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Association for Disaster Risk Management Professionals



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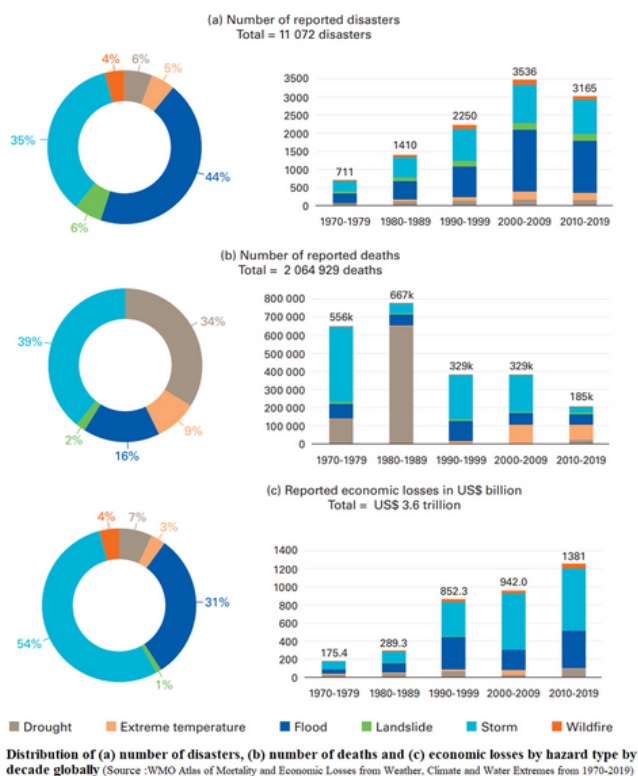
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Highlights of Global Climate and Sri Lanka Climate 2021

Within the past 50 years, the number of recorded disasters driven by climate change have multiplied by a factor of five, but the development and improvement of early warning systems and disaster management has reduced the number of global deaths by 30%.



According to the WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes from 1970-2019, droughts, storms, floods and extreme temperatures caused 11 000 disasters attributed to weather, climate and water-related hazards, accounting for 2 million deaths and US\$ 3.64 trillion economic losses. Thus, over the last 50 years, 50% of all recorded disasters, 45% of related deaths and 74% of related economic losses were due to weather, climate and water hazards.



Distribution of (a) number of disasters, (b) number of deaths and (c) economic losses by hazard type by decade globally

Global Climate Highlights 2021

There was an increase in extreme weather events in 2021 and extreme rainfall and extreme temperature events have become the new normal due to decades of climate inaction.

- The COVID-19 crisis offered only a short-term reduction in global emissions during the first half of 2020. Atmospheric concentrations of major greenhouse gases, such as carbon dioxide, methane and nitrous oxide, continued to increase in 2020 and 2021.



- The rate of global sea level rise has increased since satellite altimeter measurements began in 1993, reaching 4.4 mm/year between 2013 and 2021.

- A historic heat wave brought record-high temperatures in western parts of North America during the months of June and July 2021. Within 9 days 569 heat-related deaths were reported in British Columbia alone. This heat wave also contributed to severe melting of glacier. Mass loss at some glaciers in southwestern British Columbia were the greatest on instrumental record (1965-2021).



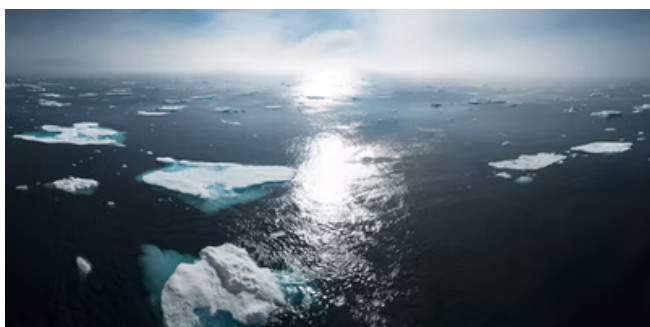
- Western Europe experienced some of its most severe flooding on record in mid-July. The worst affected areas were western Germany and eastern Belgium, which received 100 to 150 mm over a wide area from the 14th to 15th July. 179 deaths were reported in Germany and 36 in Belgium, with economic losses in Germany exceeding US\$20 billion.

- Extreme rainfall hit Henan Province of China from 17 to 21 July. On 20 July, the city of Zhengzhou received 201.9 mm of rainfall in one hour (a Chinese national record). 302 deaths were attributed to the flooding, and economic losses of US\$17.7 billion were reported.



A traffic police officer guides residents to cross a flooded road with a rope during heavy rainfall in Zhengzhou, Henan province, China, July 20, 2021 [China Daily via Reuters]

• Extreme heat affected the broader Mediterranean region on several occasions during the second half of summer in the Northern Hemisphere. In early August, an agrometeorological station near Syracuse in Sicily reached 48.8 °C, a provisional European record. Greenland experienced an exceptional mid-August melt event which included temperatures above 0 °C and rainfall at Summit Station, the highest point on the ice sheet. This is the first time that rain has been observed at the Summit Station.

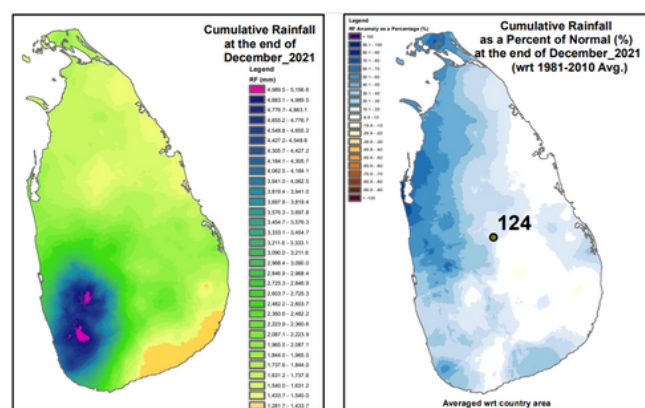


• The most significant hurricane of the North Atlantic season was Ida. Ida made landfall in Louisiana on 29th August with sustained 1-minute winds of 240 km/h, the equal-strongest landfall on record for the state, with major wind damage and storm surge inundation. 72 direct and 43 indirect deaths were attributed to Ida in the United States and Venezuela, with economic losses in the United States estimated at US\$63.8 billion.

Climate Highlights of Sri Lanka in 2021

Sri Lanka experienced 124% of the long-term average rainfall (1981-2010) in 2021. Above average rainfall was received during most months except February, April and December when below normal rainfall was reported, and normal rainfall was only received during March and September.

According to the Disaster Management Center (DMC), extreme weather events leading to floods, flash floods, landslides and strong winds from January to December 2021 affected around 203,830 families and 757,624 people. 75 deaths were reported following these extreme weather events.



Cumulative Rainfall (mm) from January to December 2021(right) and Percentage of Normal from the Climatological average (1981-2010) (left)



A barge damages a bridge that divides Lafitte, Louisiana and Jean Lafitte, in the aftermath of Hurricane Ida, on August 30th. Photograph: David J Phillip/AP

• On May 13th, 2021 torrential rain was experienced in Southwest parts of the country leading to floods, landslides and cutting failures affecting more than 11,500 families and around 46,500 people. 5 deaths were recorded following this disaster.

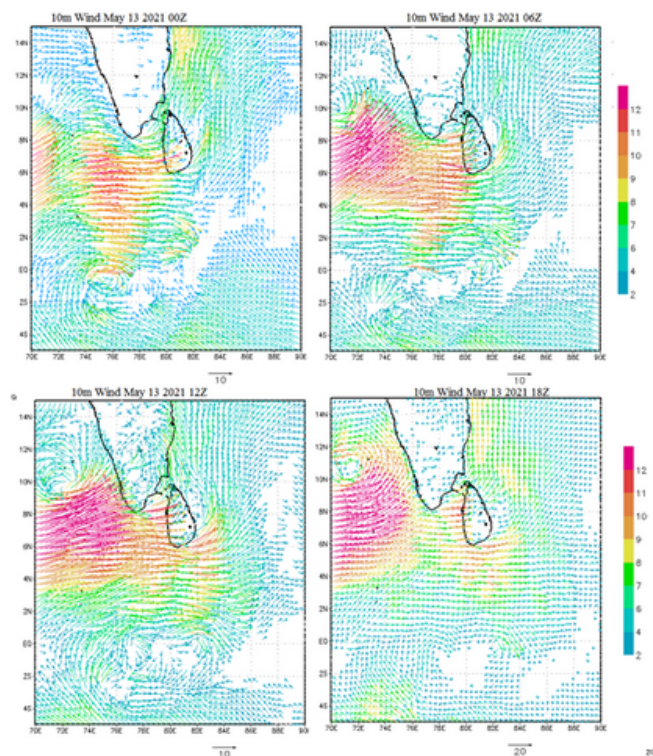
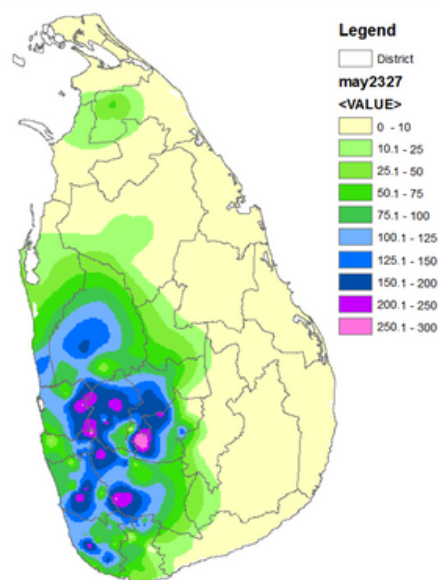


Figure 5: ECMWF 10m wind on 13 May 00z (13 May 0530am), 13 May 06z (13 May 1130am), 13 May 12z (13 May 0530pm), and 13 May 18z (13 May 1130pm) 2021



• From May 24th to May 27th 2021, with the onset of the Southwest monsoon and cyclonic storm Yaas in the Bay of Bengal, strong winds, floods and landslides were experienced around the island, affecting 11,000 families and around 38,500 people. One death was reported and 177,000 people were affected by a breakdown in power supply due to extreme weather conditions.



Accumulated rainfall (mm) from 0830am 23rd May to 0830am 28 May 2021

• From June 2nd to June 4th 2021, extreme rainfall resulted in floods and landslides causing 16 deaths and affecting 270,912 people from 10 districts. Many areas in Galle, Gampaha, Kalutara, Ratnapura, Puttalam and Colombo districts were inundated due to flash flooding, blockage of drainages and river overflows.

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[Highlights of Global
Climate and Sri Lanka
Climate 2021](#)

SME Development in the Context of Climate Change

Sri Lanka's economic drive is dominated by Small and Medium Enterprises. A majority of the small enterprises are micro-enterprises as per their labour and turnover. Hence, resilience of SME's to natural disasters directly effects the economic growth of the country. The increase of natural disasters in the recent past, influenced by climate change, has made serious setbacks among SMEs, and their market chains. Sri Lanka's National Adaptation Plan for Climate Change of the Climate Change Secretariat predicts further atrocities affecting many economic sectors dominated by SMEs.

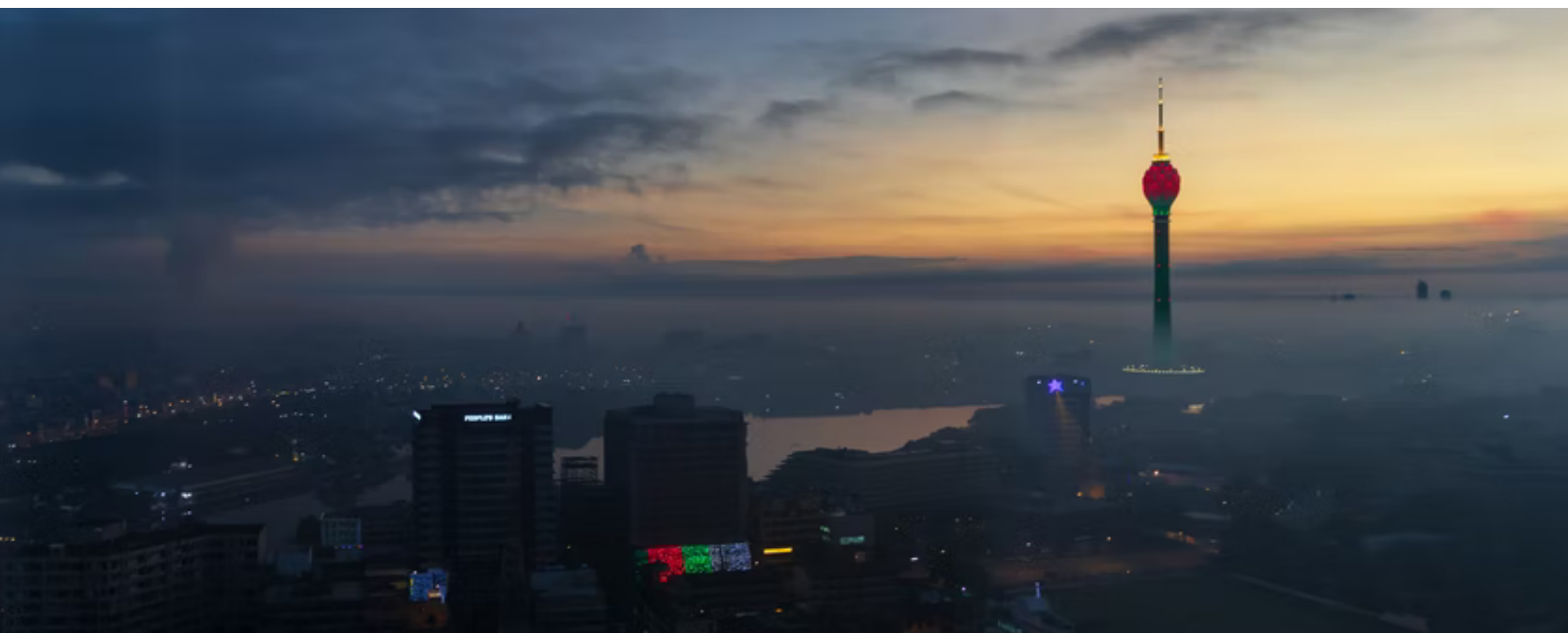
SMEs help the country to achieve sustainable, equitable, and inclusive growth, allowing income distribution at the lower levels of socioeconomic percentiles that are often vulnerable to natural disasters. They address unemployment and allow fair distribution of wealth as they are generally labor-intensive thus require relatively less capital. In Sri Lanka, SMEs contribute to 75% of the total enterprises, provide 45% of the employment and 52% of the Gross Domestic Production (GDP).

However, Sri Lanka's Business Easiness world rank is at 100 (2019). Sri Lanka has been overtaken by some other fast-developing Asian economies such as Nepal and India, and Indonesia when it comes ease of executing a business and the strategies to overcome business-related disaster risks on SMEs are yet to be defined. SMEs have minimal access to disaster or climate risk information, and lack risk avoidance mechanisms. Studies show that business continuity strategies were least developed among SMEs.

Entrepreneurship and Climate Change

The current rate of extreme weather events and climate change impacts impose considerable costs on SMEs. Extreme weather causes infrastructure damage, upsets business operations, and discontinues market chains. Business sectors that are closely connected with natural resources, such as agriculture or tourism, are particularly vulnerable to climate change-induced disasters. They find disaster impacts beyond their coping abilities as they lack backup capital or insurance. Therefore, applying appropriate changes to the business to withstand climate change-induced disasters should be recognized as a vital business strategy.

Unlike large businesses, many small businesses are less able to adapt to climate risks. As the majority of Sri Lanka's SMEs are micro-businesses, disaster risk reduction strategies may not be in their business agendas. A study on business insurance by Chrysalis in 2020 revealed that the number of SMEs with risk coping plans was negligible despite a majority of SMEs facing natural disasters. The lack of disaster risk coping plans in SMEs made them dependent on high-risk recovery methods. It is evident that the inability to sustain businesses following disasters is a major setback to local economic development. At the SME policy level, the National Policy Framework for Small and Medium Enterprise Development, (of Ministry of Industry and Commerce) advocates maintaining natural capital and green growth. Such policy aims would depend on the adverse conditions of climate change.



Climate Change and Risk Insurance

The majority of entrepreneurs believe climate change would increase disasters. Yet, numerous reasons have distanced them from the option of insurance as a method of risk transfer. The leading factor was the ignorance of the insurance concept. In contrast, entrepreneurs were expecting a return of investment through cash as accumulated wealth. They are unaware of the benefits of investing in climate-induced disaster risk transferring. The inability to understand the complex nature of insurance policies - high premiums, lack of customization, and misconceptions about insurance repayments were some reasons disconnecting SMEs from insurance.

A fine example of climate insurance for SMEs was the scheme piloted by the SANASA Development Bank as well as the Agriculture and Agrarian Insurance Board. However, sustaining such insurance schemes depended on the interest and demand of both the customers and the interest providers. Currently, no reputed SME-focused insurance schemes are available. Increasing awareness regarding such insurance schemes or enforcing a mandatory requirement for insurances, could bring down the insurance premium making the insurance accessible for small businesses.



Climate Risk Information for SMEs

The availability of risk information is the key to business resilience. Despite most entrepreneurs are being sensitive to 'some' climate changes they are not with adequate risk information to make disaster response plans.

Various agencies in Sri Lanka handle climate and disaster risk information as their technical directive. The Disaster Management Center (DMC) is the state organization that coordinates and shares information from technical agencies. However, the risk information should go beyond the early warning for emergency response, so that the business community, especially the SMEs, have adequate time to prepare themselves.



The agricultural sector SMEs, mainly small-scale farmers, prefer a three month forecast to select an appropriate cropping variety which is released by the Department of Agriculture. However, with climate change, more technological advancement is needed to allow long-term, accurate predictions. Non-agricultural SMEs prefer to have an early warning at least 2 weeks ahead to make appropriate adjustments. A common interest of both agricultural and nonagricultural sectors was to receive weather or climate information in understandable 'language'. For instance, a "wind speed of 50 km/hour" may not be sensible to the common public. Furthermore, disaster and climate risk information would be far useful if it is categorized according to the type of business and types of hazards. For example, in vegetable cultivation, both producers and collectors should receive specific information related to heavy rains, drought and strong winds.

Planning for Business Continuity and exploring new business opportunities

To have better business resilience among SMEs, comprehensive risk information generation is needed. There are direct disaster risk management agencies as well as other agencies like the Department of Agriculture, and Agrarian Development, Hector Kobbekaduwa Agrarian Research and Training Institute, Small Enterprise Development Board, and National Enterprise Development Authority (NEDA), which are related to SME development but not disaster management. However, information from both types of agencies would be needed to make disaster SME disaster resilience strategies. In return, SMEs will reduce disaster-related losses. At the same time, capacitating SMEs to search for information related to climate change-induced disaster risks would create a pull factor.

The SMEs can develop Business Continuity Plans (BCPs). A business continuity plan is a document that consists of the critical information an organization needs to continue operating during an unplanned event. It identifies the potential hazards that may affect business infrastructure, supply chains, movements, as well as consumers. Simultaneously, the SMEs could map their vulnerabilities and capacities based on their capitals, reserves, networks, and technical expertise. The BCP can then identify the areas to invest in to reduce vulnerabilities. However, most micro and small businesses would need technical support in this regard. Therefore, it is vital to develop the capacities of DMC, NEDA, and similar agencies to support SMEs in BCP. Availability of precise, sector-specific, and area-specific climate change information would assist SMEs to develop suitable BCPs as per their business types.

To stabilize and sustain the BCPs within the SME sector, wider stakeholder involvement and policy support would be needed. With the development of information communication technologies (ICTs) and the Internet of things (IOTs), SMEs can access risk information quite easily with simple knowledge. With the pace of increasing climate change impact policy decisions to support SME resilience should be taken without sustain. Such policy support can avoid further impacts on SMEs due to natural disasters. Nevertheless, SMEs are facing many other challenges.

If the SMEs are to sustain as the prioritized economic drive of the Sri Lankan economy, the SMEs must be ready to address the challenge of this millennium; climate change. The consequences of climate change are thoroughly forecasted as well as empirical. The Climate Change Secretariat has identified 9 areas including agriculture, export agriculture, tourism, and industry as key priority areas with climate change impact, in which SMEs are largely involved. Such a base can advocate the revision of the current SME policy to make it a disaster and climate-sensitive. While addressing some other lingering SME issues, escalating climate change-induced disaster risks must be a matter of concern. Nonetheless, there are steps that SMEs can take to improve their resilience to climate change, such as purchasing insurance covers, making disaster recovery plans, access to alternative energy resources like rooftop solar installations, and most importantly networking with risk information systems.

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Read the full article here:
[Climate Change Risk and SMEs in Sri Lanka](#)

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