A

Project Report

On

A graphical analysis to address climate change in India

Submitted

To

P.A.H. SOLAPUR UNIVERSITY,

SOLAPUR

IN PARTIAL FULFILLMENT OF THE

REQUIREMENT OF

MASTER OF STATISTICS

BY

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Acknowledgement

The success and final outcome of this project required a lot of guidance and assistance from many people and I am extremely privileged to have got this all along the completion of my project. All that I have done is only due to such supervision and assistance and I would not forget to thank them.

Before embarking into a detailed explanation of our project on "**A graphical analysis to address climate change in India**" at Our College, we would like to say a fewwords about the people who helped us to make this project what it is today.

We want to thank our project guide Mr. Chandrakant Gardi sir who gave us a proper guidance for making our project.

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Abstract

Climate change is still one of humanity's most pressing problems. It impacts every country, upsets national economies, and has a direct impact on people's lives today and in the future. We attempted to demonstrate how climate change is affecting India on a daily basis in this effort. Natural disasters have increased dramatically as a result of climate change. This study illustrates how natural disasters are responsible for lives, property damage, and increased government spending.

Introduction

1. **A genesis of environment of India**

Desert, high mountains, highlands, tropical and temperate forests, swamplands, plains, grasslands, places surrounding rivers, and an island archipelago—India boasts some of the world's most biodiverse ecozones. The Western Ghats, the Himalayas, and the Indo-Burma region are three biodiverse hotspots. Numerous endemic species can be found in these regions.

In 1992, woods covered approximately 7,43,534 km2 of land in the country, with 92 percent of the area belonging to the government. Only 22.7 percent of the land was forested, compared to the National Forest Policy Resolution's recommendation of 33 percent (1952). The majority of it is made up of broad-leaved deciduous trees, with one-sixth being sal and one-tenth being teak. Pines, junipers, and deodars are among the coniferous types found in northern high altitude locations.

2. **Link between climate change and natural disaster**

Natural disasters in India, many of which are linked to the country's climate, result in huge loss of life and property. Droughts, flash floods, cyclones, avalanches, landslides caused by torrential rainfall, and snowstorms are the most dangerous weather conditions. Earthquakes, flooding, volcanic eruptions, landslides, storms, and other natural disasters are examples of natural disasters. To be regarded as a disaster, it must have a significant environmental impact and/or cause human loss, as well as regularly cause financial damage.

- Frequent summer dust storms, which normally track from north to south and cause severe property damage in North India
- As well as dump large volumes of dust and filth from arid regions, are also a threat. Hail is also widespread in regions of India, wreaking havoc on standing crops like rice wheat and many more crops.

Some Visualizations:

Flood

Earthquake

Tsunami

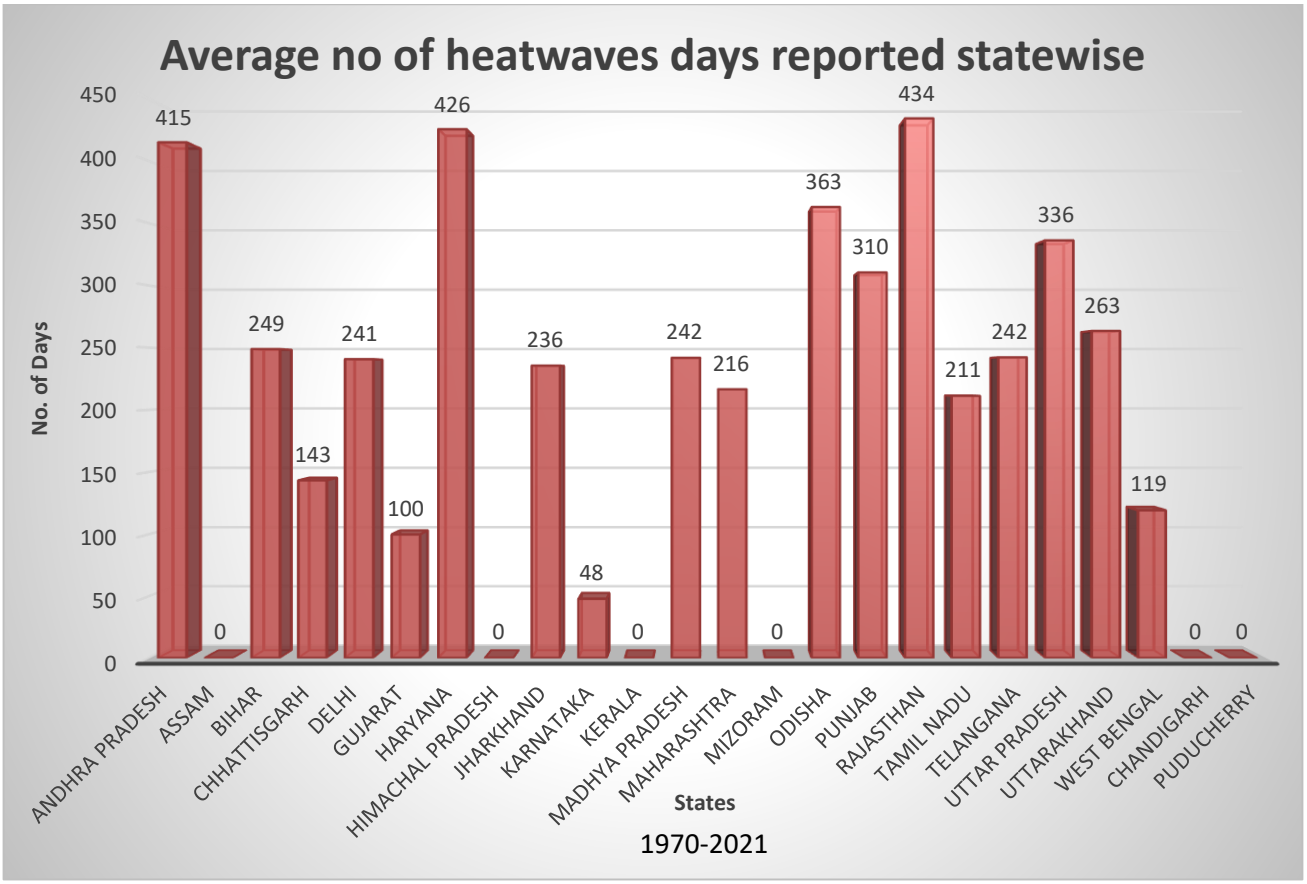
Natural Disaster

Data Availability:

We gathered information from the Ministry of Statistics and Program Implementation's website (MoSPI). The Ministry of Statistics and Public Information (MoSPI) is an Indian government ministry responsible for the coverage and quality of statistics issued. The ministry's surveys are based on scientific sampling procedures. It was established as an independent ministry on October 15, 1999, following the merger of the departments of statistics and programme implementation.

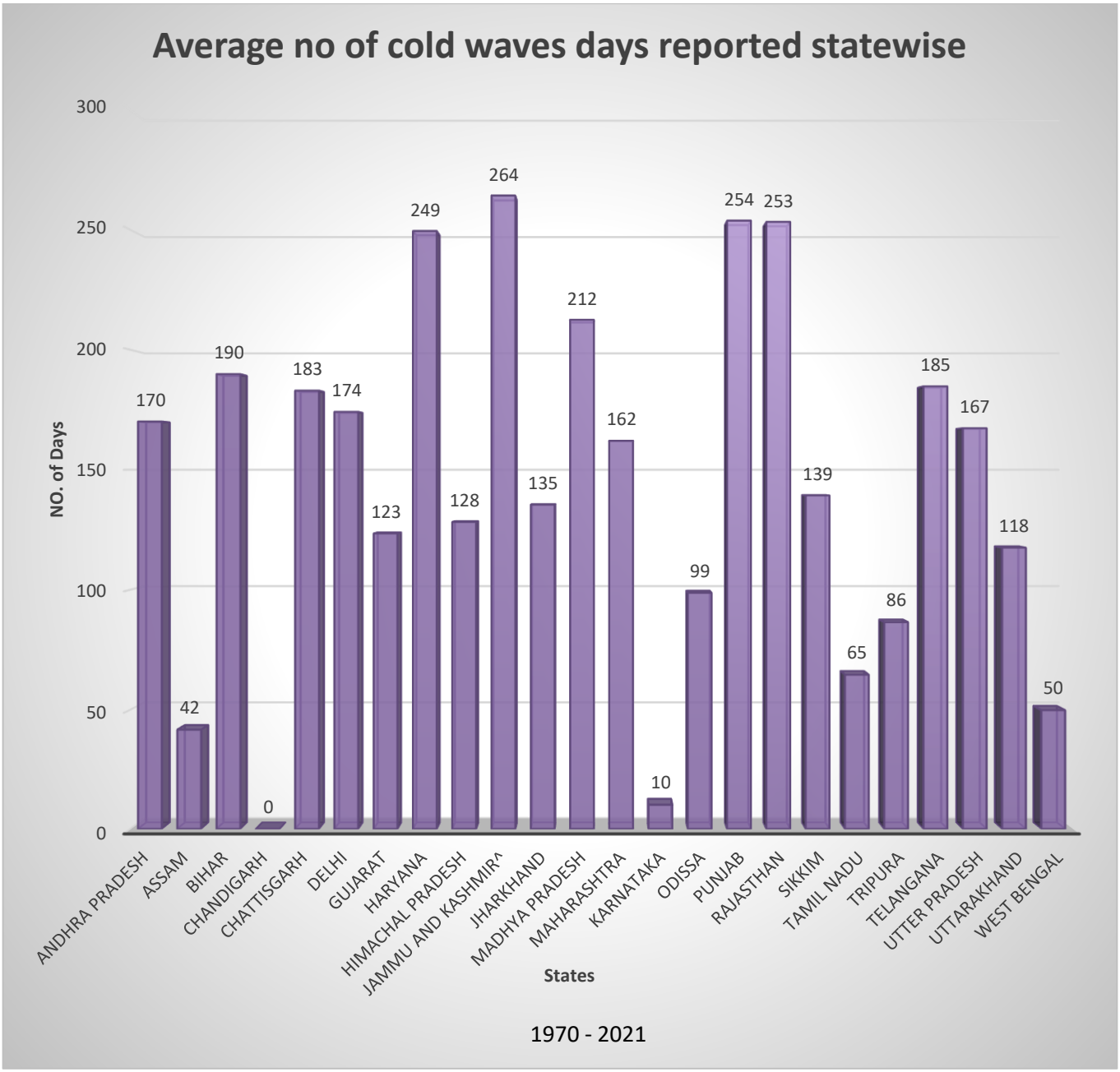
We also made a visit to the the website of Sustainable Development Goals. The United Nations has created this programme in order to preserve the earth from unfavourable events.

Graphical Analysis



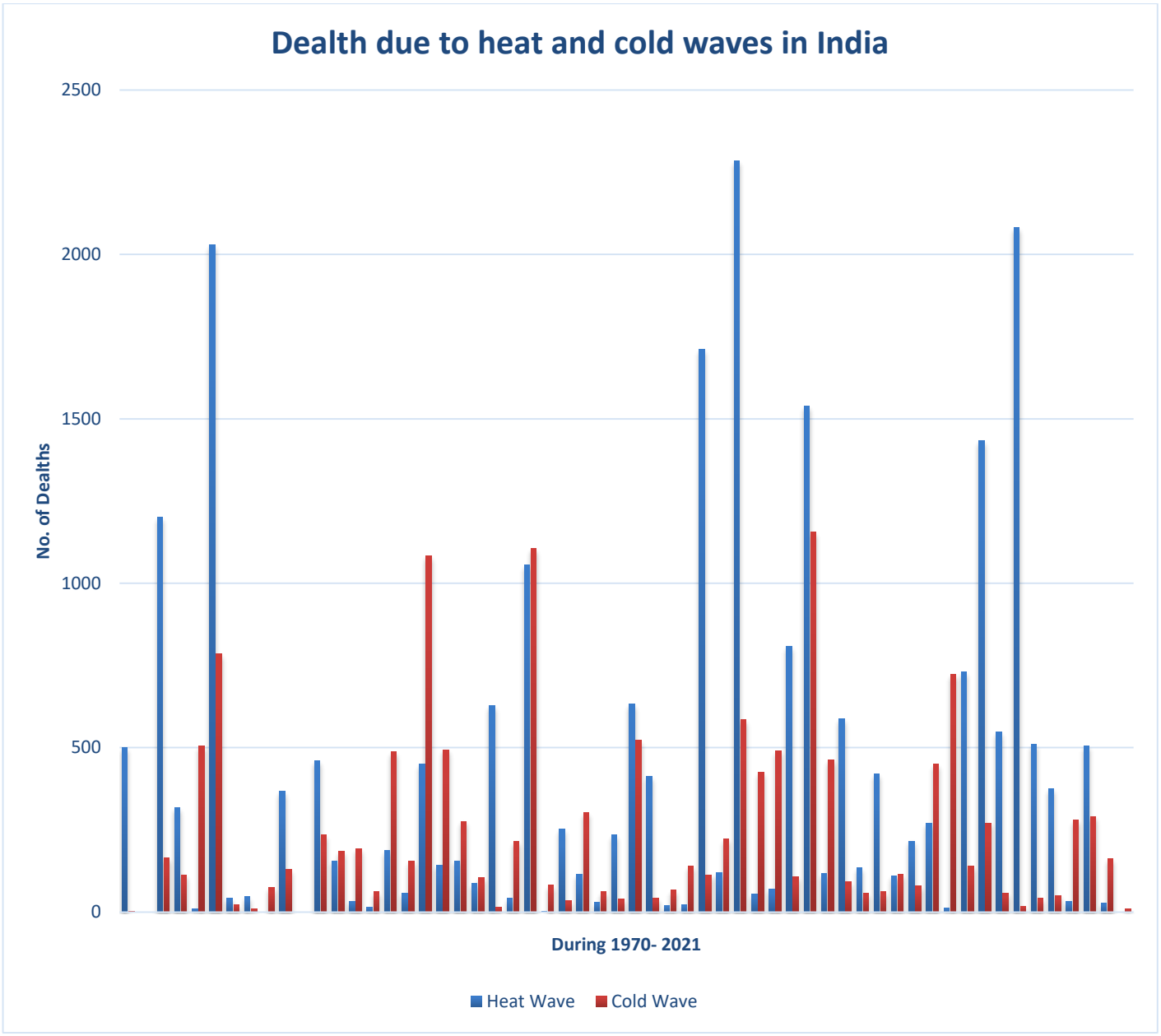
Interpretation :

From 1970 to 2021, the average number of heatwave days reported each state in India is shown in the graph above. Rajsthan has had the most heatwaves, with roughly 434 in the last 50 years. Haryana and Andhra Pradesh, which followed Rajasthan, saw 426 and 415 days of heatwaves, respectively. The average number of heatwave days in the other states was between 100 and 300.



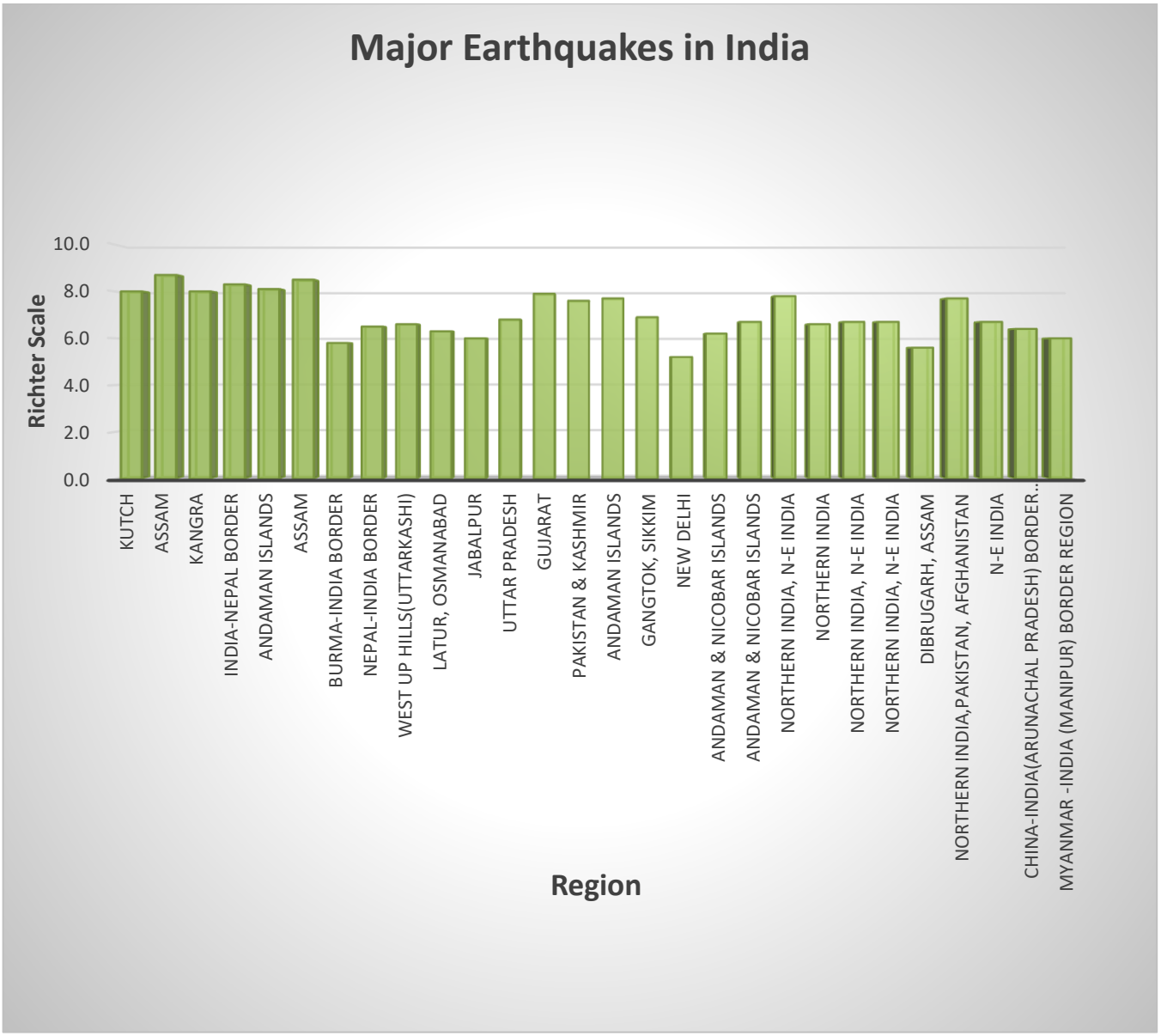
Interpretation:

This bar graph depicts the average number of coldwave days reported by state in India. From 1970 to 2021, the state of Jammu & Kashmir has seen the most cold waves, with roughly 264 days. Coldwaves lasted 200 days or more in Punjab, Rajasthan, Haryana, and Madhya Pradesh.



Interpretation:

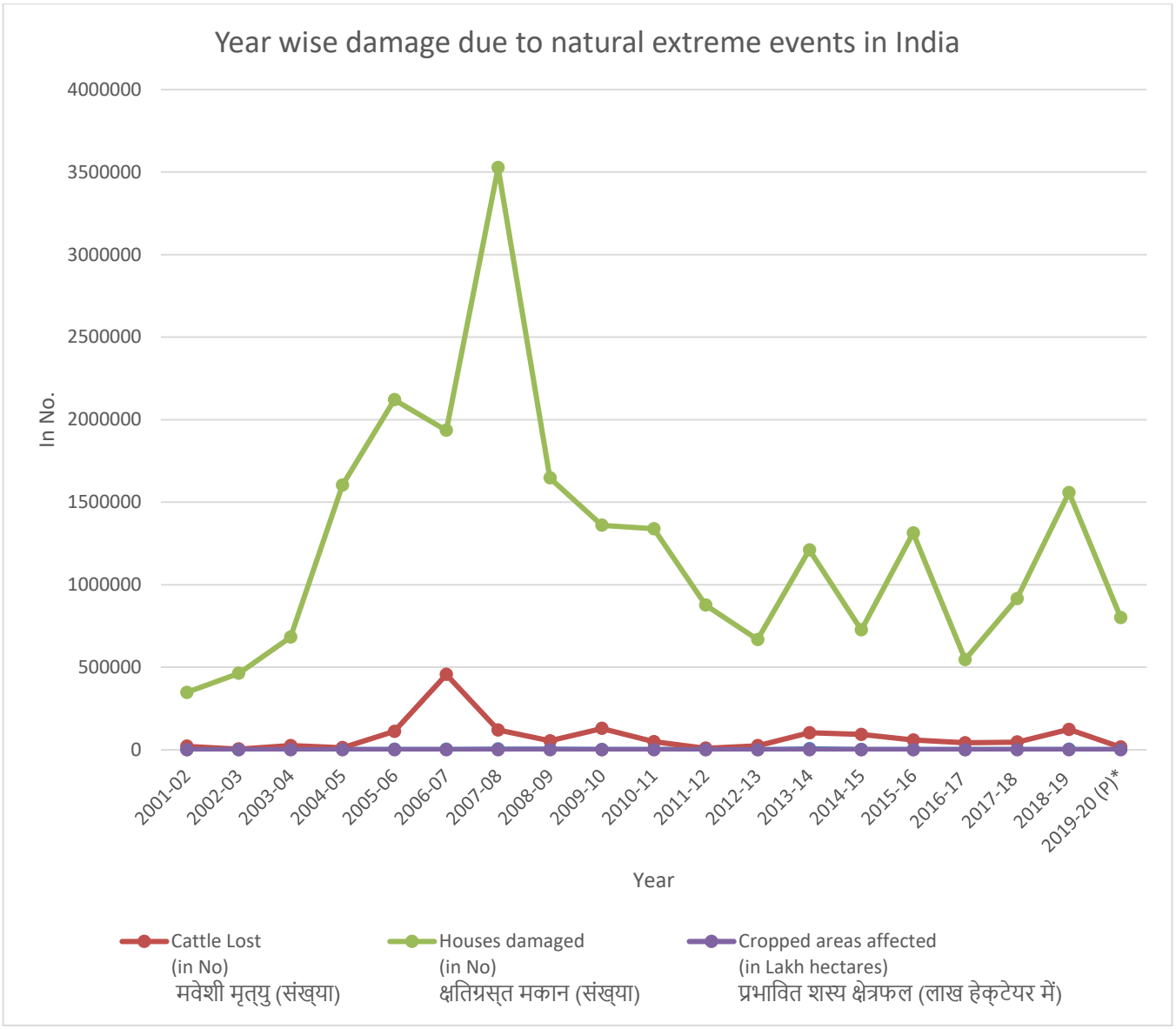
The graphs above depict deaths caused by heat waves and cold waves from 1970 to 2021. The blue bars represent deaths caused by heat waves, whereas the red bars represent deaths caused by cold waves. In the years 1999, 2003, and 2015, the number of people who died as a result of a heat wave was at an all-time high.



Interpretation:

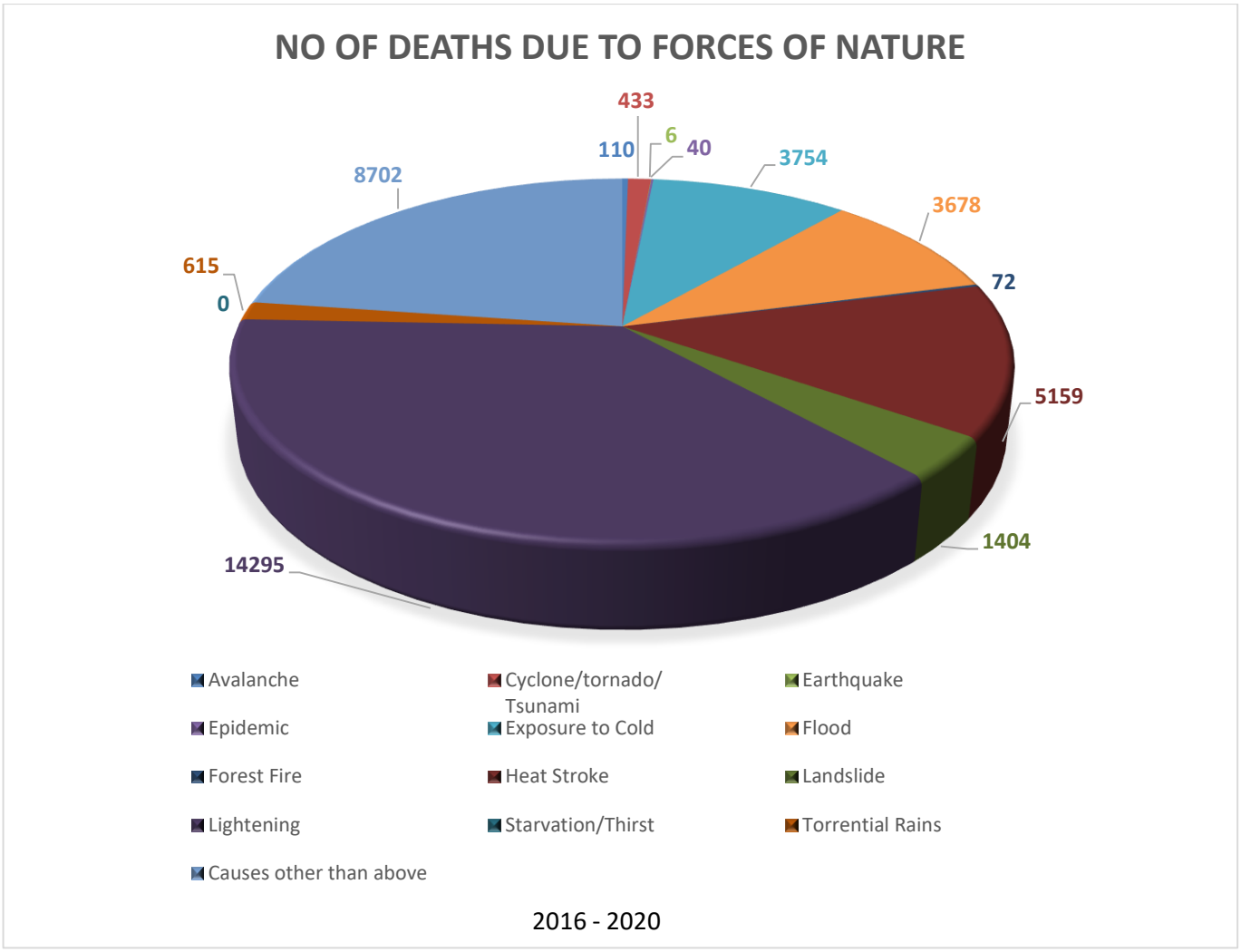
This is a graphic representation of India's significant earthquakes. In 1897, the Assam region was struck by an earthquake with a Richter rating of 8.7, the strongest ever recorded in India.

We can see from the graph above that earthquakes have had the greatest impact on north east India.



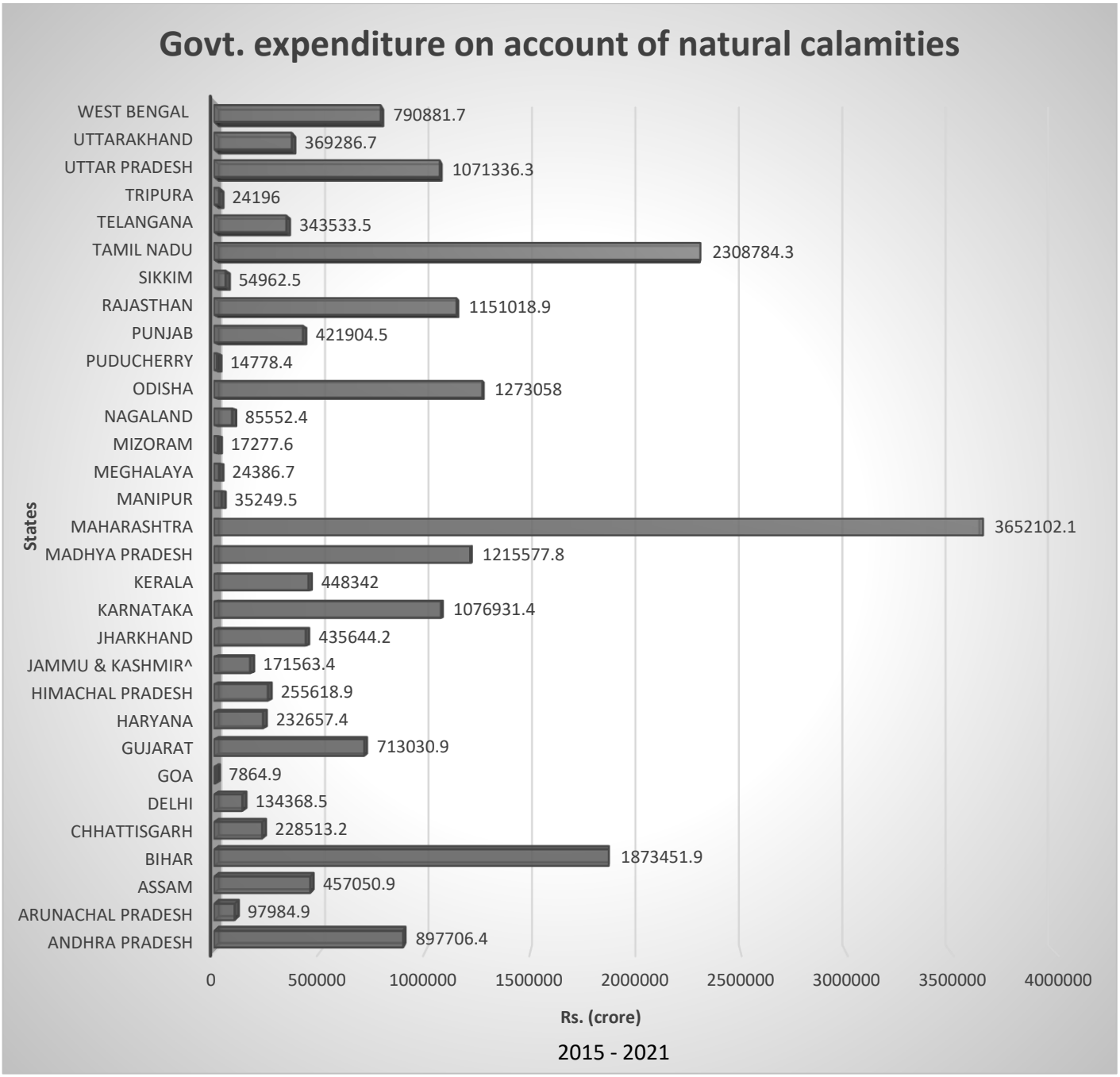
Interpretation:

This is a graphical representation of year-by-year house damage, cropped area damaged, and cattle losses. Natural disasters have primarily damaged cropped areas from 2001 to 2020. The cropped area affected in the graph above is measured in lakh hecters. A large number of houses have also been badly destroyed. During the years 2007–2008, the biggest number of houses were damaged, totaling more than 35 lakh.



Interpretation:

The above pie chart depicts deaths caused by natural disasters from 2016 to 2020. In India, the number of deaths caused by lightning is large. In addition, there are a huge number of deaths due to heat stroke, with an estimated 5159 deaths.



Interpretation:

From 2015 through 2021, below is the data on government expenditure on natural disasters. Maharashtra has the largest expenditure of all the states, while Goa has the lowest. Tamil Nadu is the state with the second highest government expenditure on natural disasters.

Sustainable development goals

The Sustainable Development Goals (SDGs), sometimes known as the Global Goals, are a set of 17 interconnected global goals aimed at creating a "blueprint for a better and more sustainable future for all." The United Nations General Assembly (UN-GA) established the Sustainable Development Goals (SDGs) in 2015, with the goal of achieving them by 2030. They are part of the 2030 Agenda, often known as Agenda 2030, which was adopted by the United Nations General Assembly. The SDGs were created as part of the Post-2015 Development Agenda as the successor to the Millennium Development Goals, which were completed in 2015.

SDG in connection with climate change

Every country on every continent is currently affected by climate change. It is harming lives and destabilising national economies, costing people, towns, and countries dearly today and even more future. Climate change is having a profound influence on people, with changes in weather patterns, increasing sea levels, and more extreme weather occurrences. Human-caused greenhouse gas emissions are causing climate change and are expected to continue to climb. They've reached their highest point in history. Without intervention, the world's average surface temperature is forecast to climb during the twenty-first century, surpassing 3 degrees Celsius this century, with some parts of the globe expected to warm significantly more. The poorest and most vulnerable people are the ones who are most affected.

Countries may now move to cleaner, more flexible economies because to the availability of affordable, scalable technologies. As more people turn to renewable energy and a variety of other steps to cut emissions and improve adaptation efforts, the rate of change is rising. Climate change, on the other hand, is a global issue that transcends national boundaries. Emissions have an impact on people everywhere. It's a problem that demands international coordination and cooperation to help poor countries transition to a low-carbon economy.

Targets

- All countries must improve their resilience and adaptation capabilities in the face of climate-related threats and natural disasters.
- Climate change measures should be incorporated into national policies, strategies, and planning.
- Implement the commitment made by developed-country parties to the United Nations Framework Convention on Climate Change to mobilise $100 billion annually from all sources by 2020 to meet the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation, and fully operationalize the Green Climate Fund as soon as possible through capitalization.

- Promote mechanisms to help LDCs and small island developing states build capacity for effective climate change planning and management, with an emphasis on women, youth, and local and marginalised populations.

Conclusion :

- Climate change is becoming a major issue in India, because climate change and natural disasters are linked.
- Natural disasters are causing an increasing number of deaths.
- It also has an impact on the national economy. The rate of growth has been slowed as a result of spending on natural disasters.

References:

- https://www.mospi.gov.in
- http://www.sdgindia2030.mospi.gov.in