guidelines regularly by specialist technical agencies. Assessments for schools and hospitals for disaster resilient are not been done yet. However they strictly followed the building guidelines accepted by engineering associations which has safety standards. Preparation of evacuation plans for schools and hospitals which are situated in hazard prone areas are in progress. In developing the urban plans, Urban Development Authority has incorporate DRR criteria such as zoning planning in disaster prone areas, identifying lands that not suitable for construction or development and prohibit owners to undertake development in hazard prone lands. Environment impact assessment approval which is generally covers the DRM aspect is compulsory for all the major developments projects

Context & Constraints:

The schools, hospitals and other critical infrastructures are not possible to relocate due to financial constrains and non availability of sufficient land. Effective emergency early warning

system with evacuation and rescue plans are in place. Development of disaster impact assessment procedure (DIA) and incorporated in to the environment impact assessment is an essential requirement. There are highly populated areas in Eastern Coast which are very vulnerable to tsunami and cyclons. there are not safe locations to evacuate people in these urban centres. Vertical evacuation centres need to be established. DMC is exploring the possibility of obtaining finance to establish such centres. Inclusion of multi hazard inundation zoning and risk profiles in physical and town development planning is essential.

Priority for action 5

Strengthen disaster preparedness for effective response at all levels

Core indicator 1

Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

In the Policy on Disaster Management, Government has accepted that priority should be given to mitigation and disaster risk reduction activities when there is no disaster and response and relief become priority during a disaster. Proactive approach is emphasis against reactive Preparedness and response plans developed for selected vulnerable districts, divisions and villages. The plan identified groups and capacity development needs of various groups. Volunteer groups identified at village level are given training for first aid, evacuation, search and rescue activities. Further they were made aware of early warning mechanism, Hazard map Preparations and relief coordination to increase the readiness for managing disaster impacts, and improves response measures. The basic equipment required for response such as motor boats, catamarans, electric saws, portable generators, water pumps, lifesaving jackets etc were provided to local authorities, district and divisional level officers. Many national & international training programmes were provided to government officials to enhance their technical and practical knowledge to undertake DRR initiatives. Under a US Aid sponsored programme a team of disaster managers were trained on Incident Command System(ICS). With the assistance of these trained officers ,DMC continue with the training of others at district level involved with disaster response activities

Context & Constraints:

The vulnerable communities in low income category are more concerned on receiving relief rather than strengthening preparedness due to their poor economic conditions. More awareness programmes are needed to conduct to emphasis the importance of disaster preparedness. Some people believe that disasters like tsunami will not occur in their life again and time spend on preparedness is not productive. Drug addiction, domestic violence and other socioeconomic problems refrain from people participating in preparedness programmes. These issue need to be identified and addressed separately. The maintenance cost of equipment provided by the DMC to local authorities and govt. organisations for response activities has to be bone by the respective organization. Long term maintenance of this equipment will be a burden to these organizations due to insufficient funds allocated for maintenance.

Core indicator 2

Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Preparedness plans completed for 12 districts and Final draft of National Guidelines for School Disaster Safety is completed .Preparation of Divisional & GN level plans are in progress. At present an evaluation is undertake to assess the effectiveness of response plans developed in 2005 and identify gaps in responding to severe floods occurred in 2007 and 2008 in Ratnapura and Kalutara districts. Preparation of National Response Plan has just commenced and initial discussions with stakeholders are in progress. DMC has set up technical committee on national emergency response which chaired by the Director General of DMC .Committee coordinate the response activities of all authorities and also utility services providers including armed forces and Police. DMC has established a 24x7 Emergency Operations Center and coordinate and disaster response activities. 24 X 7 Meteorological watch is operational at department of metrology to monitor tsunami and other weather related hazards. The Ocean Observation Centre (OOC) which is establishment since march 2007 under the National Aquatic Resources Research and Development Agency (NARA) is operational on 24 hrs, 7 days basis and monitoring and gathering real time and near real time ocean physical environmental data around Sri Lanka Waters from reliable sources. Disseminate information through DMC Geological Survey and mines bureau operates 24 X 7 observation center to monitor geological

hazards in the region and disseminate information to general public through DMC. An evaluation undertaken after the tsunami warning issued on 12th Set 2007 to find out the effectiveness of dissemination of tsunami warning message and evacuation process. Simulation exercises are conducted in most of the tsunami affected areas as follows • Villages - 304• Schools - 67The draft report of National guidelines for school disaster safty is formulated and waiting for final approval.

Context & Constraints:

Frequent revision and updates of response plan will encountered with financial and manpower constrains. Proper execution of response plan during a disaster is very minimal. Assessment to be done and gaps to be addressed. Participation of economically sound people for evacuation drills are poor as they assume that they have required resilience. Financial assistance required to undertake periodical mock drills in schools and hospitals. Supporting document: National Guideline for School Disaster Safety

Core indicator 3

Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Emergency fund established under the National Council and seed capital of Rs. 10 million provided annually from the national budget. Funds released to District Secretaries, Divisional Secretaries for emergency response work pertaining to hiring of machinery and purchase of essential items. On request made by District Secretary this allocation is released within a day. Warehouse maintain by DMC has few emergency items for emergency response such as water tanks; water pumps, cooking utensils, etc. Only one warehouse is maintained at central level. Distributions of emergency materials are channeled through District secretaries and Divisional Secretaries of respective area. Disaster management relief service centre which is established under Ministry of Resettlement and Disaster Relief Services provide emergency relief such as food and clothing for the victimes.The centre provides death and infrastructure compensations for the affected parties based on the damage assesment prepared by respective divisional secretaries.

Context & Constraints:

Quick assessment of damage, needs and capacity assessments are very rarely considered for recovery programmes. Assessment teams to be formed and trained to conduct rapid

assessments for relief, recovery and reconstruction purposes. The long procedure of government fund realization and inflexibility of spending process is hampering the emergency response purposes. Warehouse facilities for larger disaster events at district level to be improved. List of items required for response need to be updated and purchased annually.

Core indicator 4

Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews

Level of Progress achieved:

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

Description:

Debriefing undertaken with emergency operation staff and other stakeholders by DMC after each disaster. The findings are shared with other agencies at NDMCC meeting. The lessons learned from emergencies are being documented and some are published in web sites. The government has commenced the implementation of emergency communication response capability development project with foreign funding. The communication network will be established with 10 district level emergency operation centers and DMC. The other stakeholder will be connected through trunk radio network. Identified stakeholders will be issued with portable radio sets. A call centre also been established to convey emergency request to DMC. Intra government communication network which is a secured and uninterrupted communication mode is used among DMC, technical agencies and some response agencies. DMC has commenced the establishment of a Call centre with a short number to receive calls from general public to inform of a disaster in any part of the country. DMC, Police Communication, Radio & TV station and 7 district offices most vulnerable to disasters. This network will facilitate the sharing of GIS maps and other data to plan out response and rescue operations

Context & Constraints:

Disaster relief and recovery done by two different ministries. Even though the gaps are identified in those areas, the enforcement is not possible with the present level of authority of the DM act. The act needs to be amended urgently. The early warning disseminated to the public through electronic media is not suitable during night. Appropriate strategies to be developed to arrest the situation. Some of the outcomes of debriefings are not implemented due to insufficient and technical resources. Financial assistance required to expand the Intra-government network to connect the other focal points such as NARA, GSMB, etc

Drivers of Progress

a) Multi-hazard integrated approach to disaster risk reduction and development

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Description (Please provide evidence of where, how and who):

In establishing early warning messages dissemination system Multi hazard approach has been followed. Use of same system for all hazards seems to be cost affective and avoid confusion. Persons involve with Emergency Operations are trained to multi hazards. Communities are made aware to identify all hazards in the particular geographical location and develop plans address all hazards relevant to them Hazard maps develop by communities indicated areas affected by all hazards. In developing risk profile using GIS technology similar approach would be followed. Legal framework for Disaster, Policies and Disaster Management Plans always promote multi-hazard approach. The "Road Map" is a ten year framework that developed based on the goals and priorities given in HFA guidelines. It captures the priority activities to be embarked on by various agencies that have to play a role in different areas of disaster risk management. It covers seven thematic areas and identified more than 100 DRR projects. Multi hazard risk management approaches and strategies are incorporated in these seven thematic areas. The Technical Advisory Committees are Appointed and chaired by the Minister of DM & HR to get the civil societies and government agencies advices for the coordination of DRR programs. Five Technical advisory Committees appointed and entrusted with the responsibility to lay down policies, plans and guidelines for multi hazards.

b) Gender perspectives on risk reduction and recovery adopted and institutionalized**Levels of Reliance:**

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Description (Please provide evidence of where, how and who):

Incorporate gender perspectives in to formation of CBDRM policy and Promote more women participation in DBDRM through necessary trainings and capacity building to reduce vulnerability and increasing disaster resilience. Access for women to the relief grants is to be considered. The men as the households are entitled such grant are reported more likely to spend it on alcohol or other personal consumption. Additionally, house constructions by the government or NGO are typically given to the husband. At present many micro finance schemes introduced by

government and NGOs/INGOs are available to support livelihood of women who doesn't have permanent jobs. Training programmes for job diversification is needed to be introduced to reduce livelihood risk. Due to the post disaster mental stress, financial and physical insecurity led to the increase of domestic violence and sexual harassment of women and girls. Many Counseling, Psychosocial and Rehabilitation programmes are available to minimize incidents but need to develop strategies incorporate with socioeconomic aspects to address the problem. Ministry of Women Empowerment and many more women organizations are addressing issues related to women at national and local level respectively. Formation of national level DRM women's organization to create a forum to address gender perspectives on risk reduction, recovery and adaptation is important. Establishing networking coordination mechanism with other international women organizations and CBOs are essential.

c) Capacities for risk reduction and recovery identified and strengthened

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Description (Please provide evidence of where, how and who):

CBDRM Programmes are being implemented in all disaster prone districts. The main components of the programme are formation of DM plans, establishment of DM committees and training them in first aid, early warning mechanism, evacuation drills, identify mitigation programmes and relief coordination. Selected local government institutes were provided with some equipment for emergency response. Standard Operating Procedures (SOP) and regulations for local Authorities are needed to be developed to create a strong partner for emergency response at local level. Even though there are designated agencies and institutions for enforcement of DRR regulations their capacity is insufficient. Some of the authorities have no mandate and institutions responsible for enforcement are not very clear. The majority of vulnerable communities are aware of the risk and hazards prevailing in the area through previous experience & knowledge. Further some of them were trained to undertake risk assessment studies. Limited number of personnel was trained on the methodology to assess the disaster resilience of the coastal communities with the assistance of ADPC under USAID programme. More people need to be train on these methodologies to design programmes to improve the capacity of communities to cope with disasters. The three multi-hazard early warning towers established in Jaffna, Hikkaduwa and Ampara are used to disseminate daily

weather reports to the general public of the area. These forecast help fishermen, farmers and others to plan their livelihood activities. Tourism sector also get benefited with the daily weather forecast creating a sense of safety among tourist. DMC is promoting the Incident Command System (ICS) to be used as a tool for disaster response and is in progress of training district level managers including District Secretaries. ICS need to practice extensively to respond to future disasters.

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Description (Please provide evidence of where, how and who):

Soon after the Tsunami, the regulation for coastal buffer zone was enforced and community living within buffer zone were compensated and resettled in safe areas. Zoning maps for landslides are prepared and resettlement process of vulnerable communities in safe areas are in progress. Rain gauges, extenzo meters are made available for semi vulnerable groups to monitor high intensity rain to take decision to evacuate vulnerable communities. Risk assessment for many natural hazards such as Tsunami, Floods and landslide were done on community participatory approach with the involvement of community leaders, women and youth groups. This facilitate to use indigenous knowledge of community and leads to ownership, volunteerism and commitment, individual and collective action in disaster preparedness and mitigation Village disaster management committees were formed in many Tsunami and flood affected areas. These committees assist government authorities to execute relief and response activities. Establishment of this mechanism will ensure camp management and security for vulnerable specially minors. Rain water harvesting projects which are implemented in some areas of dry zone has improved income ,livelihood ,health and sanitation and standards of living of community vulnerable for drought. Government sponsored livelihood development (Samurdhi & Gamidiriya) programmes are exist to assist socio-economically vulnerable groups. Gender-equitable compensation packages are exist as a safety net to enable the very poor to recover affects of disasters. Studies are in progress to introduce a disaster insurance through community based organizations such as funeral aid societies, women's organizations etc. Attraction of local community towards insurance needs to be improved. Government's Programme for providing fertilizer for farmers on subsidiary rate is in progress and at many occasions the farmer who were affected by floods or drought were exempted from repaying their loans.

e) Engagement and partnerships with non-governmental actors; civil society, private

sector, amongst others, have been fostered at all levels

Levels of Reliance:

No/ little reliance: no acknowledgement of the issue in policy or practice; or, there is some acknowledgement but nothing/ little done to address it

Description (Please provide evidence of where, how and who):

DMC has entered in to partnerships agreements an Memorandum of Understandings (MOU) NGO/Govt agencies and Mobile telephone service providers to implement DRR activities. DMC has entered in to agreement with regional organization to share information and strengthen early warning mechanism. Through village level partnerships, Traditional knowledge, experience methods are used to disseminate warning message to communities and in adaptation programmes. Cost effective traditional methods need to be identified and implemented at village level. Prolong sustainability of some partnerships has become a difficult as these have been created for the benefit of organizations rather than the communities they supposed to work for. In some instances DRR activities identified at grass root level are not given due consideration when projects are considered for implementation. People loose the confidence and participation could be at minimum level. Government should involve communities at decision making stages to keep the momentum active. It may be useful to create a legal basis for the CBOs to enter in to contract with Govt. Agencies to implement projects. Most of the private sector organizations prefer business gain through partnerships rather than a social responsibility. Involvement of governments to promote the concept of social responsibility with regards to DRR attempts is important. Studies initiated with the assistance of UNDP to promote the involvement of CBO, Women Organizations, Benevolent Societies etc in micro insurance schemes should be further strengthened and identify suitable reinsures for such a scheme. Pilot project to assess the viability of such a scheme need to be tested with suitable organizations.

f) Contextual Drivers of Progress

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Description (Please provide evidence of where, how and who):

Strengthening the coping capacity of communities to disasters has to be given priority considering the adverse effect of climate change on disasters. Coping capacity of communities is very much linked with income of the people, poverty alleviation programme must have a very close link with the DRR programmes More research to identify innovative micro insurance schemes that could be implemented by community groups with reinsurance arrangements should conducted with practical implementation in focus. This will help communities to strengthen their coping capacity and move away from relief provided by authorities and I/NGO.

Future outlook

Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Overall Challenges:

Meteorological Agency should be supported to develop their capacity to predict the variations in climate changes more accurately to issue advice to farmers in time for harvest. More research and development work need to be undertaken to identify seed varieties adaptable to worst weather conditions. Samurdhi programme should be carefully withdrawn with the improvement of economic life of people through other programme such as micro finance schemes. Special programme must be conducted to take the people away from the dependency syndrome. Many agencies consider DRR as a separate subject area and projects are developed only for DRR activities. DMC made an attempt to coordinate with village development programme of the govt. to include some components of DRR programme in to it. However more awareness programme should be undertaken to make them understand that DRR can not be separated from development process. Although in the 10 year Development plan of the Govt. there is a separate chapter for Disaster Management and "Road Map for Disaster Risk Management in Sri Lanka" developed by DMC with other stakeholders has been included in the 10 year development plan due to limited funding other development agencies give low priority for the implementation of DRR project in the Road Map.

Future Outlook Statement:

"Gamidiriya" (Upliftment of Villagers), "Gamanaguma"(Village Development) and "Samurdhi" programme conducted with donor funding will improve the economy of the village, bring the

village closer to the urban Centers and support those below poverty line to improve the family economy. These programmes will strengthen their resilience capacity to disasters. Government had declared, in the 10 year development plan, that by 2015 all people will have access to safe drinking water. Most of the people in drought prone areas will be benefited by this and will be able to adapt to drought condition expected to worsen due to the effect of climate change. Sri Lanka enjoys free education and literacy rate is over 90%. DMC was able to coordinate with education authorities and include disaster risk reduction in the school curricula. Universities and Training Institutes have already started Diploma programmes and Msc degree programmes on Disaster Management. Therefore professions will be available to implement DRR activities at local level effectively in future. "Api Wawamu Rata Nagamu" (Cultivate & Develop the country) programme initiated by the govt. with a view to ensure the food security in the future. Flood & Drought mitigation programme initiated by DMC will supplement this effort by minimizing the floods damages to crops in eastern and North Central province. Strengthening capacity of vulnerable people to respond to floods and droughts, developing capacity of Meteorological agency to predict seasonal weather changes, identify seed varieties adaptable to extreme weather conditions are some of the initiatives taken by DMC with the relevant agencies as mechanism for adaptation to effect of climate change. Donor agencies do not consider the assessment of disaster impacts of new projects is a necessity in granting assistance. As in the case of EIA, undertaking disaster Impact assessment studies should be made compulsory.

Overall Challenges:

Members of National Platform yet to hear information of their work and resources available. It is a challenging task for the DMC. It will have to find innovative ideas to keep the members interested in the work of the national platform. Participation of government Institutions in NDMCC are not up to the expectation. DMC will have to establish closer contact with relevant organization and try to get their work plan relating to DRR activities. More work to be done to strengthen Regional Corporation to share information and best practices in the region. DMC will have to obtain the Govt. consent to request all Donors to direct all funds received for DRR activities through the DM fund. Transparency of the management of the fund will be a key factor for the sustainability of the fund. Mainstreaming of DRR in all sectors has not happened as yet. DMC will have to have more dialog with the Treasury achieve this objective through the allocation in the budget. Enforcement of regulations at local level for DRR is very weak. DM Act should be amended to provide legal authority to form regulations and DMC to act independently. DMC should work with other sectors to include DRR in to their policy document

as in the case of land use planning policy prepared very recently The financial allocation and capability of organizations to plan and implement disaster risk reduction activities are insufficient. Mainstreaming institutional disaster risk reduction activities by allocating required resource for it's routine functions is necessary.

Future Outlook Statement:

DMC has established a National platform in October 2007 and named as "National Disaster Management Coordinating Committee. Initiatives through NDMCC to share work programmes and resources of all members to minimize the duplication is important. Programme is developed to find out who is working where and on what subject areas. This will be useful to assess the geographical distribution of resources and strength of the members of NDMCC in implementing projects identified in the Road map under seven thematic areas. Disaster Management Act -2005 is enacted in the parliament. National Council for Disaster Management and DMC established as per the Act. Separate Ministry for DM is also established. Strong institutional base exist. National Policy and DM plan also developed and awaiting concurrence from the Govt. All organizational DM plan. Government has recognize the role played by Local Government in response and development control areas and provided equipment to strengthen their capacity to respond quickly. DMC is in process to improve their legal, technical and physical capacity. Active participation of NDMCC members and providing resources to organize a Regional workshop on the theme "Disaster Free Asia"(DFA) has been encouraging. Representatives from Govt and I/NGOs involved in Disaster Management activities from SAARC countries participated. Declaration was issued to strengthen Regional Corporation for DFA. National and regional initiatives to action the critical issues highlighted are required. As per the DM Act-2005 Rs 10 million has been allocated as the seed capital to establish a Disaster Management Fund. Contributions of private organizations to the DM fund need to be improved. DMC receive funds from the national budget for the implementation DRR activities. DMC encourages focal points identified for the implementation of Road Map -2005 proposals to obtain funds direct from the national budget.

Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Overall Challenges:

With the limited resources available planners are reluctant to include DRR components in to the reconstruction plans. Methodologies should be developing to assess the disaster impacts if the DRR not included in the planning process. Planning officers need to be trained on risk assessment methods. District official should make it a practice to assess the weakness in the plan after every major disaster. This exercise need to be made legally binding with the amendment to the act. Involvement of communities in post disaster recovery planning stage is not sufficient at present. Procedures have to be developed to involve all concerned parties from the planning to implementation stages in the recovery process. EIA is compulsory to approve any development activity above agreed financial limit from various categories of projects. Project proponent is required to submit an EIA report on TOR issued by Environment Authority. This arrangement has an adverse effect on the impartiality of consultants undertaking EIA assignments. In most cases disaster impacts are not considered or considered on the surface in the EIA process. It was observed that implementation of some of the large scale project created disaster situation in some area. Main reason for such a situation is either mitigation measures are not proposed at the time of approving the project or weakness in enforcement of condition approved. Enforcement of approved building codes and also removal of unauthorized construction need to be strengthened to minimize disaster created by these actions. There is a overlapping of the disaster response function between DMC and Disaster Relief Service Centre (DRSC). Although there is a separate Ministry for reconstruction activities, authorities, general public expects the DMC to provide funds for the rehabilitation of infrastructure damaged by disaster.

Future Outlook Statement:

District, divisional and local level Preparedness plans in all disaster prone areas are being developed at present. DM act require all agencies to develop DM plan based on the National DM Plan. DMC appointed special teams after major floods in 2006 to assess the flood damages and develop a DRR programme. Proposals prepared by these multi-sectoral teams were included in 2007&2008 budget

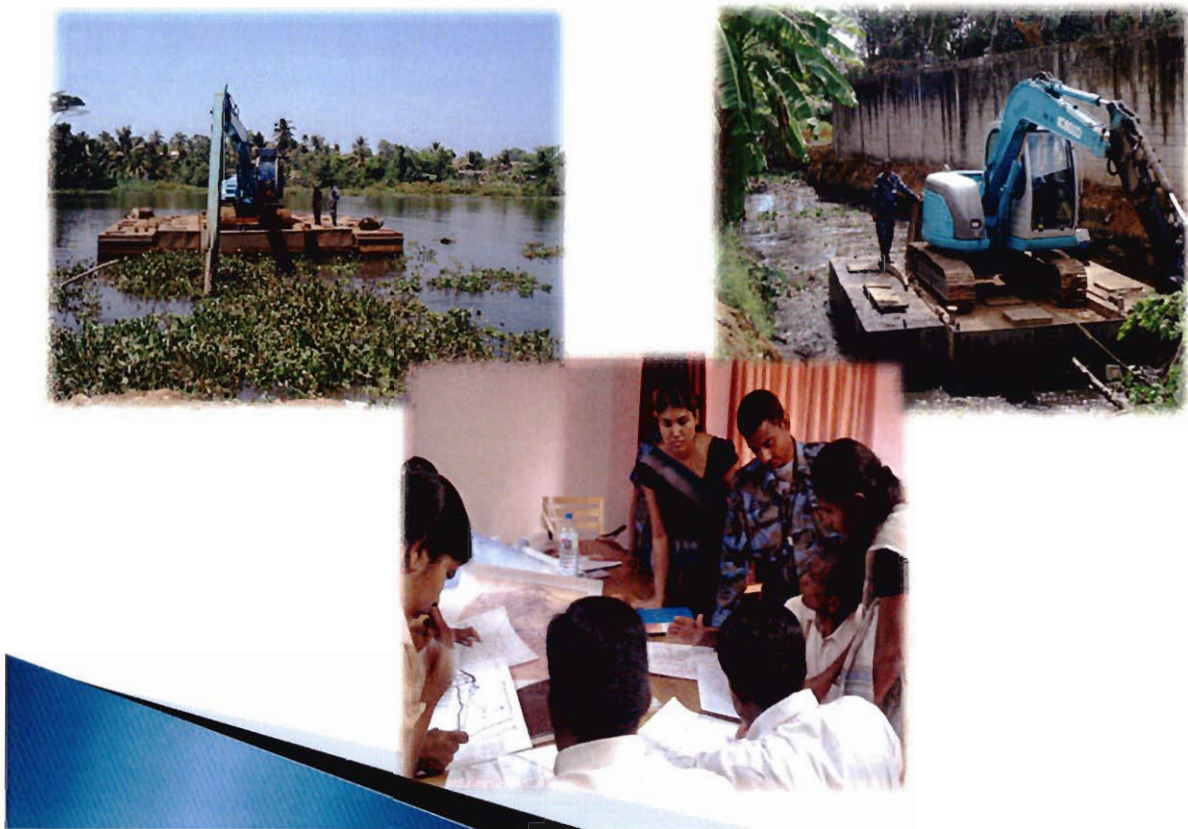
for implementation. A team of officers from DMC with assistance of UNDP studying the gaps in the existing preparedness plan in Kalutara and Rathnapura districts after major floods in these two districts to suggest improvements in preparing future plans.

6. Recent Major Projects on Disaster Risk Reduction

1. Flood Prevention in Gampaha District – 2008.

20 Million Of Rupees

Mitigation activities – flood prevention



In Gampaha District- 24 canals were de-silted and rehabilitated to prevent the flood condition and in Puttlam District main flood source were rehabilitated (Paru Ela) Ela = Small river.

MEEGAHAGODA FLA PROJECT



WASKADUWA DRAIN SYSTEM



2. Rehabilitation of the Mutwal Tunnel in Colombo district to minimize flash flood situation in Colombo District. 30 Mn

Desilting and clearing the inlet & outlet of Mutwal tunnel



3. Drought Mitigation and flood control project in Kalutara District, 2008-2009

Drought Mitigation

District	Unit	Total Allocation Rs (Mn)
Kandy	50 Tanks	1.269
Hambantota	70 tanks	2.487
Kalutara	03 projects	10.7
Deraniyagala	01	10
Total		23.456

Manikgoda Ela Project

MORE
THAN
500
FAMILI
ES
BENEFI
T
FROM
THIS



Agalawatta Water tank

MORE
THAN
300
FAMILI
ES
BENEFI
T
FROM
THIS



4. Tsunami Risk Reduction Projects

Planted along Matara, Ja-ela, Wattala, Baticaloa, and Tricomalee beaches.

Establishment of Natural Barriers along the coast

District	Place	Total Allocation Rs (Mn)
Colombo	Moratuwa	2.479
Matara	Weligama	0.342
Puttalam	Chilaw	0.65
Total		3.421



Planting of trees along the coast.. – Moratuwa.



To minimize the Tsunami Damage along the coastal belt in Sri Lanka

5. Safer Evacuation Routes in the Rathnapura Districts/ 15 Million
2008-2009

Safer evacuation routes



Kalutara -Agalawatta.

Baddegedara Watta Road



Horana-Kalutara District (Safer Evacuation Routes to prevent from the floods)

Rathnapura



To save the lives in flood damage in Rathnapura Districts.

7. Safer Bathing Palaces in Matara Districts 3.6 Mn Project

CROCODILE CAGES PROJECT AT MATARA

More than
3000
families are
benefitted



To protect the lives in Crocadlite attack along the Nilwala River

8. Electric Fence

ESTABLISHMENT OF ELECTRIC FENCES AND LIVE FENCES

Spent more than 10 Mn Rupees



- ✘ Electric fences are traditionally used as a barrier for Elephants.

Kurunagala-Meegawala area 20 Km long fences was built

9. Landslide mitigation project 2Million Rupees (First Stage Completed)

Number of land slide mitigation projects were conducted in the upper mountain area to reduce the risk



Haguranketha & Walapane in Nuwar-Eliya and Kandy Districts

Early Warning Towers (6.5 Million Euro Project) (ICET)

Hikkaduwa Multi-hazard Early Warning Tower is activated daily from April 17th 2008 to broadcast weather forecasts for the sea area around Hikkaduwa. Every morning and evening weather updates were disseminated. More than providing weather updates the idea was to make people familiarize with the Warning Tower. Construction of another 25 Multi-hazard Early Warning Towers under the Disaster Management Communication and Response Capacity Development Project has been completed and to be integrated in to the central EW system from 2009. Risk reduction in vulnerable villages in the Eastern province Three Districts has mapped the vulnerable villages in the Eastern Province. With the information risk reduction programs such as awareness, First Aid Training and evacuation mock drills are to be conducted. For these activities community based NGOs are also to be involved. Community planning meeting of CCR Project Coastal Community Resilience project was started with the help of Asian Disaster Preparedness Center. Community Planning Meeting was held in selected village in Wattala, Gampaha District under the project. Project will function in Gampaha and Hambantota Districts with an aim of Community Resilience Development. Distribution of Community Early Warning and Evacuation plan Guidelines In the month of December a set of guidelines was given to the district coordinators on Conducting EW & Evacuation Drills. This will assist them when identifying steps of planning EW & evacuation. Launching of Disaster Early Warning Dissemination System The Dialog GSM Limited has partnered with DMC to produce an EW mechanism using SMS, Alarm device and Cell-broadcasting. This has enhanced the EW capacity of the DMC. Another 25 Multi-hazard Early Warning Towers under construction and will be opened to the public soon.

JICA Early Warning Dissemination Exercises

In the month of July the final phase of JICA study on Disaster Management Systems in Sri Lanka was completed with an evacuation exercise. The activity involved seven Districts covering all major hazards. A follow-up workshop was also conducted involving DMC staff with District Coordinators.

School Information Dissemination Exercise was conducted as the last activity on 16th of October 2009. Through this exercise EW dissemination capacity in Ampara through proposed method of JICA is tested.

ADRC Counterpart

Identifying vulnerable villages in Rathnapura and Nuwara Eliya Districts Landslide risk reduction program has been planned with the assistance of Asian Disaster Reduction Center. Under the project for Community Centered Early Warning for Landslides 10 vulnerable villages of Nuwara Eliya and Ratnapura are to be identified and Early Warning system to be established. Visiting researcher program continuously continued with a great success.

Developing progress for EW Disseminating

Proposals were submitted for further development of Early Warning to national level as well as local level. – Proposal for developing landslide Early Warning system with the assistance of ADRC, Developing national EW capacity of DMC with the assistance of UNESCAP, Distance Early Warning Systems- project to monitor and disseminate EW on seismic activities with the assistance of EU. These projects are to be initiated in 2009. Strengthening EW for floods Ratnapura and Kulatara districts were assisted to develop local flood early warning dissemination system. The coordinating units are linked with local stakeholder groups for EW.



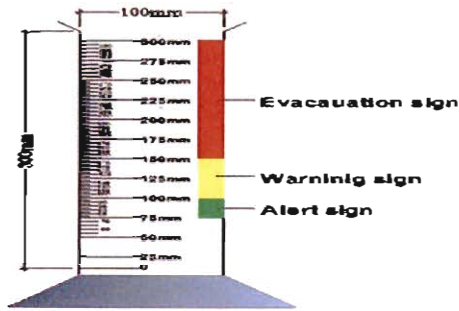
ADRC

conducted a Local Level Early Warning Program in Rathnapura area

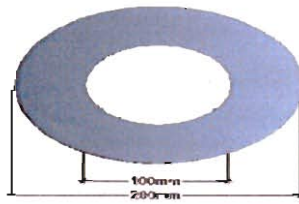
Project for Community Centered Early Warning Capability for Landslides and flood (financially supported by ADRC)



Rain Gauges were given to the local community in the flood prone areas and trained the responsible persons levels for the Alert and The Evacuation at the rainy seasons.



SECTIONAL VIEW



PLAN VIEW

PLASTIC RAIN GAUGE

SPECIFICATIONS

Capacity :

size :100mm dia x 300mm/H

All the rain gauges are manufactured and awareness was completed within the relevant areas.