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HEALTH CONSEQUENCES OF FLOODS: A CASE STUDY

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ABSTRACT

A flood is a natural disaster and may happen abruptly or gradually, causing major disruptions to social, cultural, and economic systems and significantly impacting human life. As per the United Nations, Natural disaster is described as a sudden or significant calamity that interrupts the fundamental operation of a society or community. Currently, the term 'Disaster' is frequently utilized to denote any drastic occurrence, whether caused by nature or humans, that leads to casualties, damage to property, infrastructure, basic services, and sources of income to a degree that is too much for the impacted communities to manage independently. It can be said that most immediate threat of climate-related deaths is floods. It has been observed that individuals impacted by flooding are more vulnerable to health issues like colds, fevers, wounds, pains, anxiety, depression and skin infections. Floods are known to have a negative impact on people's health at every age.

KEY WORDS: *Disaster,Community, Flood,Infrastructure, Health, Casualty*

1. INTRODUCTION

Disruption to health is one of the severe consequence of the Floods. Flood is a disaster as well as a hazard and it interacts with a community's vulnerability to amplify its effects. In particular, a hazard can be viewed as a situation before a disaster occurs in which the possibility of a disaster is present. Dangers can arise from natural occurrences or human activities. In the same way, disasters can be natural or man-made. The level of a disaster's seriousness is based on how much it disrupts daily routines, like loss of life and property, injury, hardship, negative health effects, community needs such as shelter, food, clothing, medical assistance, and social support, damage to infrastructure and buildings, communication issues, and the need for recovery.The primary reason for the floods in Karnataka is the high amount of rain that falls during the monsoon season (June to September). Floods become devastating when additional factors such as changes in river courses and the alignment of multiple river flows add to the situation. An increase in the number of people living in floodplains has also become a key factor in exacerbating the severity of floods.In every disaster, it is the community that responds first, and the way things unfold post-disaster depends greatly on the initial response of those affected. It is very important to ascertain the health casualties due to Flood.

2. REVIEW OF LITERATURE

*Shannon Doocy and Thomas D. Kirsch*in "The Human Impact of Floods" - Floods are the most prevalent natural catastrophe and the primary reason for natural disaster deaths globally. The risk of severe losses from flooding is high because of deforestation and the growing number of people living near coastal areas, river basins, and lakeshores. The aim of this review was to outline the consequences of flood events on human populations such as death, harm, and relocation, and to pinpoint any potential factors that contribute to these results. Floods were the primary reason for natural disaster fatalities worldwide and caused 6.8 million deaths in the 20th century. Asia experienced the highest number of flood-related deaths in the last quarter of the 20th century, with almost half of all fatalities occurring in this region. According to the Center for Research on the Epidemiology of Disasters (CRED), a flood is described as a substantial increase in water level in a stream, lake, reservoir, or coastal area. Recent increases in population growth and shifts in land use have heightened human susceptibility to floods. Negative effects of floods can result in direct deaths and illnesses, as well as indirect consequences such as displacement and extensive destruction of crops, buildings, and assets. Drowning and trauma or injury are the primary reasons for death in floods.

*Olivia Lai*in "Floods Around the World?" - Floods are one of the most destructive natural disasters globally, impacting millions of individuals and causing extensive harm to human communities and the environment. As climate change affects our planet and human actions change landscapes, it is more important than ever to understand the main reasons and consequences of floods. This article examines the reasons for flooding and investigates the extensive impacts it has on both our ecosystems and communities. Floods can be triggered by various factors, sometimes occurring at the same time. Nevertheless, a major factor behind floods, particularly in instances of flash floods, is an abundance of intense rainfall. Floods occur when precipitation in flat regions and cities exceeds the ground's capacity to soak it up, causing water levels to quickly increase. Intense precipitation in rivers causes flooding when water flows downhill and spills over riverbanks onto adjacent areas.

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3.1 STATEMENT OF THE PROBLEM: Karnataka Floods 2019 caused the destruction of property, loss of several crores and affected health conditions of many people in Gadag. Floods in the Gadag district were caused by flooding by the *Tungabhadra* and *Malaprabha* rivers and *Bennihalla* stream along with continuous rainfall. The present study proposes to analyse the minor health consequences due to Karnataka Floods 2019 with regard to the residents of Hole alur village which is on the banks of *Malaprabha* river stream.

3.2 OBJECTIVES OF THE STUDY: A flood is a type of natural calamity that can occur suddenly or gradually, severely disrupting social, cultural, and economic institutions and having a profound effect on human life. Floods have a strong influence on Health of the people. The present study has the following objectives.

1. The study aimed to record and evaluate the effects of floods on people.
2. Evaluate the effects of floods on health casualties of a Flood.
3. To examine the health implications of flood on women.

3.3 STUDY AREA: Gadagdistrict is a region located in the Indian state of Karnataka. Established in 1997, it separated from Dharwad district. In 2011, the population was 1064570, with 35.21 percent living in urban areas. There are seven talukas in the region: Gadag, Gajendragad, Ron, Shirhatti, Nargund, Lakshmeshwar, and Mundargi.Gadag district shares boundaries with Bagalkot district to the north, Koppal district to the east, Vijayanagara district to the southeast, Haveri district to the southwest, Dharwad district to the west, and Belgaum District to the northwest. Known for the abundance of monuments, especially Jain and Hindu temples. Holealur, also known as Holealooru, is a historically significant village located in the Ron taluk of Gadag district in the Indian state of Karnataka. According to the 2011 India census, Holealur had a population of 8095, consisting of 4045 males and 4050 females. The population of children aged 0-6 in the village was 1016, accounting for 12.55% of the total population. The average sex ratio in Holealur village is 1001, surpassing the average sex ratio of 973 in the state of Karnataka. The Child Sex Ratio for Holealur in the census is 932, which is below the average of 948 in Karnataka.

3.4 RESEARCH METHODOLOGY: Both quantitative and qualitative methods were utilized in the approach. The study involved gathering information from district collector office, conducting interviews with civil administration, health officials, and personnel involved in rescue operations, communication and transport restoration, mass casualty management and having informal conversations with local residents. The study involves collecting primary data from 25 respondents using simple random sampling. The questionnaire was created using information from media and news reports on the damages and constraints that had occurred. The goal was to analyse the obstacles that might have hindered the high-quality healthcare following the flood.

3.5 IMPORTANCE OF THE STUDY: Preventing catastrophes in life is not always completely achievable. Risks can always escalate into disasters, and businesses are susceptible to these disruptions. Floods, whether small disruptions in one area or large global events, can cause disruptions in operations and have lasting negative effects on profitability, reputation, and safety. There is a high chance of extreme weather patterns as well. These weather occurrences will put lives at risk, cause chaos in communities and damage property. It is difficult to determine the exact degree, but through strategic planning, experts can assist communities in implementing strategies to reduce the impact of Floods. Government agencies, state and city emergency management departments, and local authorities require experts in Flood management. Getting ready for emergencies saves many lives, quickens recovery for individuals, and reduces costs. The topic of disaster mitigation in India has been widely debated due to the regular occurrence of natural disasters like earthquakes, floods, and droughts. The readiness for disasters is crucial in strengthening community resilience. The study aims to mitigate and prevent the harm and distress floods can bring about.

4.1 ANALYSIS: Typical symptoms consist of high body temperature, perspiration, chills, head pain, body or joint pain, general discomfort, decreased hunger, queasiness. The research includes gathering firsthand information from 25 participants through the method of simple random sampling. The study was developed based on data from media and news coverage detailing the damages and limitations that had taken place. The aim was to examine health casualtiesof the flood.

Table 1. Age & Gender Distribution of respondents

Age (Years)	Gender				Total	
	Male		Female		No.	Percentage
	No.	Percentage	No.	Percentage		
<10	1	9.1	1	7.15	2	8
11-18	2	18.19	4	28.58	6	24
19-25	2	18.19	3	21.43	5	20
26-40	4	36.37	4	28.58	8	32
41-60	1	9.1	1	7.15	2	8
>60	1	9.1	1	7.15	2	8
Total	11	100	14	100	25	100

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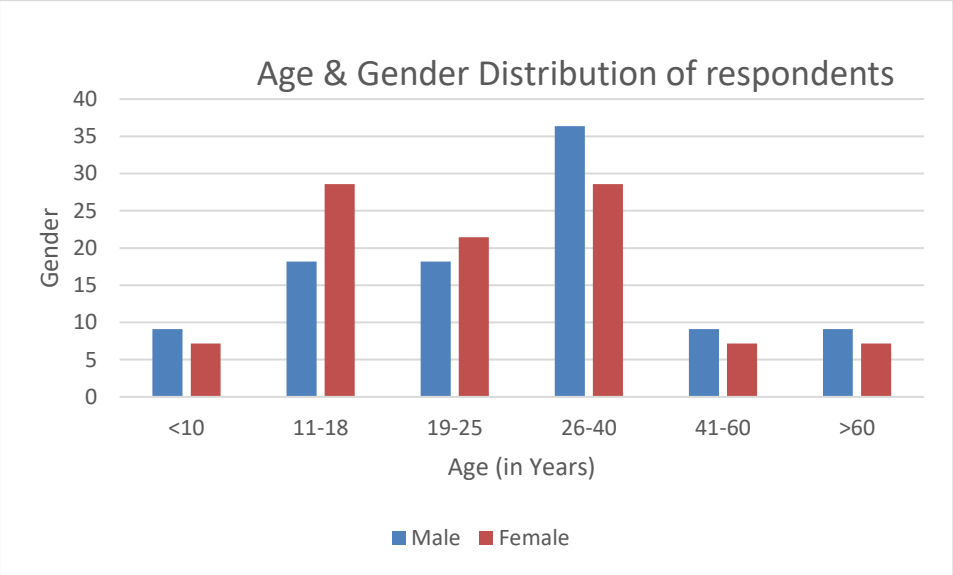


Fig 1. Age & Gender Distribution of respondents

Table 1 shows the age and gender distribution of respondents. It can be seen that from among the interviewed 25 participants, 10 people are below the age of 10 years of which 1 male and 1 female. People of age 11 to 18 years are 6 in total of which 2 are male and 4 are female. 5 people are in the age group of 19-25 years involving 2 males and 3 females. The age group of 26-40 years consists of 4 male and 4 female members totalling 8. There are 2 members in the age group of 41-60 with 1 being male and 1 being female. 2 respondents are above the age group of 60 years with 1 male and 1 female.

Table 2. Casualties reported

Nature of Consequence	No.	Percentage	Male	Female
Cold	6	24	2	4
Fever	4	16	3	1
Muscle Ache	3	12	1	2
Diarrhoea	2	8	1	1
Skin Infections	3	12	1	2
Anxiety	1	4	0	1
Mental disturbance	2	8	1	1
Wounds	4	16	2	2
Multiple Health Issues*	13	52	5	7
Total	25	100	11	14

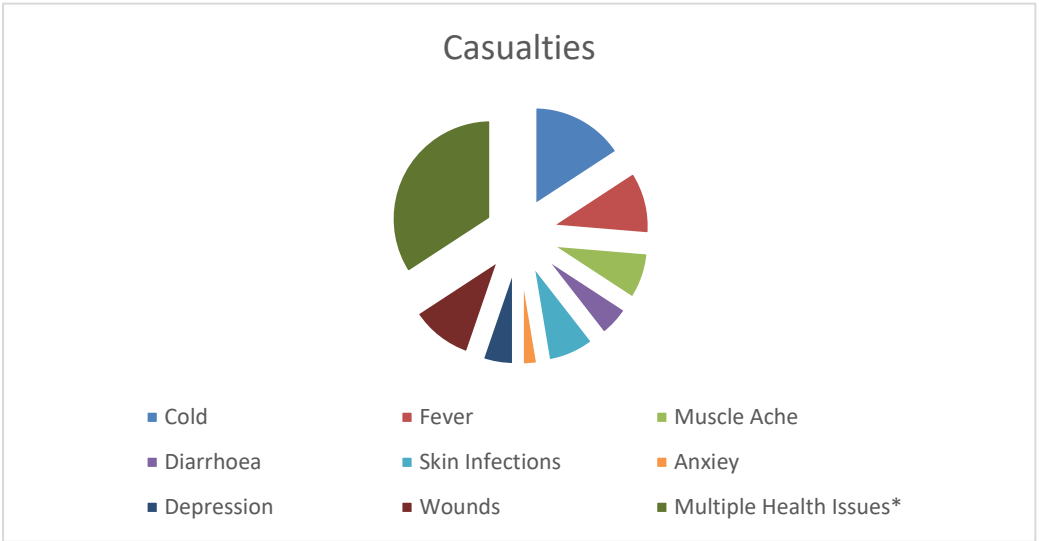


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Table 2 shows the casualties reported of the respondents due to Floods. 6 people suffered from cold making it 24% of the total casualties. 4 respondents reported that they suffered from fever and 3 said they had muscle aches. Diarrhoea amounts for 8 % and skin infections make it to 12% with 2 and 3 respondents respectively. A case of Anxiety has been reported. Anxiety and mental disturbance were reported by 2 respondents. 4 respondents said to have wounds making it to 16% of the total. There are also 13 people who suffered from multiple health issues i.e combination of one or more issues like fever with cold and diarrhoea, Wounds with Anxiety/Depression.

4.2 DISCUSSION & FINDINGS: As it is evident from the Table 1 &2, majority of the respondents are females being 14 in number among 25 respondents. Majority of the cold issues were found in females. 32& of the respondents are in the age group of 26-40 and aged people (>60) constitute 8 % of the respondents. Fever had been more predominant in males than females with 3 cases in males and a single case in female. Anxiety was reported in female respondent and mental disturbance and wounds equally affected both males and females. Skin infections are found more in females than males. Again females suffered more with multiple health issues with the presence of 'Multiple health issues' in 7 females and 5 male respondents.

4.3 SUGGESTIONS: Injuries are the primary effects that need to be dealt with right after a Floods occurs. As it is very clear Floods affected both male and female respondents equally in most of the health casualties. An urgent requirement exists for developing a comprehensive flood management strategy that prioritizes readiness from citizens, NGOs, and the government. Only when we take action can we lessen the harm from floods and protect people's lives, belongings and livelihoods. It is now understood that floods should not simply be seen as the result of rushing water, but they are a common danger that can become a health catastrophe when natural river flow or drainage systems cause Flood situations.

5. CONCLUSION: Floods were found to pose the highest acute risk of climate-induced casualties. Flood affected people are found to be more prone to Cold, Fever, wounds, aches, anxiety and depression, skin infections and diarrhoea. People of all age group are found to be affected with the health issues due to Floods. Karnataka Floods of 2019, highlighted the resilience and collaborative attitude of its inhabitants. Events of this scale affected all members of society, regardless of wealth, gender, or age, by bringing suffering to everyone. The need for health emergencies and the preparedness for the same had also been understood. Police, Fire Services, the Municipal cooperation, and the State Government worked round the clock to fully understand the seriousness of the situation before taking action to address the emergency.

REFERENCES

1. *Gupta H. "Disaster management". University Press. 2003*
2. *Kotlyakov V M. "Natural disasters – Volume II". EOLSS Publications.2010*
3. *Alexander D. "natural Disasters".Taylor & Francis Publishers. 2018*
4. *Singh R B. "Vladimir M. Natural Hazards and Disaster Management, Rawat Publications.2009*
5. *Steinberg T. "Theodore Acts of God, The Unnatural History of Natural Disaster in America". Oxford University Press.2006*
6. *Giddens A. "Sociology: Introductory Readings". Polity Press. 2022*
7. *Scott J. "Sociology: The Key Concepts". Taylor & Francis Publishers. 2006*
8. *FEMA, "Emergency Management in the United States" https://training.fema.gov/emiweb/downloads/is111_unit%204.pdf [Nov. 13, 2023].*
9. *FEMA Department of Homeland Security, "Natural Hazards", https://hazards.fema.gov/nri/natural-hazards#:~:text=Natural%20hazards%20are%20defined%20as,hazards%2C%20such%20as%20manmade%20hazards.[Nov. 13, 2023].*
10. *The Pennsylvania State University "What is a Natural Hazard?"*
11. *https://www.eeducation.psu.edu/geog30/node/378#:~:text=Geological%20hazards%20are%20hazards%20driven,the%20impacts%20of%20the%20events. [Nov. 13, 2023].*
12. *Alexander D. "natural Disasters".Taylor& Francis Publishers. 2018*
13. *Giddens A. "Sociology: Introductory Readings". Polity Press. 2022*
14. *FEMA, "Emergency Management in the United States" https://training.fema.gov/emiweb/downloads/is111_unit%204.pdf [Nov. 13, 2023].*
15. *FEMA Department of Homeland Security, "Natural Hazards",*
16. *https://hazards.fema.gov/nri/naturalhazards:text=Natural%20hazards%20are%20defined%20ashazards%2C%20such%20as%20manmade%20hazards. [Nov. 13, 2023].*
17. *Kotlyakov V M. "Natural disasters – Volume II". EOLSS Publications.2010*