



Impact Of Flood On Lives And Livelihoods: A Case Study Of Bagalkot District

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ABSTRACT

Flooding poses a significant threat to the lives and livelihoods of people in Bagalkot district, Karnataka, India. This case study explores the multifaceted impacts of flooding in the region, which is prone to recurrent inundation due to monsoon rains and river overflow. The economic repercussions are severe, particularly in agriculture, where crop loss, soil degradation, and livestock mortality undermine the primary source of livelihood for many residents. Infrastructure damage further exacerbates economic instability, disrupting transportation, communication, and daily life. This study aims to investigate the impact of floods on people's livelihoods and identify appropriate mitigation activities.

The present research investigation focuses on the population of Takkalaki and Jambagi K D Villages, which are located in the Jamkhandi Taluk of the Bagalkote district in Karnataka. The total number of responders was 118. Respondent's family was taken as a whole. The study concludes that floods have a harmful impact on agriculture, property, and livelihoods, resulting in significant financial losses. Floods have a detrimental effect on people's physical and mental health, making it more likely for adults and children to contract common ailments including fevers, colds, and waterborne diseases.

Keywords: Flood, lives, livelihoods and Disaster.

Introduction

Flooding, a common occurrence around the world has had a huge influence on communities, affecting both their lives and their means of livelihood. Floods have a wide range of effects on landscapes and civilizations, from coastal areas at risk of rising sea levels to inland regions prone to heavy rainfall and river overflow. According to the United Nations Office for Disaster Risk Reduction (UNDRR), "Floods have impacted more than 2.3 billion people worldwide from 1995 to 2015, which is approximately one-third of the global population." Every year, over 134 million people are harmed, with the majority residing in low- and middle-income countries that lack adequate infrastructure and disaster preparedness measures.

Floods are the most catastrophic natural disasters globally, with India bearing the most of the damage. This is emphasised by the unfortunate fact that it accounts for one-fifth of all flood-related deaths worldwide. The country's vulnerability stems from heavy rainfall, with roughly seventy-five percent occurring during a short monsoon period that lasts a period of four months from June to September. Rivers discharge heavily during floods. Every year, millions of hectares of Indian land get flooded. Indian agricultural land is both fertile and vulnerable. Every year, around four million hectares of irrigated area are harmed. India has witnessed significant flooding in earlier decades. The disasters cause not only immediate loss, but also long-term consequences for people's life.

Floods have a significant impact on human lives, frequently resulting in loss of life, disability, and displacement. According to Doocy et al. (2013), floods account for more than half of all disaster-related fatalities globally, with the majority happening in low- and middle-income nations. Floods also have a substantial psychological impact, including trauma and mental health difficulties, as Alderman, Turner, and Tong (2012) have noted.

Floods have detrimental effects on people's ability to make a living in the short and long term. The agricultural sector is especially vulnerable since floods can destroy infrastructure, livestock, and crops.

Floods accounted for 70% of all agricultural economic losses caused by natural disasters in 2003–2013, according to the Food and Agriculture Organisation (FAO, 2015).

Floods have a significant economic impact on urban areas. According to Hallegatte et al. (2013), urban floods can cause significant economic losses by damaging infrastructure, companies, and houses. The disruption of transport networks and key services adds to the economic strain.

Rahman (2014) did a case study to better understand how floods affected the lives and livelihoods of the local population in Bangladesh's Manikganj area. This study examines the difficulties produced by floods and their effects on rural communities in the district. People encountered numerous issues with their lives and livelihoods, such as shelter, crops, stores, marketing materials, roads, schools, hospitals, and other facilities. This study focuses on the flood impacts in Bangladesh's Manikganj district, which is frequently flood-prone.

Krishnamurthy (2009) emphasises the importance of local knowledge and participatory planning in increasing resilience. Flood risk management requires both structural measures (dams and levees) and non-structural measures (early warning systems and land-use planning).

A crucial part of flood management is the function of government and policy. Research by Pahl Wostl et al. (2013) and other scholars emphasise the necessity of multi-stakeholder cooperation and integrated water resource management in the creation of successful flood mitigation plans.

Flood displacement undermines social networks and unity in the community. Loss of home and personal things has a long-term impact on people's sense of security and well-being. For example, according to data conducted by the Internal Displacement Monitoring Centre (IDMC, 2019), floods displaced approximately 8.2 million people worldwide in 2018, highlighting the scope of the problem. The objective of this study was to investigate the impact of floods on people's livelihoods and identify appropriate mitigation activities..

Methods and Material:

The present research investigation focuses on the population of Takkalaki and Jambagi K D Villages, which are located in the Jamkhandi Taluk of the Bagalkote district in Karnataka. Takkalaki is a rural settlement located inside the administrative boundaries of Jamkhandi Taluk, a sub-division of Bagalkote District in Karnataka, India. Flooding had a significant impact in both the Jamkhandi Taluk and the Bagalkot District. So, these two villages were chosen for sampling and extensive examination.

Samples of the study:

The data for research was collected in two flood-prone villages, Jambagi KD and Takkalaki in Jamkhandi Taluk. The purposive sample method was used to select 59 respondents from each community. The total number of responders was 118. Respondent's family was taken as a whole.

To collect data for this study, the interview method was used. From a sociological approach, the interview method is frequently regarded as useful for acquiring primary data. In the current study, the researcher interviewed the respondents utilising an interview schedule that included pertinent questions. Each participant was individually questioned. The researcher conducted a focused and systematic interview. In addition to interviews, additional methods such as observation and the use of secondary information were used..

Statistical analysis:

The data obtained were organized and tabulated statistically, such as by percentage, average, correlation, graphical representation and diagrams.

Result and Discussion:

Flood Effects on Livelihoods/Assets:

Flooding creates a severe threat to many assets in Karnataka, including homes, crops, and infrastructure. Karnataka's diverse landscape and complicated river system make it particularly vulnerable to the disastrous consequences of flooding. When a flood strikes, agricultural assets experience massive damages and critical infrastructure faces complicated repair challenges.

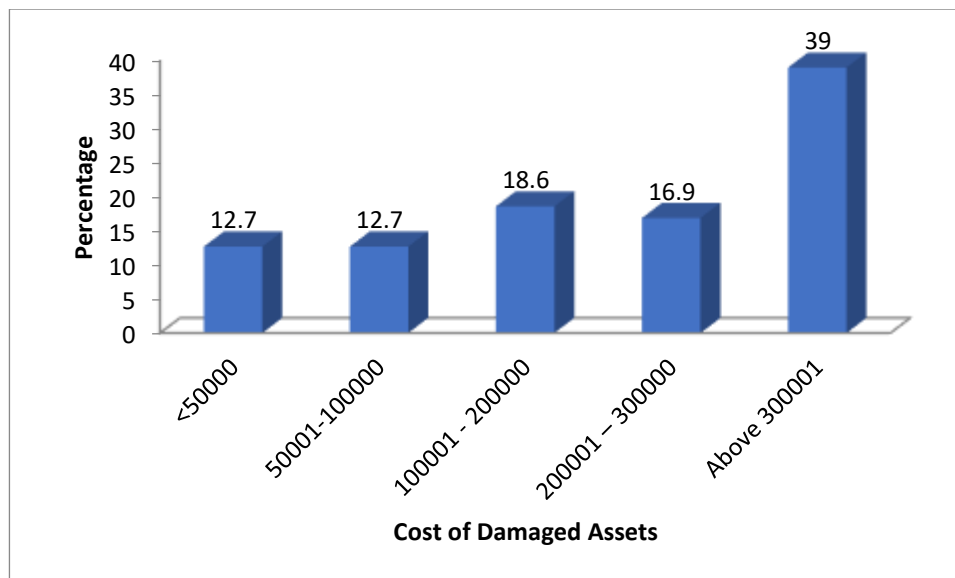


Figure 5.3: Cost of Damaged Assets

Nearly 40% of the 118 respondents said that the overall cost of the damage exceeded 300,001 rupees. A sizable 18.6% indicated the loss cost between 100,000 and 200,000 rupees, while 16.9% said it cost between 200,001 and 300,000 rupees. Also, 25.4% of those polled claimed the entire cost of flood damage was less than \$100,000. The findings reveal that floods have varying economic consequences for people, with the respondents facing a variety of financial difficulties. Those with the most crops destroyed by the flood were affected severely.

Flood Impact on Crops:

Floods spread a long shadow over North Karnataka's rural districts, threatening the area's major crops. Because of its complicated network of rivers and agricultural history, the area is prone to the multiple effects of flooding. Flood waters not only cover places, but they also sweep away soil and nutrients, causing crop damage.

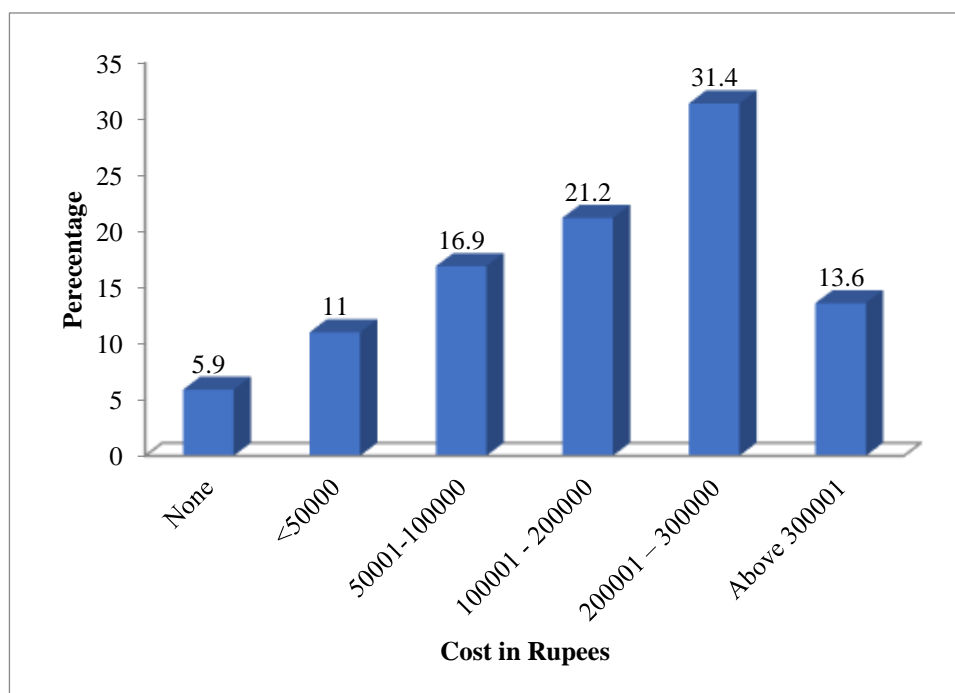


Fig. 1: Shows the information of crop loss

The 118 participants encountered the financial impact of agricultural losses resulting from floods. Out of the 118 respondents, 37 (31.4%) reported losing crops worth 2 to 3 lakh rupees due to flooding. This was followed by 25 respondents (21.2%) who reported losing crops worth 1 to 2 lakh rupees, 20 respondents (16.9%) who reported losing crops worth 50,000 to 1 lakh rupees, 16 respondents (13.6%) who reported losing crops

worth more than 3 lakh rupees, 13 respondents (11.0%) who reported losing crops worth less than 50,000 rupees, and only 7 respondents (5.9%).

Effect of Flood on Health:

Flooding increases the risk of infectious illnesses and causes significant public health issues. Contaminated waterways serve as sources of reproduction for microbial infections, raising the risk of waterborne illnesses like gastroenteritis. Poor sanitation and hygiene conditions during and after flooding contributed to the rapid spread of infections. Vector-borne illnesses, transmitted by mosquitos that breed in stagnant water, pose additional health hazards. The mobility of people and disruptions to healthcare facilities complicate sickness management even more. Immediate actions such as clean water availability, hygiene promotion, and disease surveillance are needed.

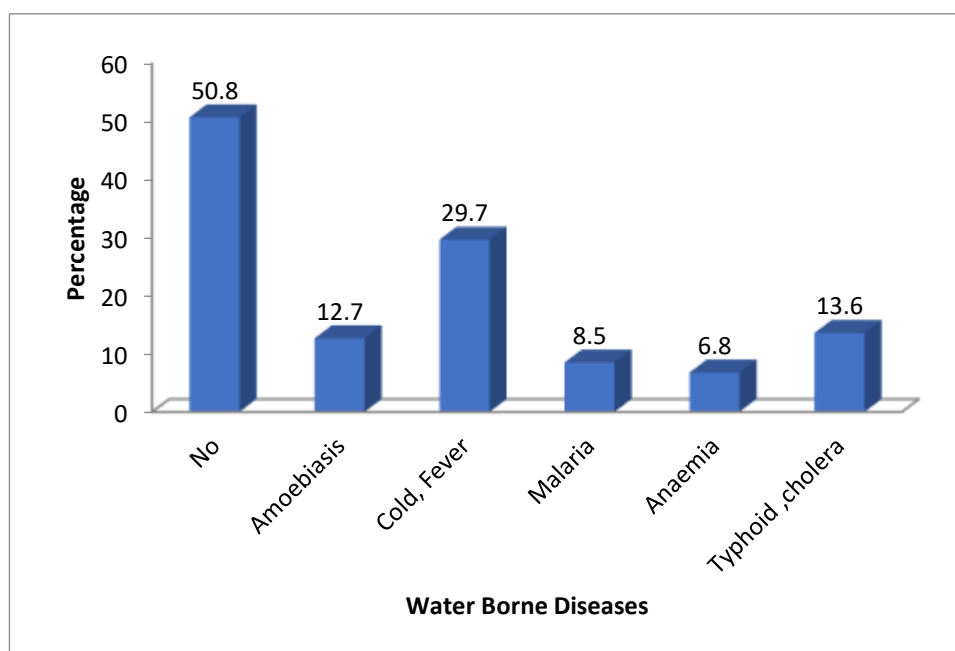


Fig.2: Suffered From Water Borne Diseases

According to the findings of a research of 118 participants, 50% reported no waterborne diseases during or after floods. The most prevalent health conditions were cold and fever, affecting 29.7% of respondents, followed by typhoid and cholera, which affected 13.6%. In addition, 12.7% developed amoebiasis, 8.5% malaria, and 6.8% anaemia. These findings highlight the community's multiple health issues in the aftermath of floods, stressing the necessity for targeted public health programmes and resources to address specific diseases harming the affected population. In research, 84% of respondents voiced their view about the health effects on them. The communicable diseases include cholera, malaria, fever, and dysentery. 16% were unaffected by these. In our study, the health impact is less among responders.

Role of Individuals and communities in mitigating the Environmental Impact of Flood:

To reduce flood damage. People can become involved in innovative initiatives such as clean-up and rubbish disposal reduction, tree planting and green space conservation, soil erosion reduction and water capture, and flood control education.

Table 1: Role of Individuals and Communities in Mitigating the Impact of Flood

Sl.No	Individuals and communities play in mitigating the environmental impacts of floods	No. of Respondents	Percentage
1	None, it's the responsibility of governments and organizations	62	52.5
2	They can only make a small impact	12	10.2
3	They can play a significant role in mitigating the impacts of floods	45	38.1

4	It depends on the specific circumstances and context	26	22.0
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Out of 118 respondents, 62 (52.5%) said that it's the responsibility of governments as well as organisations to mitigate the environmental impact of flood, followed by 45 (38.1%) who said that individuals and communities play a significant role in mitigating the environmental impact of flood, followed by 26 (22.2%) who said that it depends on the specific circumstances and context whether individuals and communities play in mitigating the environment.

Conclusion:

Floods have a harmful impact on agriculture, property, and livelihoods, resulting in significant financial losses. Floods have a detrimental effect on people's physical and mental health, making it more likely for adults and children to contract common ailments including fevers, colds, and waterborne diseases. Numerous consequences, particularly ones on children's general wellbeing, have been documented. In order to lessen flood damage and boost community resilience, the study highlights the role that the government plays in providing funding, restoring infrastructure, and implementing long-term rehabilitation efforts.

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