

Performance of the Institutions Responsible for the Management of Losses and Damages Caused by Natural Disasters in Sri Lanka.



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National Audit office



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01. Executive Summary

The main natural disasters affecting Sri Lanka include landslides, cyclones, floods, bushfires, earthquakes, droughts and Tsunami. Events causing damages, a change, a disaster or a threat to human lives, properties and the environment, are called natural disasters. Disaster management involves the preparedness for natural disasters, and minimizing the impact of such disasters on people, properties, and natural environment. In order to fulfill this task of national significance, the Disaster Management Division of the Ministry of Defence, being the Line Ministry, functions along with other institutions thereunder including the Department of Meteorology, Disaster Management Center, National Building Research Organization, and the National Disaster Relief Services Center.

According to the annual report of the Disaster Management Center for the year 2021, a number of 1,253,476 persons had been affected by drought, landslides, collapse of bunds, cyclones, fire, and lightning whilst 184 persons had died and 90 people had been injured. Floods had caused damages on 3,791 houses whereas 96 houses had been fully damaged. As such, the people being affected and damages caused to properties due to natural disasters are on the increase in Sri Lanka. Increased risk of landslides in central highlands had been attributed by environmental impact due to development initiatives and human activities. It is the objective of this performance audit to evaluate the performance of Line Ministry and the related institutions responsible for the management of natural disasters in Sri Lanka. Performance of the Line Ministry and the institutions functioning thereunder with respect to floods, drought, landslides, and cyclones happened from the year 2019 to 2021, in terms of preparedness, responding to such disasters, and post-disaster management, is examined in this audit.

Matters such as, the National Council for Disaster Management had not assembled during the periods of 2019, 2020 and 2021 failure to appoint a committee for technical consultation, failure to update the National Disaster Management Plan (2013-2017) and failure to establish a fund under the National Council, were observed in terms of the Sri Lanka Disaster Management Act, No.13 of 2005. Furthermore, the issues such as, 55 of the 77 disaster warning towers had become non-functional after being installed through a private company at an expenditure of Rs.134.7 million in the year 2016 by the Disaster Management Center for

early identification of disasters, and failure to study the variations of the multi hazard risk index to be updated by the project in order to prepare a multi hazard risk profile, were observed.

Even after a lapse of 38 years since the inception of National Building Research Organization, a key entity in the management of disasters, the Act to legalize that institution could not be passed thus far. Issuing early warnings on landslides had been obstructed due to reasons such as, failure of the institution in identifying risk of landslides as high, medium and low in landslide hazard zonation mapping; although a period of 10 years had lapsed since landslide hazard zonation mapping had been commenced, only an area of 8,960 square kilometers out of 32,593 square kilometers in 13 disaster prone areas had been mapped in the scale of 1:10000; minimum progress in preparing a landslide risk profile for landslide prone areas; failure to adequately execute the activities such as, conducting special investigations on landslides to ensure safety of lives / properties by identifying the risk of landslides at human settlements, infrastructure and estates, providing reports on risk assessment and requesting for landslide survey reports; failure to properly maintain the automated rain gauge; and data from only 251 of the 330 rain gauge installed had been linked to the National Emergency Operational Center of the Disaster Management Center.

The reasons such as, abandoning the installation of radar systems at weather stations in Puttalam and Potuvil by the Department of Meteorology by utilizing funds amounting to Japanese Yen 2,503 million donated by JICA for early identification of natural disasters, lack of functionality of automated weather stations due to non-maintenance, lack of qualified personnel, non-functionality of rain gauges due to lack of meteorological instruments (improvement of forecasting based on mathematical modeling), and lack of infrastructure for forecasting, had mainly attributed to the obstruction of early identification of risks.

Those who had been affected by disasters were not adequately provided with relief due to reasons such as, failure to take follow-up action on 191 tractor bowsers worth Rs. 338 million given to the District Secretariats by the National Disaster Relief Services Center to fulfill drinking water requirements; failure in commencing construction works despite being planned under the resettlement programme to construct houses in the year 2021 for 1000 families living in high risk areas; and facilitating for only 292 out of 325 safe centers during the period

2018-2020. Natural disasters do hamper the development process of the country whilst affecting the people severely. In order to take measures against climate changes and effects therefrom, the Disaster Management Center and National Building Research Organization had prepared goals and indicators relating to 13 objectives under the Sustainable Development Goals-2030.

As for the said audit observations, attention should be brought on the matters such as, expediting the process of complying with Sri Lanka Disaster Management Act, No.13 of 2005 viz. appointment of members to the National Council for Disaster Management thereby conducting its meetings in a timely manner; appointment of a committee for technical consultation; establishment of a Fund under the National Council; and preparation of disaster management plans; and, identification of projects suitable for areas hit by disasters through a study; taking follow-up action to minimize the risk of disasters; reactivating the early warning system; studying the changes of indicators through proper updates; expediting the process of mapping the landslide prone areas; formulation of an Act to legalize the National Building Research Organization; preparation of a mechanism to link the existing database to the District Secretariats and Divisional Secretariats; assigning the inspection and maintenance works of rain gauges to the district offices in view of an increased accuracy of automated rain gauges; expediting the process of issuing the landslide risk assessment reports; and management of disasters through district offices. In order to achieve the objectives under the Sustainable Development Goals-2030 by improving the progress of taking measures against the climate changes and effects thereof, it is recommended that information communications systems on disaster management being maintained by the Department of Meteorology, National Building Research Organization and Disaster Management Center should be improved; measures should be taken to commence the project to install new radar systems in Puttalam after conducting an environmental impact analysis; meteorological equipment should be properly updated and used for making forecasts in an effective and productive manner; and, plans should be prepared in accordance with the International SENDAI Framework (2015-2030) for the relevant institutions in view of minimizing the effect on economy and people of Sri Lanka caused by natural disasters thus implementing and regulating the progress of such plans.

02. Introduction

2.1 Background

When the natural events that occur without human involvement reach beyond capacity of the community to cope using its own resources, such a situation is known as a disaster. The main natural disasters affecting Sri Lanka include landslides, cyclones, floods, bushfires, tremors, droughts and Tsunami. Natural events causing losses and damages, a change, destruction or threat are considered as natural disasters. Disaster management involves the preparedness for such events. The plan for preparedness includes activities to be executed for assistance and restoration.

All the measures to be taken to avert a disaster are known as disaster avoidance whereas all the measures to be taken to minimize the damage of a disaster are called disaster mitigation. Although natural disasters cannot be avoided, action can be taken to provide relief for those affected by such disasters thus minimizing the damages.

a) Disaster Management Act No. 13 of 2005.

In the wake of Tsunami disaster that occurred on 26 December 2004, the importance of disaster management became a focal point for discussion among the community of Sri Lanka in an unprecedented manner. Considering the losses of lives and properties, economic drawback, and impact on the society following the Tsunami disaster, the necessity that the disaster management process which had been considered a mere welfare activity up to then, be implemented under a formal and legal framework, emerged. Accordingly, a Selection Committee was appointed by Parliament in order to obtain criteria relating to legal and institutional frameworks required to successfully address such disasters. According to recommendations of the said Parliamentary Selection Committee, the Sri Lanka Disaster Management Act No. 13 of 2005 had been passed in Parliament. The objects of this Act include; establishment of the National Council for Disaster Management and Disaster Management Center, appointment of a Committee for technical consultation, preparation of plans for disaster management, announcement of disaster situations; and provisioning for granting compensation and matters relating thereto.

b) SENDAI Framework

The Sendai Framework for Disaster Risk Reduction (2015-2030) had been adopted at the world conference of the United Nations held on 18 March 2015 in Sendai, Japan. The SENDAI Framework draws attention on matters such as, requirement of a national platform for disaster risk management; responsibility for disaster risk management; better resilience; preparedness; health and infrastructure facilities; improvement of tolerance of national heritage and sites of heritage for disasters, and financial assistance and credit facilities of the international financial institutions.

The SENDAI Framework focuses on 04 main dimensions.

- (i.) Identification of risk for disasters.
- (ii.) Control of risk for disasters.
- (iii.) To invest in resilience following a disaster.
- (iv.) Better rebuilding.

c) Notable disasters occurred in Sri Lanka.

Particulars on the number of deaths and persons affected during notable disasters occurred during 2019 – 2021 in Sri Lanka relating to cyclones and rain, are as follows.

	Date	No. of Deaths	No. of Persons Affected
(i.)	16-22 July 2019 cyclonic storm.	09	15,625 persons from 4,155 families.
(ii.)	Torrential rain on 23 September 2019.	-	800,149 persons from 20,187 families in Western, Sabaragamuwa, Southern and Central provinces.
(iii.)	Torrential rain during 18-22 December 2019.	-	Over 65,000 persons in 13 districts.
(iv.)	Amphan cyclonic storm via	08	Over 6,000 families and 25,000

	Bay of Bengal.		persons had been affected.
(v.)	Burevi cyclonic storm.	03	111,659 persons had been affected.
(vi.)	Torrential rain on 13 May 2021.	05	11,500 families and 46,500 persons had been affected due to development of low pressure cyclones.
(vii.)	Extreme weather during the period from 24 to 27 May at the beginning of monsoonal season 2021.	01	Over 11,000 families and 38,500 persons had been affected.
(viii.)	Torrential rain during 02- 04 June 2021.	16	270,912 persons in 10 districts had been affected.
(ix.)	Convictional rainfall on 27 October 2021.	04	5,821 persons from 1,451 families had been affected.
(x.)	Torrential rain during 07-09 November 2021.	26	230,640 persons from 65,704 families had been affected.

2.2 Related Institutions

In order to achieve the objectives of national importance, the National Council for Disaster Management functioning under the Disaster Management Division of the Ministry of Defence, Department of Meteorology, Disaster Management Center, National Building Research Organization, and National Disaster Relief Services Center have been established. As for the execution of activities relating to the disaster management, safeguarding the day-to-day life of general public is ensured through duties performed by the said institutions at pre-disaster periods, during the disasters and post-disaster periods.

(a) **Disaster Management Division (Ministry of Defence)**

Vision

Towards safer Sri Lanka through superb post disaster relief services

Mission

To protect human life, properties and environment from both natural and man-made disasters through disaster relief activities.

Objective

To contribute the national objective of sustainable development through minimized human suffering and loss and strengthening national capacities for disaster relief.

Priority Functions

- Formulate policies, programmes and projects related to the subject of disaster management in departments and statutory bodies related to it and follow up and evaluation.
- Coordinate and manage the mitigation of natural disaster and manmade disasters, response, recovery and relief services.
- Prepare national emergency operation plan and national disaster management plan based on national policies.
- Initiate and coordinate foreign funded projects on disaster mitigation, responses and recovery.
- Coordinate with the ministries, public institutions, local and international non-governmental organizations to ascertain the proper functioning of the above tasks.
- Promote the constructions of houses that are resilient to environmental risks.
- Promote research and development activities related to the technology appropriate for housing and construction.
- Conduct meteorological surveys and research.
- Forecast natural disasters and inform the relevant sections in this regard.
- Coordinate awareness programmes on natural disasters and man-made disasters.
- Launch rescue operations in natural and man-made disasters.

- Coordinate international humanitarian relief services.
- Monitor activities related to all the subjects assigned to the departments and statutory bodies related to the subject of disaster management.

(b) National Disaster Relief Services Centre

The National Disaster Relief Service Centre was established in the year 1966 as the National Disaster Management Centre under the Ministry of Social Services and Social Welfare. It became the Ministry of Disaster Relief Services vide Extraordinary Gazette No. 1422/22 dated 08 December to plan and implement relief, rehabilitation and reconstruction activities. It was named as the National Disaster Relief Service Centre and transferred to the Ministry of Resettlement and Disaster Relief Services by the Gazette Notification No. 1482/9 on 29 January 2007. It was functioned under the Ministry of Disaster Management with effect from 30 April 2010 as per the Gazette Notification No. 1651/220. It had been implemented under the State Ministry of Internal Security, Home Affairs and Disaster Management as per Gazette Notification No. 2187/27 dated 09 August 2020 and it is being functioned under the Ministry of State Security and Disaster Management according to the Extra Ordinary Gazette Notification No. 2202/25 dated 20 November 2020. It is currently functioned under the Ministry of Defence.

The Disaster Relief Service Centre responds to a disaster within a minimum period of time. The National Disaster Relief Service Centre directs disaster victims to safe centers and protection centers and provides cooked food until they are resettled, meeting their basic needs, provides compensation to sick and disabled people, and provides dry rations until their daily life is restored.

Vision

Towards safer Sri Lanka through superb post disaster relief services

Mission

To protect human life, properties and environment from both natural and man-made disasters through disaster relief activities.

Objective

To contribute the national objective of sustainable development through minimized human suffering and loss and strengthening national capacities for disaster relief.

(c) Disaster Management Centre

Disaster Management Centre (DMC) is the leading agency for disaster management in Sri Lanka. The Disaster Management Centre is mandated with the responsibility of managing any disaster situation effectively and creating a safe community by protecting the lives and property of the public. The Disaster Management Centre was established as the agency under the National Council for Disaster Management in terms of Section 8 of the Sri Lanka Disaster Management Act, No. 13 of 2005. The main functions of the Disaster Management Centre established by this Act are disaster mitigation, preparedness, public awareness, dissemination of early warning to vulnerable populations, emergency operations and coordination of relief and post-disaster management activities in collaboration with other key agencies.

Vision

Safer communities and sustainable development.

Mission

To create a culture of safety among communities and the nation at large through systematic management of natural, technological, and manmade disaster risks.

Priority Functions

- Formulation of National Disaster Management Plan (NDMP) and National Emergency Operations Plan (NEOP) based on the National Policy.
- Hazard mapping and risk assessment.
- Coordinating and conducting training and awareness programs.

- Preparedness to respond to disasters including assisting government agencies to develop Preparedness Plans.
- Early warning and dissemination.
- Emergency operations management and coordination of search & rescue operations.
- Coordination of post disaster activities including relief
- Implementation of disaster mitigation structural projects.
- Research and development activities related to the field.
- Mainstreaming Disasters Risks into development for minimization of Disasters Risks.
- Coordination of climate change adaptation programmes.
- Liaising with Ministries, Departments, armed forces and Police, private sector institutes, Non-Governmental Local Organizations, International Non-Governmental Organizations and other relevant organizations regarding disaster risk reduction activities.
- Initiate and coordinate and implement foreign aided projects for disaster mitigation, response and recovery.

(d) National Building Research Organisation (NBRO)

The National Building Research Organisation was established on 05 March 1984 as per Cabinet decision dated 29 September 1983. National Building Research Organization plays a leading role as a research and development institute, and also in risk management providing technical services for almost 38 years.

Vision

A nation living in a safer, sustainable & disaster resilient built environment

Mission

Reduce disaster risks through building resilience to ensure safer & sustainable built environment for all

Statutory Role

- Landslide disaster management and related research and development activities.
- Research and development related to appropriate technology for housing and construction sectors.
- Promote and guide natural disaster resistant (resilient) constructions.

Priority Functions

- Engaging in applied research and development related to disaster mitigation and a safe environment.
- Geotechnical investigations for major infrastructure projects and research and development activities on improvement of technically problematic soils.
- Acting as the National Focal Point in Landslide and Earthquake Disaster Management.
- Providing advisory, planning and development services through research for sustainable housing and human settlements in disaster-minimum and marginal environments.
- Providing quality reports and damage estimates and technical services in buildings and related constructions.
- Development of alternative construction materials, products and technology.
- Providing information, training and technical services by using corporate special resource persons during awareness programmes.

(e) Department of Meteorology

As far as the origin of the Department of Meteorology, which is under the Ministry of Defence is concerned, it is important to note that systematic observation of the meteorological parameters in Sri Lanka started in 1867 under the Department of Survey. Later, in 1909, a separate institute named Colombo Observatory was established at the premises of where the present Department of Meteorology is situated. The Colombo Observatory was made an independent government department in 1948 with the main objective of providing weather and climate related services. The Department of

Meteorology functions as the government statutory body for providing meteorology and climatology related services under the purview of the Ministry of Disaster Management at present.

Vision

To become the center of excellence with respect to weather and climate related services.

Mission

Provide services to the institutions in the public sector, private sector and the public pertaining to meteorology, aeronautical meteorology, marine meteorology, hydro – meteorology, agro meteorology and climatology and limited astronomical services in keeping with national interests and international standards.

Priority Function

Supplying meteorological and climatological services

(f) Non-Governmental Organizations Providing Assistance

Non-Governmental Organizations play a vital role in assisting the disaster management. Their knowledge, experience and resources contribute for the same. Public awareness is created for specific knowledge and practical guidance, disaster risk prevention, and also financial and non-financial assistance, subsidies and donations are also provided to the people affected by disasters at local and national level in collaboration with non-governmental organizations on disaster management.

Ex-International Planned Parenthood Federation

2.3 Audit Objective

Early identification of disasters through institutional coordination and proper planning, implementation of rapid response in disaster situations and proactively intervening in the rehabilitation of disaster victims, evaluation of the institutional role carried out in relation to mitigating such situations by following the necessary legal provisions and international

regulations within the operation of the relevant institutions including the line Ministry related to the Disaster Management Division in relation to natural disasters.

2.4. Sub Audit Objectives, Criteria

Sub Audit Objective	Criteria	Source
01. Assessing the setting of the background necessary to achieve the audit objective		
1.1 Are the laws and regulations sufficient to mitigate the impact of natural disasters? Evaluate the compliance to that.	<ul style="list-style-type: none"> <li data-bbox="672 772 1024 1077">i. Fulfillment of requirements according to Sections 5, 9, 17, 26 of the Disaster Management Act No. 13 of 2005. <li data-bbox="672 1157 1024 1518">ii. Mechanisms for strengthening the resilience to natural disasters should be incorporated in National level policies and plans. <li data-bbox="672 1619 1024 1812">iii. Preparation of an Act for National Building Research Organization. 	<ul style="list-style-type: none"> <li data-bbox="1097 772 1430 856">- Disaster Management Act No. 13 of 2005. <li data-bbox="1097 911 1430 1104">- Interim Committee as per Cabinet Memorandum No. 4/2012 <li data-bbox="1097 1157 1430 1350">- Section 23 of the National Policy on Disaster Management 2014 (Risk Index) <li data-bbox="1097 1619 1430 1812">Cabinet Paper bearing No. 93/340/173 dated 29 September 1993.

	<p>iv. Establishment of Inter-Management Committees of the National Building Research Organization.</p>	<ul style="list-style-type: none"> - Cabinet Paper bearing No. 07/0435/343/002 dated 13 March 2007. - Gazette Notification bearing No. 1933/13 dated 21 September 2015. - Gazette Notification bearing No. 2153/12 dated 10 December 2019. - Gazette Notification bearing No. NN/20 dated 16 February 2021
<p>1.2 Evaluation of the coordination among the related institutions.</p>	<p>According to 05 of the Sri Lanka Disaster Management Act No. 13 of 2005, the National Council should be held and meet as often as necessary and should meet not less than once in 03 months.</p>	<p>Minutes of the meetings of the National Council.</p>
<p>02. Evaluation of the compliance with international agreements for the mitigation of natural disasters.</p>	<p>Preparation of plans by the relevant institutions in accordance with international agreements.</p>	<ul style="list-style-type: none"> - Sendai Framework (2015-2030) - Disaster Management Plan (2013-2017) - 2030 Agenda for Sustainable

			Development (Goal 13.1, 13.2, 13.3, 13a, 13b)
03.	Evaluation of early detection of natural disasters.		-
3.1	Timely preparation of relevant plans and evaluation of progress.	Timely preparation of disaster management plans and existence of mechanisms for timely measurement of progress.	- Section 08 of the Sri Lanka Hospital Management Act No. 13 of 2005. - Disaster Management Plan. - Annual Action Plan. - Progress reports.
3.2	Evaluation of technical capability for early detection of natural disasters.	Measuring of existing technology capabilities and identifying deficiencies and existence of methods for using new technology for that purpose.	- Information from landslide area mapping through Landslide Risk Profile. - Automatic rain gauge systems. - Doppler radar systems. - Automated meteorological stations. - Disaster early warning projects - Risk Index
04.	Evaluating active intervention in natural		-

disasters.

- | | | | |
|-----|---|---|---|
| 4.1 | Evaluation of funding sources. | Availability of adequate financial and human resource utilization and progress regulatory mechanisms for disaster management. | - Budget.
- Information in relation to the receipt of financial and goods assistance.
- Awareness programmes. |
| 4.2 | Evaluation of Provision for Natural Disasters. | | - Public Administration Circulars dated 24 January 2018. (Circular No. 2/2018) |
| 4.3 | Evaluation of emergency rehabilitation of disaster victims. | Existence of mechanisms for actualizing the identification of disaster victims and measuring their progress. | - Resettlement Projects Guidelines No. 08.
- Projects of constructing safety centers.
- Programme for distributing Subsidies. |

2.5 Audit Scope

Attention was focused in this Audit on the preparedness of identifying the disasters such as floods, droughts, landslides and hurricanes, responding such disasters and post-disaster management from the year 2019 to the year 2021 by the Ministry of Disaster Management and its related institutions.

2.6. Limitation of the Audit Scope

Audit observations have been submitted only on the basis of data obtained from the files and reports of the institutions and the publications issued and it has been not possible to apply the expertise on techniques to the audit.

2.7. Authority for Audit

This performance audit was conducted under my direction in accordance with Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka and the provisions of the National Audit Act No. 19 of 2018.

2.8. Audit Approach

This audit was conducted under the problem approach based on the following issues.

- (a) In 2021, the number of people affected by disasters such as drought, floods, landslides, mudslides, strong winds, fires, lightning accidents etc. had been approximately 1,253,476. The number of deaths reported due to the aforementioned disasters was 184 and 90 casualties were reported.
- (b) When considering the damages to houses due to disasters in the year 2021 3,791 houses were partially damaged and 96 houses were completely damaged due to floods. Furthermore, 3,961 houses were partially damaged and 58 houses were completely damaged due to strong winds.
- (c) Even though the disaster management plan regarding disaster management in Sri Lanka had been prepared for the period of 2013-2017, thereafter, the disaster management plan had not been prepared to continue the national policies related to disaster management by recognizing the new requirements.
- (d) Since the number of people affected by disasters and the damages caused in Sri Lanka are high due to changes in weather conditions, there had been problems regarding the

use of the Doppler radar system, which has the technical ability to detect natural disasters in advance, in fulfilling the objectives and functions of the Department of Meteorology.

- (e) According to the studies of the National Building Research Organization, the risk of landslides has increased especially in the central hilly areas due to the increase in environmental impacts caused by development activities and human activities. Areas around the Central Hills remained prone to landslides due to reasons such as road system improvement, gem and mining industry, and sand mining in low-lying areas and non-reconstruction of land (after excavation) remained a major problem.

03. Detailed Audit Findings

3.1 Setting up the necessary background to achieve the relevant objectives

Formulation of national-level laws, rules and policies for the efficient and effective disaster risk management, their compliance with the Sendai framework, and good coordination among implementing agencies.

3.1.1 Existing laws, rules and policies of the Government to reduce the impact of natural disasters

In order to reduce the impact of natural disasters, the existing laws, rules and policies of the Government should be sufficient and the institutions that are responsible for their implementation should work within that legal framework. It was observed that related institutions were not able to carry out disaster management efficiently due to the non-implementation of the provisions related to the related acts and non-availability of a programme to update the disaster management policy in time.

3.1.1.1 Sri Lanka Disaster Management Act No. 13 of 2005

According to the Act, the establishment of the National Council for Disaster Management, appointment of an industrial advisory committee, formulation of disaster management plans and provisions should be made for matters related or incidental thereto. In the audit inspection carried out in relation to that, it was observed that there had been instances, where functions had not been performed according to the provisions of the Act. The details are given below.

- (a) The National Council established in terms of Section 05 of the Act may meet in all cases deemed necessary and must meet not less than once in three months. However, the evidence that the National Council met in accordance with the Act during the audited period of 2019, 2020 and 2021 had not been submitted to audit.
- (b) In the discharge of their functions in terms of Section 09 of the Act, even though the Council and the Disaster Management Centre shall be assisted by such number of Technical Advisory Committees as shall be deemed necessary by the Council,

consisting of professionals and experts having expertise in relation to the respective functions and responsibilities, as the case may be, of the Council, the institution had not appointed such Technical Advisory Committees.

- (c) Even though the Council shall have its own Fund in terms of Section 17 of the Act, such fund has not yet been established in the National Council.
- (d) Even though it is possible for the Council as per Section 20 of the Act to appoint such number of officers, servants and agents as it considers necessary for the discharge of its functions and for the administration and implementation of this Act, such appointments had not been made.
- (e) An interim committee had been established for the management and financial control, supervision and direction of the Disaster Management Centre according to Cabinet Memorandum No. 04/2012 until the approval is granted for the amendments to this Act, and although more than 10 years had passed, the relevant amendments had not been approved by the Parliament. An amount of Rs.1.4 million had to be paid annually for the interim committees in immediate 05 years (From 2017 to 2021).

3.1.1.2 National Policy on Disaster Management

Even though National Policy on Disaster Management in Sri Lanka was prepared in the year 2014, thereafter, there had been no programme to continue the national policy on disaster management by identifying new needs or to prepare a new policy.

3.1.1.3 Formation of National Building Research Organization.

- (a) As per the Cabinet Memorandum No. 93/340/173 dated 29 September 1993, the National Building Research Organization had been established as a separate institute under the then Institute of Construction Training and Development (ICTAD), and the objectives and the functions of the National Building Research Organization had been determined as per the Gazette Notification dated 29 September 1993. According to the

Cabinet Memorandum No. 07/0435/343/002 dated 13 March 2007, the National Building Research Organization had been vested under the Ministry of Disaster Management and Human Rights. It had been unable to adopt an Act for granting the legal status to the National Building Research Organization. The approval had been received on 12 October 2021 for the Cabinet Memorandum that has been presented for granting the legal status to the Organization. Accordingly, even if the prepared Bill had been sent to the Attorney General's Department on 26 September 2022 by the Legal Draftsman's Department, the said Act had not yet been formulated and presented to the Parliament.

- (b) As per the Cabinet Memorandum No. 07/0435/343/002 dated 13 March 2007, an Interim Management Committee had been established for the management and financial administration, supervision and operation in order to continue the proceedings of the National Building Research Organization. Even if a period of nearly 15 years had been passed upon the receipt of the approval through a Cabinet Memorandum to uphold the National Building Research Organization, a sum of Rs. 3.5 million had been paid to the Interim Committee members within a preceding period of 05 years due to the inability of adopting the Act.

3.1.2. Coordination between the Ministry of Disaster Management and allied Institutes

3.1.2.1. Periodic Meetings of National Council

- (a) Even if the National Council should be consisted with the President who should be the Chairman and the Prime Minister who should be the Vice Chairman of the Council as per the Section 3 of the Act as well as the Opposition Leader, Ministers in charge of the subjects, Chief Ministers of each Provincial Council, five persons selected from the Opposition Members of the Parliament by the Speaker in consultation with the Opposition Leader, such appointments have not been made, and a certain person from those members should be appointed as the Secretary of the Council. As the above requirement was not fulfilled, it was observed that the

required measures have not been taken to build a proper coordination among the institutes in respect of Disaster Management.

- (b) As per the Section 5 of the Act, a special meeting had been held under the topic “Providing reliefs amidst the presently existing disaster situations” in November 2021 under the patronage of the Prime Minister, with the participation of 43 Cabinet and State Ministers and 26 Public Officers. However, the requirement of conducting the National Council as per the Act has been discussed at the said meeting; it was observed in the audit that the said particulars have not been fulfilled.

3.1.3. Compatibility of the disaster-related plans; existing in Sri Lanka to minimize the impacts of natural hazards, with the Sendai Framework.

Disaster-related plans existing in Sri Lanka to minimize the impacts of natural disasters were observed to be inconsistent with the Sendai Framework due to the particulars stated below.

- (a) The activities of preparing new Disaster Management Plans subsequent to making required amendments to the National Disaster Management Plan which is a major task of the Center as per the Section 8 of the Sri Lanka Disaster Management Act No. 13 of 2005 had not been accomplished even by the end of the year under review.
- (b) All other plans should be made based on the National Disaster Management Plan in line with the Sri Lanka Disaster Management Act No. 13 of 2005 and other Action Plans had not been updated as the National Disaster Management Plan was at the editing stage to date.

3.2. Identifying the Disaster Risk

As the prior readiness is significant in a natural disaster, disaster risks situations and disaster zones should be identified. There should be a proper methodology and the technical ability for that. The following facts were observed in respect of the methods to identify the disaster risk situations and inform the vulnerable people as soon as possible.

3.2.1. Evaluation of the Technical Ability to Identify the Disasters in Advance.

3.2.1.1. Early Warning Towers

77 Tsunami and Cyclone Early Warning Towers have been established by the Disaster Management Centre in 14 districts covering coastal areas of the island. Then Ministry of Disaster Management; on behalf of the Disaster Management Center, had entered into agreement on 16 December 2016 for a period of 05 years at a value of Rs.135 million including VAT with a Private Institute for rehabilitating and maintaining activities of all these 77 towers. 55 towers out of these 77 towers have been inactive at present and only 22 towers are at working condition. Although Rs.90 million has been paid to the Private Institute for these towers from the year 2016 to date and a sum of Rs. 576,185 has been spent for its maintenance activities by present, it was observed that the effectiveness of the program is not adequate as the expected objective of establishing the said towers was not able to be achieved by present. It was observed that the attention has been directed towards other alternatives at present rather than the Early Warning Towers.

3.2.1.2. Mapping of Landslides Disaster Zones

These maps are used to identify the landslide disaster zones, issue the landslide early warnings, conduct landslide investigation activities for the assessment of disasters, issue landslide risks assessment reports and for the structural methods of minimization according to the priority of identifying the lands of possible landslide disasters. Following facts were observed in this connection.

- (a) Landslide Research and Disaster Management Division of the National Building Research Organization had completed the 1: 50,000 scale mapping of landslide zones covering a land area of 32,593 square kilometers in 13 districts as at the date of audit (30 September 2022). The 1:10,000 scale mapping activities in 8,960 square kilometers had been done only within the identified priority areas in 11 districts out of the above 13 districts as of 22 February 2022. The 1:10000 scale mapping of further 1440 square kilometers had been planned to be accomplished by the end of 2025. Although 1:10,000 scale mapping activities had been started since a period of more than 10 years before this, 1:10000 scale mapping activities out of

the 32,593 square kilometers accomplished as 1:50,000 up to 30 September 2022 had been able to be completed for only a very lesser quantity such as 8,960 square kilometers. That is a percentage of 27%. In respect of this matter, following particulars were also observed.

In concern of the progress of mapping, it was observed that the 1: 10,000 scale mapping in Matale, Hambantota, Galle, Matara and Kurunegala are at a lower status. Although the quantity of maps to be prepared in 1:10,000 scale was 504, only 224 maps have been finished to date, and it was 44% as a percentage. Any 1:10000 scale mapping activities in Colombo, Gampaha and Monaragala districts had not been done. In the mapping exercise, landslide risk of the relevant area as high, medium and low had not been identified by the organization and it was observed that only the high risk areas had been identified.

- (b) Under the 02 projects called “Preparing a Data System surveying the buildings in identified high-risk areas” and “Carrying out a site inspection and maintaining a Data System based on the Geographical Survey Reports (SPI Location), the said data systems were being maintained by the Human Settlements Planning and Training Division of the National Building Research Organization as the on-site photographs at the level of family units living in high-risk areas are included. However, it was observed that the effectiveness of the data system prepared using on-site photographs at the level of the buildings and the family units living in high-risk areas is not adequate as the positioning of the 1:10,000 scale was not completed.
- (c) Landslide Risk Profile Development Projects (National Building Research Organization)

Even if the Landslide Risk Profile Development Project was planned to be started in 2016 and completed in 2021, the said project was being implemented even by 31 December 2022. Rs. 35 million had been received from the general treasury for the said project in the year 2020, and Rs. 14.43 million was left from the previous year's allocation. In the year 2021, only Rs. 15 million had been spent, and a provision of Rs.34.42 million had remained at the end of the year. This balance was

observed to be a balance of 70% from the allocations in the year for the implementation of the project. The allocations had not been given for this project within the year 2022, and Rs. 17.60 million had been spent from the remaining allocations. Also, Rs. 16.87 million remained underutilized by the end of the year 2022. In the year 2022, this project was planned to be implemented under 28 work items, and 10 work items; to which Rs.12.57 million had been allocated, were not done during the year. Further, the progress of 05 work items planned to be implemented under this project was at a level of below 50%. The buildings located in the high-risk areas were surveyed and it was identified that there are 92,765 high-risk buildings in 10 landslide-prone districts using 162 maps done up to the year 2016 by the Human Settlements Planning and Training Division of the National Building Research Organization using 1:10000 scale maps under the above project. No actions had been taken by the Human Settlements Planning and Training Division to collect the survey information for 62 maps done in 1:10,000 scale by the Research and Disaster Management Division after the year 2015 and identify the buildings located in the high risk districts.

(d) Issuance of Disaster Risk Assessment Reports

The lands are inspected for constructing the buildings, risk assessment reports are issued and landslide assessment reports are issued for landslide surveys. The recommendations are thereby given in respect of giving permission for the construction and development activities in the areas of possible landslides. The following particulars were observed regarding the risk assessment reports issued by the Landslide Research and Risk Management Division of the Organization from January 2022 to 31 August 2022.

- (i) 700 applications had been received from 11 districts regarding the land inspection for building constructions and development activities as at 31 August 2022 and the recommendations had been given for 331 application from those. Out of those applications, there were 340 applications to be recommended. Among those, there were 180 applications without being inspected for more than a period of one month and the recommendations

had been given for 49 percent from the applications received during the year under review. This situation had been caused by the shortage of trained employees, lack of transport facilities of the organization, defects in the applications and the non-receipt of money as scheduled.

- (ii) 2,045 applications had been received as of 31 August 2022 for the landslide survey of which the recommendations had been given for 333 applications. Accordingly, the number of applications to be recommended further was 1,415. The recommendations had not been given by conducting the relevant surveys for 69 percent from the number of applications received to be recommended during the year. Also, although the recommendations were to be given within a period of 02 weeks upon the receipt of the applications, the number of applications remained without being recommended for more than a month was 1,103.

3.2.1.3. Technical Ability of the Department of Meteorology to Identify the Natural Disasters in Advance.

- (a) Installation of doppler radar systems in the land of weather station in Puttalam and Pothuvil.

An agreement had been signed between the Japan International Cooperation Agency (JICA) and the Government of Sri Lanka on 30 June 2017 for giving a grant of 2,503 million of Japanese Yen by JICA for the installation of 02 Doppler radar systems in Puttalam and Pothuvil Weather Stations with the objective of better observing the rainy situation and the related weather conditions that affect the island and supporting the early warning system about the adverse weather. The project duration was from 2017 to 2021.

Following observations are made in this connection.

- (i) Although the provisions of Rs. 513.78 million had been allocated for the above project as at 22 September 2022, the expense had been only Rs. 370,161 and the procurement process has been stopped midway due to insufficient provision

caused by price hike although 06 years have passed since the contract was signed.

(ii) Although an agreement had been entered into between the Japan International Cooperation Agency (JICA) and the Government of Sri Lanka on 30 June 2017; on a firm requirement of a Doppler radar system for the early warning of Sri Lanka, to install the said system adjacent to the office premises of 02 Weather Stations of Puttalam and Pothuvil, the following particulars were not herein ratified in the audit.

- Whether the requirements for the selection of Puttalam and Pothuvil office premises for the installation of the proposed 02 Doppler Radar Systems have been met were not observed.
- Whether the attention has been given on the economic, technical and geographical factors in selecting the expected land for the installation of the Radar Systems was not observed.
- Whether the said regional office lands have been acquired to the Department of Meteorology was not confirmed.
- The fact that each of these 02 areas being urban settings does not become an obstacle in the installation and operation of the system (Adherence to the Standards)
- Absence of confirmation that the location of the Puttalam work site near the wind farms will not become an obstacle with data acquisition.
- Not obtaining the certificates (NBRO, UDA) or recommendations to the effect that this land is suitable for the construction of a tower around 45 meters high.
- Obtaining Environmental Feasibility Study reports asserting that no adverse impact is caused on the environmental conditions.

- (iii) Even if the radar construction activities should reach its final stage by the end of 2020 according to the agreement period of 2017-2021, the construction activities of the project has not yet started.
 - (iv) As the provisions are not adequate for Doppler Radar Systems in consideration of the current economic situation, the JICA and the Department of Meteorology have conveyed the agreement to install only one system in Puttalam in May 2022 instead of 02 Radar Systems. Accordingly, even if there is a firm requirement of a Doppler Radar System in weather forecasting, weather forecasts and predictions have been made without the said system for a period of nearly 15 years. Consequently, whether the forecasts and predictions can be made with larger accuracy and reliability could not be verified due to this matter
- (b) Establishment of Automatic Meteorological Station

Parameters such as temperature, humidity, precipitation, speed and direction of wind, pressure, and the amount of radiation are measured by 38 Automatic Meteorological systems worth Rs.570 million, received under Japanese aids (by JICA institution) in the year 2008. A sum of Rs. 123 million had been incurred for spare parts of these systems from 2010 to 2019 and files with proper approvals for relevant purchases relating to establishment, had not been maintained and kept in the Procurement Division. A maintenance file identified as DOM/EB/IPVPN/01 had been produced for the audit from the Establishment Branch and some of its pages were not original and it was observed that they were photocopies.

These 38 systems which were received as a grant from the Japanese Government consisted of 07 sub-systems. 20 systems out of them (02 are compelled to be removed from operation) had been established in the premises belonging to divisional offices of the Meteorological Department and the remaining 18 systems (01 is out of order), had been established in premises belonging to other institutions (Ex:- Tea Research Institution, premises of the Agricultural Department, University premises).

(c) Functionality of Automatic Meteorological Centers

11 systems had been rendered out of order by 11 July 2023 due to expiration of life of the batteries of these centers, Mahailuppallama, Wagolla, Sewanagala, Polonnaruwa, Aralaganwila, Balangoda, Sirikandura, Angunukolapelessa, , Deniyaya, Thawalama and Kudawa and the number of instances where proper maintenance not carried out in the years from 2019 to 2022, stood at 69 per cent,93 per cent,92 per cent and 85 per cent respectively. Therefore, it was observed that there were issues with regard to efficiency and productivity at Automatic Meteorological Centers. 47 instances were observed where no maintenance work had been carried out during the period from 2019 to 2021.

(d) Establishment and improvement of Automatic Rain Gauge System for the improvement of timely observational system.

Although 453 rain gauge tools are spread across the country, it was observed that no continued data was obtainable from them. Particulars relating to rain gauge tools from which continued data was not obtainable during the period from 2019 to 31st May 2023 are as follows.

The number of rain gauges not providing continued data

2019	2020	2021	2022	31 May 2023
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60	100	97	50	72

Amount of rain (once in every ten minutes) and its intensity play a major role in issuing timely early warnings. The automatic rain gauge system initiated by the Department has been established in 05 rain basins in the wet zone (Attanugaluoya, Kalu Ganga, Nilwala Ganga, Gin Ganga, Bentara Ganga). It consists of 122 automatic rain gauges. The following observations are made in that regard.

- (i.) 52 out of the 122 rain gauges have become out of order by 31 May 2023 and it was observed that no data has been received from them.

- (ii.) Although the maintenance works should be carried out on the rain gauges in a proper way in accordance with a time frame, the institution which established the rain gauges had carried out maintenance works till a certain time period and it was observed that the automatic rain gauges have become out of order due to those maintenance works were not being currently carried out.

3.2.2. Programmes/Projects Initiated to Avoid Disasters

As per the project proposals approved by the General Treasury for the preparation of multi-hazard risk profile which should be initiated under the Disaster Management Center, it had been mentioned that an assessment (Risk Index) for multi hazards would be carried out by this project based on the criteria of hazard, vulnerability and capacity. And by that assessment, it was to identify all threats and losses occurred on account of each disaster that may be caused to the people in terms of infrastructure, economic and environmental sectors. As per section 23 of the National Policy for Disaster management, although this risk index should be updated properly and study the variations, no activities towards that end had been initiated as at 31 December 2021 the audit day.

3.3. Active Mediation in Disaster Situations.

3.3.1. Avenues of Obtaining Funds in Disaster Situations to Minimize the Effects of Natural Disasters.

3.3.1.1. Annual Capital Provisions

Of the annually allocated capital provisions, the money utilized by the institutions dealing with minimizing the disasters is as follows.

- (a) Of the capital provisions allocated for the Disaster Management Sector, It was observed that a sum of Rs. 1.5 million in 2020 and a sum of Rs. 09 million in 2021 had been saved. And this was 54 percent and 64 percent of the allocated capital provisions respectively.

- (b) Of the capital provisions allocated for the Disaster Relief Center, It was observed that a sum of Rs. 1,748 million in 2019, a sum of Rs. 202 million in 2020 and Rs. 524 million in 2021 had been saved. And this was 44 percent, 16 percent and 32 per cent of the allocated capital provisions respectively.
- (c) Of the capital provisions allocated for the Disaster Management Center, It was observed that a sum of Rs. 68.77 million in 2019, a sum of Rs. 4.25 million in 2020 and Rs. 193.4 million in 2021 had been saved. And this was 34 percent, 6 percent and 55 percent of the allocated capital provisions respectively.
- (d) Of the capital provisions allocated for the National Building Research Organization, It was observed that a sum of Rs. 992.5 million in 2019, a sum of Rs. 200.5 million in 2020 and Rs. 1,266 million in 2021 had been saved. And this was 62 percent, 23 percent and 53 percent of the allocated capital provisions respectively.
- (e) Of the capital provisions allocated for the Meteorological Department, It was observed that a sum of Rs. 186 million in 2019, a sum of Rs. 10 million in 2020 and Rs. 42 million in 2021 had been saved. And this was 85 percent, 25 percent and 81 percent of the allocated capital provisions respectively.

According to above facts, it was observed that the effectiveness of preparing estimates by the relevant institutions for requesting shortage of Government financial resources was not sufficient.

3.3.1.2. Non-utilization of Emergency Command Vehicles Efficiently.

- (a) Action had not been taken for about 11 years to place in a rain and sun protection shed the emergency command vehicle worth Rs. 22 million given to the Disaster Management Center in 2010 and the display vehicle worth 3.8 million given in 2009.



- (b) Although the mobile display vehicle number WPLG-8842 worth Rs.3.8 million had been gifted by the United Nations Development Programme with the purpose of improving the programmes conducted to build awareness amongst people, it had been used to transport goods disregarding the purpose for which it was given and the log book too had not been completed.



3.3.2. The Process of Mediation of the Relevant Institution in a Natural Disaster

3.3.2.1. The Process of Mediation of the Disaster Relief Services Center.

- (a) Provision of physical facilities to minimize the damage caused owing to dry weather.

Action had been taken by the Disaster Relief Services Center to fulfill the drinking water need of the people who have found it difficult to find drinking water due to the dry weather affecting the country. For the purpose of fulfilling the drinking water need, 191 tractor bowsers, 133 lorry bowsers and water tanks, 11,936 water tanks. The following observations are made in this regard.

- (i) Distribution of tractor bowsers amongst District Secretariats.

Disaster Relief Services Center had bought 179 tractor bowsers for a sum of Rs.316 million during the period from 2013 to 2017 and with the 12 tractor bowsers worth Rs.22 million gifted in 2016 by the Asian Development Bank, 191 tractor bowsers had been distributed amongst District Secretariats. At the inquiry conducted from each District Secretariats by the National Disaster Relief Services Center to verify the place where the tractors given in the month of February 2021 are available, it had been informed that 05 tractor bowsers given to the District

Secretariats of Ampara, Anuradhpura, Monaragala, and Kurunegala are not available in those offices.

- (ii) It had been informed to the audit that 188 out of 191 tractor bowsers were transferred on 03 March 2021 to the District Secretariats. Although it has been mentioned planning, initiation and following up of relief works as the purposes of the National Disaster Relief Services Center to carry out the disaster relief activities, it was observed that no action had been taken to follow up the condition of those tractor bowsers after they were transferred to the District Secretariats. Due to the transferring of tractor bowsers purchased incurring Government funds amounting to Rs.316 million without following up of them, it was not able to verify how much of the purpose of fulfilling the need of supplying drinking water was achieved.

- (iii) Distribution of 133 lorry bowsers.

27 lorry bowsers purchased at a cost of 139 million during the period from 2014 to 2017 and 08 lorry bowsers received in 2017 as gifts from India and 08 lorry bowsers received as gifts from Korea, and 90 lorry bowsers received in December 2018 under China Government aids, had been distributed amongst District Secretariats for fulfilling the drinking water need. No information with regard to the follow up action being taken in this regard was provided to the audit.

- (iv) Distribution of water tanks for fulfilling the drinking water need.

12,236 water tanks had been distributed amongst the 25 districts by the Disaster Relief Services Center from 2015 and prior years to 2021, and that they are available in District Secretariats and that they are available in suitable condition for using for the purpose of drinking water, and it was not observed that the Disaster Relief Services Center taking follow up action to ascertain whether water tanks are distributed amongst families.

(b) Staff Management

- (i) The approved cadre of Disaster Relief Services Centre was 626 as at 31st December 2021 and since the actual cadre was 599, 37 vacancies existed. The vacancies existed in 06 posts in seniority level, 01 post in tertiary level, 20 posts in secondary level and 10 posts in primary level. 37 vacancies in essential posts and 14 vacancies in Relief Services Officers for relief services in 07 District Offices had affected to the performance of the institute and the efficient and effective implementation for the minimization of the hazards occurred to the people at the disasters.
- (ii) Even though it had been mentioned that the preparation of the human resource plan of the Disaster Relief Services Centre has been commenced based on the format of Public Administration Circular No.02/2018 dated 24th January 2018, the human resource plan had not been prepared up to 31st December 2022 which was the audited date.

3.3.2.2. Intermediation Process of Disaster Management Centre

The details of the staff management are as follows.

- (a) The Centre had recruited 07 Tri forces Officers, Director (Emergency Operations) and 06 Assistant Directors. A formal approval had not been obtained for the recruitment of Tri forces Officers for the permanent duties outside the scheme of recruitment even there was an approved scheme of recruitment in the institute.
- (b) The Disaster Management Centre is maintained with the workers' vacancies which gradually improve as follows since many years and it is about 1/3 of the approved cadre. Even though the approved cadre of the institute was 465 officers as at 31st December 2022, the staff who was in service was 288. Therefore, 177 vacancies existed. 138 vacancies out of this were in the secondary level and there were 26 and 05 vacancies in the seniority level and

the tertiary level respectively. From 2019 to 2021, the total vacancies were 149,161,163 and 177 respectively. That was an obstacle to duly and efficiently maintain the performance, objectives and functions of the institute.

- (c) The activities of the preparation of human resource policies had not been completed even up to 31st March 2022 by the Disaster Management Centre.

3.3.2.3. Intermediation Process of National Buildings Research Organization

- (a) Issuance of the landslides warnings

Since the landslides abundantly occurs due to the soil humidity with the high rainfall, the timely rainfall data is obtained by National Buildings Research Organization through a network connected automatic rain gauges established in the catchment areas in the landslide prone districts. The pre warnings are issued to the people by the Scientists of Pre Warnings Centre of National Buildings Research Organization by analyzing the weather forecasts issued by the Department of Meteorology and the data obtained from the automatic rain gauge systems in association with Emergency Operations Centre of Disaster Management Centre. However, it was unable to give warnings on the landslides early owing to the dysfunction of the rain gauges as per the following observations.

- (i) 330 automatic rain gauges had been established in 14 vulnerable districts up to 21st August 2023 and on that date, 109 automatic rain gauges were inactive.
- (ii) As the maintenance activities of automatic rain gauge systems are carried out by the officers in head office itself and there is limited number of officers in the head office, it had been observed that there are issues for maintaining the rain gauge systems established in 14 districts.
- (iii) The automatic rain gauges had been installed in open environments and issues of not receiving accurate rainfall data by collecting waste in its funnels and surrounding trees and the forest which grows high can affect to

the measurement process of rainfall also. Through that, it has been observed that the probability of non-receipt of accurate data could be a higher value.

- (iv) Non-maintenance of the internal accessories of automatic rain gauge systems like Solar Controller, Battery and Modem and non-systematic replacement of new accessories due to the periodical depreciation had affected to frequent dysfunction of the automatic rain gauges.
- (v) It had been observed that the obstacles occurred to the data transmission of automatic rain gauge systems can affect to the issuance of accurate pre landslides warnings also.
- (vi) The landslides pre warnings are issued to Emergency Operations Centre of Disaster Management Centre through analyzing the data obtained through automatic rain gauge systems. Even though there are 330 automatic rain gauge systems, the data of only 251 rain gauge systems out of that had been connected to Emergency Operations Centre of Disaster Management Centre by Landslides Research and Hazards Management Division of National Buildings Research Organization.
- (vii) Even though a provision of Rs. 10 million had been allocated by the General Treasury in 2023 for the automatic rain gauge systems; it had been observed that the landslide pre warnings had been issued based on the data obtained from the contribution of 251 automatic rain gauges which is a very low number. Since the landslide pre warnings are issued based on the rain data obtained from very low number of rain gauge systems, it had been observed that the opportunities for issuing of landslide pre warnings can be avoided in the landslide prone areas.
- (viii) When issuing landslide pre warnings by National Buildings Research Organization, it had been indicated as Divisional Secretariat Divisions by not identifying the specific areas which are prone to landslides and it had been observed that the landslide risk management issues can arise due to non-identification of separate villages or cities.

(b) Staff Management

- (i) Even though approved cadre was 386 up to 31st December 2022, the actual cadre was 300. Therefore, 86 vacancies existed. The existence of such vacancies had obstructed for duly and efficiently carrying out the performance, objectives and functions of the institute.
- (ii) 38 vacancies had existed for 04 posts in seniority level of the institute. Meanwhile, the post of Director Administration and Director Landslides Research and Risk Management had been vacant since 2016 and 2018 respectively. Furthermore, 35 vacancies existed in 03 posts in the seniority level such as Senior Scientist, Scientist and Manager Technical/Laboratories and those vacancies had existed for 04 years. Since the functions of the posts of Senior Scientist and Scientists are immensely contributed for the achievement of the objectives of the institute, it had been observed that not taking actions to recruit the officers for such posts can affect to decrease the efficiency of the institute.
- (iii) Moreover, 06 vacancies existed in the tertiary level and 12 vacancies in the secondary level and 30 vacancies existed in the primary level. That had affected to duly maintain the performance, objectives and functions of the institute.

3.3.2.4. Intermediation process of Department of Meteorology

(a) Staff management

- (i) The approved cadre of Department of Meteorology was 462 up to 31st May 2023 and actual cadre was 345. Therefore, 117 vacancies had existed. 76 percent of numbers of vacancies are officers in executive, tertiary and secondary levels.
- (ii) The human resource shortage existing in the institute since many years had affected to the performance. The proper maintenance of services of

providing weather and climatic information and forecasts, services of providing information to the clients in agriculture and the water management and other services and duly and efficiently performance of the objectives and functions of the institute are a challenge due to shortage of Technical Officers since many years, inadequacy of Meteorology Scientists, non-possibility of obtaining post graduate degrees on meteorology within the country.

(b) Training and Capacity Building

06 Meteorology Scientists had completed their Master in Arts on Meteorology and Atmospheric Science during 2020/2022.

(c) Human Resource Plan

In terms of Annexures of Public Administration Circular No.02/2018 dated 04th January 2018, a Human Resource Plan had not been prepared. It had affected to the efficiency and effectiveness of management of human resource.

(d) Capacity Development for Human Resource

Even though a provision of Rs.06 million had been allocated in 2021 for human resource capacity development as per the Action Plan, only Rs.514,599 had been incurred. 07 local programs had been carried out and only 32 officers had participated for that.

3.4.Immediate Uplift of the Affected People

3.4.1.Resettlement of the Affected People

The steps had been taken to minimize the deaths due to the landslides by taking measures to build houses in other alternative places for the houses located in landslides high risk areas identified by National Building Research Organization. It had been observed the under-mentioned facts in relation to this matter.

(a) Resettlement of families evacuated owing to the disasters and disaster risk

The resettlement of 13,846 beneficiary families identified so far by National Buildings Research Organization to be evacuated from their residences is carried out under the technical contribution of that institute and the allocation of the financial provision of National Disaster Relief Services Centre and its co-ordination. In implementing the resettlement program in 14 districts, the total provision and the total actual expense from 2017 to 2022 were Rs.6, 617 million and Rs.4, 777 million respectively. The resettlement is due to be implemented in 121 Divisional Secretariat Divisions in Badualla, Nuwaraeliya, Kandy, Matale, Kegalle, Kaluthara, Matara, Rathnapura, Hambanthota, Galle, Colombo, Gampaha, Kurunegala and Monaragala districts.

As per the cabinet approval, the beneficiary families are resettled under 03 alternative opportunities. The total amount incurred for the resettlement program which had been commenced in 2017 was Rs.4, 464 million up to 31st December 2021.

Number of families to be resettled	Number of families who had been granted lands and owns a land for the construction of a house	Number of houses which are being constructed	Number of houses which were completely constructed
13,846	4,652	2,053	1,726

The following facts were observed in this regard.

- (i) It was planned to construct houses for 1,000 families in the year 2021 under the resettlement program of people living in high-risk areas with technical assistance by the Human and shelter Planning and Training Division of the National Building Research Organization. Though Rs. 150 million has been allocated to the National Building Research Organization as treasury allocation in the year 2021, only Rs.9.76 million had been spent and house

construction work had not commenced. The financial progress of the project in the year 2021 was as low as 6.5 percent and further, the physical progress was as low as 3 percent.

- (ii) According to the information of the National Building Research Organization, although the number of families to be resettled in 14 districts is 13,846, the number of houses to be constructed was 12,120. The number of houses built in 6 years was 1,726, which is 12.46 percent of the number of families to be resettled.
- (iii) For the house construction project in devastated lands in Kegalle area, Rs. 70 million has been allocated to the disaster relief service center and in the year 2021. As only Rs. 13.67 million had been spent, there was a financial progress of 19.53 percent. Under this project, 124 houses were planned to be completed in the year under review, but the construction of only 34 houses was completed. Hence, the displaced people could not be resettled safely as expected.

3.4.2 . Provision of Relief to Displaced Persons.

3.4.2.1 . Safe Centre Construction Project.

Safe centers have been constructed to improve sanitation and infrastructure in order to keep the affected people safe and meet their basic needs. The following facts were observed in this regard.

- (a) The project of construction of safe centers in the districts for the displaced people in the event of disaster was implemented in 325 safe centers selected by the Disaster Relief Service Center during the period 2018-2020. Although provisions of Rs.260.40 million have been allocated for the improvement of the sanitary facility and infrastructure, only 292 safe centers were provided with the facility at a cost of Rs. 226.85 million during the said period.

- (b) The Cabinet approved the second phase of this project in the year 2021 to repair 300 safe centers during the period 2021-2023. During the year 2021, Rs. 75 million had been allocated and by the end of 2021, only 48 safe centers had completed the work. By the end of the year, Rs.21.98 million rupees remained unutilized from those provisions. Accordingly, it was observed that the work of the project is going on without economy and effectiveness.

3.4.2.2 Storing of Material for Displaced Persons

The following facts were observed during the inspection of warehouse No. 7 of the Orugodawatta warehouse complex of the National Disaster Relief Service Centre on 4th October, 2022

- (a) There were holes in the roof of the warehouse and because the roof was not repaired, the goods had been damaged due to water leakage during the rains. In the warehouse, the scraps were piled up in different places as shown in the diagram below, and they were covered with dust and cob webs.



- (b) A lorry belonging to the Disaster Relief Service Center was parked in front of the warehouse and the said vehicle was decaying due to lack of use for many years.



3.5. Compliance with International Agreements for Natural Disaster Mitigation.

Coordination between relevant government bodies is important for disaster management during a natural disaster. Natural disasters also affect vulnerable people (disabled, elderly, sick, children, mothers, and poor people) and thus can have a negative impact on the development of the country. It is necessary to build a capacity that can withstand the impact and to build a sustainable green way for the future to reach the sustainable development goals. Below is the information about the objectives, goals and indicators prepared by the relevant institutions to achieve the sustainable development goals.

3.5.1. Progress of the Implementation of Sustainable Development Goals in respect of the Disaster Management Center

Implementation Progress under 03 Sustainable Development Goals (01, 11, and 13) for the Year 2022 in respect of the Disaster Management Center is as follows.

- (a) Sustainable Development Goals under 01, the progress of 06 indicators was between 26 and 58 percent of the 11 indicators that the institute has prepared to reach the goals of ending all forms of poverty in all places.

- (b) Sustainable development goals under 11, the progress of 06 out of 10 indicators prepared by the institute for turning cities and settlements into fully protected places was between 15 percent and 40 percent.
- (c) Sustainable Development Goals 13, the center had prepared an indicator to reach the objectives for quick action against the climate change and its effects and it was observed that its progress was at the level of 20 percent.

3.5.2. Progress of the Implementation of Sustainable Development Goals in respect of the National Building Research Organization

- (a) In order to make cities and human settlements all-inclusive safe and resilient places in Article 11 of the Sustainable Development Goals, the organization had progressed through 06 goals and 16 sub-goals, of which the progress of 01 sub-goal was from 0 percent to 49 percent. . The progress of 02 sub-goals was at a level of 50 percent to 75 percent.
- (b) To achieve the goals for taking quick action against climate change and its effects of the Sustainable Development Goals 13, the organization had progressed through 05 goals, of which the progress of 01 goal was from 0 percent to 49 percent. was up to The flood mitigation programs outlined under the above objectives were not carried out in the year 2022.

04. Recommendations

4.1. Disaster Management Centre

- (a) Appointing members of the National Council for Disaster Management and appointing a Technical Consultative Committee by the Sri Lanka Disaster Management Act No. 13 of 2005, making arrangements for the matters incidental thereto, enforcing the National Council for Disaster Management and as per the provisions of this Act, carrying out the objectives and functions.
- (b) Preparation of the National Disaster Management Plan in accordance with the Sri Lanka Disaster Management Act No. 13 of 2005 and the SENDAI Framework of the International Convention on Disaster Management, completion of the National Disaster Management Plan and submission for the Parliament approval for relevant amendments thereto .
- (c) Preparation of National Disaster Management Policy 2014 identifying new needs, updating the risk index to be prepared according to the policy, studying its variables and taking appropriate measures
- (d) Proper management of human resources by harnessing human resource plan.
- (e) Reduction of Disaster Risk through a study of disaster risk areas at the selection of projects related to disaster risk reduction.
- (f) Achievement of the relevant objectives under Goal 3 of the 13 Sustainable Development Goals as per the 2030 Agenda for Sustainable Development by increasing the progress of taking action against the impacts of the climate change.

4.2 National Building Research Organization

- (a) Urgently drawing attention to the need to prepare an Act to give a more powerful legal status to the National Building Research Organization .
- (b) Expediting 1 : 10,000 scale mapping activities to identify landslide areas and identify existing buildings in areas where mapping activities have been completed .

- (c) Identifying the landslide risk level of the place as high, medium and minimal in the mapping.
- (d) Transfer the responsibility of testing and maintenance of rain gauges to District Offices in order to improve their accuracy.
- (e) Expediting the issuance of landslide risk assessment reports and management of landslide risks by district offices.
- (f) Completion within the planned period of the projects being executed under treasury allocations and foreign aid.

4.3 Disaster Management Division in the Ministry of Defense

- (a) Improving the information communication system in respect of disaster management in the Department of Meteorology, National Building Research Organization and Disaster Management Center under the Disaster Management Division of the Ministry of Defence.
- (b) Development of sanitary facilities at locations identified as safe centers.
- (c) Follow up on the optimal and timely utilization of the tractor bowsers , lorry bowsers and water tanks that were given to the district secretariats to meet the drinking water needs .
- (d) Expedition of construction of houses that are under construction and that are to be constructed under resettlement projects.

4.4 Meteorological Department

- (a) Carry out a study in respect of environmental impact in the Puttalam site where new radar systems are expected to be installed and implement the project.

- (b) Proper maintenance of meteorological instruments and their efficient and effective use for accurate forecasting.
- (c) Carrying out the relevant tasks according to the Corporate Plan prepared for the 05 years from 2021 to 2025 and preparation of the Action Plans as per the Corporate Plan .

Sgd./W.P.C. Wickramaratne
Auditor General

W.P.C .Wickramaratne
Auditor General

29 January 2024