Natural Disaster

A natural disaster is characterised by the abnormal intensity of a natural agent when the usual measure to be taken to prevent the damage were not able to prevent their emergence or were not able to be taken.

Wildfire

Wildfires occurs when vegetated areas are set alight and are particularly common during hot and dry periods. They can occur in forests, grasslands, brushes and deserts and with sufficient wind can rapidly spread.

Report | Journal-1

As per WHO (World Health Organisation)

Overview:

Wildfire are often caused by human activity or a natural phenomenon such as lightning and they can happen at any time or anywhere. In 50% of wildfires recorded, it is not know how they started

Wildfires can disrupt transportation, communications, power and gas services and water supply. They also lead to a deterioration of the air quality and loss of property, crops resources, animals and people.

Wildfires affected 6.2 million people between 1998-2017 with 2400 attributable death worldwide from suffocation, injuries and burns, but the size and frequency of wildfire are growing due to climate change.

Wildfire also simultaneously impact weather and the climate by releasing large quantities of CO, CO_2

and fine particulate matter in the atmosphere
Receiving air pollution can cause a range of health issues, including respiratory and cardiovascular problem. Another significant health effect of wildfires is on mental health and psychosocial well being.

Fact sheets

- Burns
- Climate change and health
- Mercury and health
- Mental health in emergencies.

Guidelines

- Mass casualty management system:- Strategies and guidelines for building health sector capability.
- Communication risk in public health emergencies → A WHO guideline for Emergency Risk Communication (ERC) policy and practice.
- Environmental health in emergencies and disaster.

Resolutions

WHO global strategy on health, environment and climate change: the transformation needed to improve lives and well being sustainably through healthy environments.
Strengthening national health emergency and disaster management capacities and resilience of health systems.

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Journal 2: As per Natural Disasters Association

Causes Wildfire

In general, wildfires are caused by a mixture of factors such as high temperature, drought conditions following a period of vegetation growth and a trigger which can be natural such as arson. El Nino is thought to have an effect on the occurrence of wildfire cases. Due to El Nino tropical countries on the western pacific experience a higher risk due to the enhanced dry season. In september 1997 Malaysia and Indonesia were affected by major wildfires, there were bush fires in Australia in late 1997 and early 1998 and forest fire in Borneo during April 1998.

Where can wildfire occur?

Except for Antarctica no continent is free from the threat of wildfires. Australia is the most fire-prone country in the world with an average of 2000 wildfires a year. The highest risk zones for wildfire are the Mediterranean or Continental climate. This is due to the majority of rainfall falling in winter so vegetation is very dry in the summer months, creating a greater fire risk. The south of France is a popular holiday destination which has a greater risk of fire due to human activities 5000, hectares of forest burn annually. The USA experiences dry air much of the year, creating a long fire season.

History

① The Winsconsin (1871) on 8th nov 1871 the hot, dry climatic conditions were perfect for wildfire ignition near the town of Peshtigo.

As the wildfire raged the superheated air destroyed the town, along with 400,000 hectares of vegetation and killed 1500 people.

The Indonesia Wildfire (1997) The burning of plantations raged out of control causing widespread bush land fires on the islands of sumatra, sulawesi, Borneo and Java. More than 5000 hectares were destroyed. It is believed the El Nino related dry season had an affect on the extent of the fires. The fires caused major air pollution which affected 70 million people and caused the release of 2.6 billions ton of C, CO, and Hg sulphur dioxide into the atmosphere.

3) Victoria Wildfires (1983) Large areas of victoria and South Australia were affected by wildfire. The area experienced classic 'wildfire weather' with temperature over 40°C combined with winds speed of 20 ms- 1.26 people died and 8000 people were made homeless.

4) Seiberian Taiga Fires (2003). This is happen in Russia where it spread to 55 million acres. and it is known as Biggest wildfire in world history

5) The most recent wildfire happened in chile, California (2022). on December 22.
Resulting in one death, many injured, and more than 100 homes destroyed.
In a week it spread upto 800 kms.

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Journal 3. From the website Shelter Box source National Geographical

① Wildfire are classified by the Environmental Protection Agency as natural disaster.

However only 10-15% of them happen on their own in nature. Most wildfire are caused by human and the most common causes are unattended camp and debris fires, discarded cigarettes, and arson.

② Climate change increase the occurrence and severity of wildfires.

Hotter weather, a result of climate change, make forest and vegetation drier and therefore more prone to burning.

As a result, the average wildfire season is three and a half month longer than it was a few decades ago, and the number of annual large fires in the west has tripled.

As rising greenhouse gas emission are increasing drought and heat, more catastrophic wildfire are excepted in the years to come, especially with the fire season getting longer.

③ Why Disaster like wildfires are not 'NATURAL'

The terms 'natural disaster', despite being widely used in problematic

Using the word 'natural' ignores the role that humans have in the disaster, assuming that the event would happen anyway and there is little that we can do to prevent it.

Factors like living conditions and poverty, government capacity to prepare and respond as well as the process of rebuilding and how efficiency that would be are all factors that will define whether a disaster occurs as a result of the natural hazard.
Hazard are inevitable - but the impact they have on society is not.

Journals: US department of the Interior ~~affairs~~ INDIAN affairs

Wildlife prevention program

It is a Bureau of Indian Affairs (BIA) policy to determine the origin and cause of all wild fire occuring on Indian Lands. Fire investigations are conducted when there is potential for a wildfire to result in tort claims, trespass damage recovery, litigation or where arson is a possibility.

Indian Affairs policy:

* Determine the origin and cause of all wildfires occuring on Indian Lands and accurately record them in the official system.
* Request that wildfire originating of Indian Lands that result in damages on Indian Lands are properly investigated by the jurisdictional authority.
* Conduct all wildland fire origin and cause investigations objectively and free from any conflict of interest.

The reason for wildland fire origin and cause investigation includes:

- Determining the origin and cause of wildfire
- Identifying responsible parties.
- Documenting ownership responsibility for the wildfire
- Documenting cause for statistical reporting and analysis.
- Determining whether there is evidence that a crime has been committed
- Providing support documentation when litigation is necessary
- Improving prevention program planning.

Human v/s Natural Occuring wildfire

In India country, arson and debris burning are the leading cause of wildfires in areas where vegetation interfaces with urban structures. On average, human caused wildfire account for 80% of all wildfires that occur in Indian country every year. Due to the proximity to homes and other community infrastructure, they also destroyed nearly 190 structures annually.

Wildfires are categorised into one of nine general causes classes. Each general cause contains a subset category "specific cause" that further defines the ignition source of the fire.

Naturally occurance wildfire are most frequently caused by lightening. There are also volcanic, meteor and local steam fires, depend on circumstances.

Human caused wildfire can be accidental intentional (arson) or from an act of negligence.

Journals → How wildlife work from the website howstuffworks

A spark or even the sun's heat alone set off an inferno. The wildfire quickly spreads, consuming the thick, dried-out vegetation and almost everything else in its path. What was once a forest becomes a virtual powder keg of untapped fuel. In a seemingly instantaneous burst, the wildfire overtakes thousands of acres of surrounding land, threatening the homes and living of many in the vicinity.

An average of 5 millions acres burns every year in the US causing million of dollars in damage. Once a fire begins it can spread as a rate of up to 14.29 miles per hour consuming everything in its path. As a fire spreads over brush and trees, it may take on a life of its own - finding ways to keep itself alive, even spawning smaller fires by throwing embers miles away.

Common cause for wildfire includes:

- Arson
- Campfires
- Discarding lit cigarettes
- Improperly burning debris
- Playing with matches / fireworks
- Prescribed fires.

Everything has a temperature at which it will burst into flames. This temperature is called a material's flash point. Wood's flash point in 572°F (300c)

There are 3 components needed for ignition and combustion to occur. A fire requires fuel to burn, air to supply oxygen and a heat source to bring the fuel up to ignition temperature. Heat, oxygen and fuel form the fire triangle.

There are several factors that determines how the fire spreads. These three factors include fuel, weather and topography. Depending on these factors, a fire can quickly fizzle or turn into a raging blaze that scorches thousand of acres.

The third big influence on wildfire behaviour is the lay of the land or topography. Although it remains virtually unchanged, unlike fuel and weather, topography can either aid or hinder wildfire progression. The most important factor in topography as it relates to wildfire is slope.

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