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Emotional Resilience and Experiences of Flood Victims in Jitra, Kedah: A Phenomenological Approach

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Abstract: This study aims to explore the experiences and emotional resilience of flood victims in Jitra, Kedah, using a phenomenological approach. Focusing on subjective experiences, the study involves in-depth interviews with two respondents who have repeatedly experienced flooding. Participants were selected using purposive sampling techniques and met the criteria set by the researcher. The study identifies seven main themes: initial flood experiences, flood preparedness, experiences during the flood, challenges faced, the home recovery process after the flood, community and authority support, and future recommendations for better disaster management. The findings suggest that early flood experiences raise awareness of disaster risks and the need for mitigation measures to reduce negative impacts. Preparedness involves storing essential items, ensuring family safety, and taking precautionary steps to minimize property losses. However, the spirit of neighborliness and community support helped alleviate emotional distress. Assistance from the community, NGOs, and authorities—including food aid, financial support, and manpower—played a crucial role in helping victims cope with the situation. Future recommendations highlight the need to improve infrastructure, enhance flood risk awareness, and foster close collaboration between communities and public institutions to strengthen resilience against disasters.

Keywords: Flood; Experience; Emotional Resilience; Flood Preparedness; Phenomenological approach

1.0 Introduction

A disaster is characterized as a sudden event that is inherently complex, leading to loss of life, property damage, environmental harm, and the disruption of the local community's normal activities (Su & Khalid, 2021). Hua (2018) defines a disaster as an event that disrupts community activities and national affairs, resulting in loss of life, property damage, economic loss, and environmental destruction that exceeds the community's capacity to manage and necessitates significant resource mobilization. Despite extensive research on flood risk mitigation and infrastructural resilience in Malaysia, limited attention has been given to the psychological and social dimensions of resilience. Existing studies mainly focus on economic losses, recovery efforts, and government policies but rarely investigate the emotional experiences and coping mechanisms of flood victims. This study addresses this gap by examining the subjective experiences of flood survivors to understand how emotional resilience develops in the face of recurrent disasters. Statistics indicate that 250 million individuals have been impacted by disasters over the last decade (Yildiz et al., 2021; Shafii et al., 2023). In 2018, more than 315 documented disasters affected over 68.5 million individuals, constituting approximately 11.804% of the global population, resulting in an economic loss of USD 132 billion worldwide. In Asia, 17.1 million individuals were impacted by storms, with 88% of the affected population being from Asia (Yodsuban & Nuntaboot, 2021). In recent months, Malaysia has frequently experienced disasters, particularly floods. Malaysia faces annual flood disasters, which are attributed to both natural forces and unchecked development (Su & Khalid, 2021).

Raja Noor Afiz et al. (2023) assert that floods are the most prevalent natural disaster in Malaysia, directly affecting the population. Floods are global natural disasters that impact human settlements and the environment (Mansor et al., 2023; Mohd Shohid, 2022). Hua (2018) states that floods are natural calamities with both detrimental and beneficial impacts on society. Floods are a result of climatological factors, including temperature conditions, rainfall distribution, evaporation, wind movement, and the inherent characteristics of the earth's surface. Flooding is characterized as an overflow of water, specifically an excess arising from substantial and prolonged rainfall from rivers and oceans, which inundates low-lying areas, including residential zones. This condition occurs quickly, naturally, and in an erratic and uncontrollable manner (Raja Noor Afiz et al., 2023). The northeast monsoon in Malaysia typically occurs from October to February (Hua, 2018; Nayan et al., 2021).

Thailand's geographical location makes it particularly vulnerable to hydrometeorological risks, including floods, as well as more perilous events such as tsunamis and landslides (Yodsuban & Nuntaboot, 2021). These disasters have occurred between 40,000 and 60,307 times, with the most catastrophic being the "Great Flood" in 2011, which affected 64 of 77 provinces, including the capital, Bangkok (Yodsuban & Nuntaboot, 2021). Approximately 5.2 million households, encompassing around 16 million individuals, were impacted. This illustrates the perilous nature of floods if left uncontrolled. Furthermore, China faces similar flood risks. China is reported to experience one of the highest incidences of flood disasters globally, with about 10% of its geographical regions at risk of significant disaster-related losses (Ao et al., 2020). Seventy percent of the overall value of the nation's industrial and agricultural production is vulnerable to flood risk. In Turkey, floods are more pronounced in urban areas due to the synergistic impacts of intense precipitation, inadequate drainage systems, impermeable surfaces, unregulated construction, and inappropriate land-use planning in floodplain regions (Yildiz et al., 2021).

In Malaysia, floods are a natural disaster that predominantly affects the East Coast region, particularly during the monsoon season due to variations in monsoon patterns (Raja Noor Afiz et al., 2023; Afendi et al., 2024). The most significant flood disaster in Malaysian history occurred in December 2014, primarily affecting the state of Kelantan, resulting in extensive damage to properties and homes of flood victims (Su & Khalid, 2021; Nayan et al., 2017). The flood disaster worsened due to rapid expansion in downstream urban areas, which were central to the everyday activities of many local residents (Hua, 2018). Approximately 120,000 victims were displaced and forced to relocate to designated temporary evacuation centres. Eleven individuals lost their lives, and about 2,374 homes were completely destroyed, along with environmental devastation and damage to government properties and infrastructure (Su & Khalid, 2021). This disaster adversely impacted both the flood victims and the government, which faced losses and damages estimated to exceed one billion Malaysian Ringgit.

Kedah is one of the Malaysian states that frequently experiences flooding. Mansor et al. (2023) examined the ramifications of flash floods in Kampung Setol, Yan, Kedah, providing a quantitative analysis to assess the flood's impact on the local economy. The increase in flood victims in Kedah and Perlis in October 2024 (Bernama, 2024B) highlights the worsening situation in both states. According to Bernama (2024A), the number of flood victims in Kedah rose to 7,494 individuals in September 2024, signaling an escalating problem (Bernama, 2024A). Jitra, Kedah, was selected as the case study due to its frequent and severe flooding, especially during the northeast monsoon season. As one of the worst-affected areas in Malaysia, Jitra has faced recurrent flooding, resulting in displacement, property damage, and long-term socio-economic disruptions. The community's repeated exposure to flood disasters makes it a critical site for studying resilience mechanisms (Akhir et al., 2021). Understanding how residents cope, adapt, and rebuild under such conditions can provide valuable insights applicable to flood-prone regions

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across Malaysia and beyond. Residents in several districts of Kedah affected by the flood have been urged to relocate to safer areas due to rising water levels (Bernama, 2024C). At the same time, the Chief Minister of Kedah, Datuk Seri Muhammad Sanusi Md Nor, indicated that the flooding affecting the state is expected to spread to several additional regions due to overflow from rivers and dams. Raja Noor Afiz et al. (2021) assert that "the flood situation has an indirect impact on the safety and resilience of the community that frequently experiences it." Despite being aware of the annual risks associated with their location, affected individuals are reluctant to proactively relocate to safer areas. Flood experiences not only shape the perception of flood risk but also influence victims' preparedness actions for flood risk management. Research suggests that individuals who have experienced a flood event perceive the risk of subsequent floods as significant. Moreover, recurrent encounters with floods enhance their response capacity and understanding of the situation (Yildiz et al., 2021). This phenomenological study aims to investigate the factors influencing their preparedness from the perspective of personal experience.

This study aims to explore the lived experiences and emotional resilience of flood victims in Jitra, Kedah, using a phenomenological approach. Unlike previous research, which primarily focuses on structural damage, economic loss, or institutional responses, this study delves into the psychological and social coping mechanisms of individuals repeatedly affected by floods. The novelty of this research lies in its qualitative methodology, which captures deep, personal insights into resilience-building strategies, offering valuable perspectives for disaster management and recovery planning.

2.0 Literature Review

Floods rank among the most catastrophic natural disasters, exerting significant and complex effects on society worldwide. Recent studies from Malaysia and internationally underscore the essential aspects of flood management, including risk mitigation, psychological well-being, community resilience, and family preparedness. This synthesis integrates different viewpoints to provide a thorough understanding of flood repercussions and methodologies for strengthening societal resilience.

2.1 Community-Focused Risk Management

The importance of communities in flood disaster management has been highlighted as a fundamental aspect of effective risk mitigation. Dapun et al. (2024) argue that communities, being the most directly impacted by floods, are vital in disaster response and recovery. Their research emphasizes that communities with higher levels of knowledge and awareness are more capable of executing prompt and informed responses during disasters. Training and capacity-building programs can significantly reduce damage, save lives, and accelerate post-disaster recovery. Mansor et al. (2023) advocate for awareness programs and campaigns disseminated through various platforms, including seminars, social media, and public announcements, to enhance public understanding of flood risks. These programs are crucial for improving risk management frameworks and boosting community preparedness for future calamities. Recent research highlights advancements in Malaysia's flood preparedness efforts. Afendi et al. (2024) discuss the implementation of AI-driven flood modeling, which improves early warning systems and allows communities to take proactive measures before flood events escalate. Meanwhile, Dapun et al. (2024) emphasize community-based disaster training, where local volunteers receive structured guidance on evacuation planning and emergency response coordination. These newer approaches, leveraging technology and grassroots engagement, offer valuable updates to Malaysia's flood resilience strategies and should be incorporated into existing disaster management framework.

2.2 Psychological Effects and Rehabilitation

Floods impose significant psychological burdens on victims, affecting emotional well-being, stress levels, and long-term mental health stability. Studies have found that flood victims often experience post-traumatic stress disorder (PTSD), anxiety, depression, and prolonged grief, particularly when facing severe property loss, displacement, and the death of loved ones (Rameli et al., 2024; Su & Khalid, 2021). These findings align with studies in other disaster-prone regions, such as Turkey and Thailand, where flood victims reported long-term emotional distress and social disconnection (Yildiz et al., 2021; Yodsuban & Nuntaboot, 2021). Additionally, Malaysian flood victims, especially those in frequently affected regions like Kelantan and Kedah, often experience chronic psychological distress due to uncertainty and the lack of permanent solutions (Su & Khalid, 2021). Data from the Malaysian Department of Social Welfare confirms that many children and adults continue to experience emotional distress long after the floodwaters recede. Integrating mental health support—through counseling services, trauma-informed community programs, and post-flood social recovery initiatives—is crucial for fostering resilience in affected communities. Moreover, government intervention needs to extend beyond financial relief. While monetary aid and infrastructure repair are vital, studies suggest that psychosocial recovery programs, peer support networks, and disaster resilience training could help flood victims rebuild their emotional stability and long-term coping mechanisms (Su & Khalid, 2021; Raja Noor Afiz et al., 2023).

2.3 Fostering Community Resilience

The notion of "bounce back better" has become a prominent approach to improving community resilience following disasters. Raja Noor Afiz et al. (2021) characterize resilience as the capacity of communities to withstand shocks, adapt, and emerge stronger after a calamity. However, their study reveals a troubling deficiency in community awareness and understanding of resilience, which hinders effective flood risk management. The authors advocate for enhanced collaboration among government bodies, non-governmental organizations (NGOs), and local communities to develop comprehensive resilience measures. In Mukim Dengkil, Sepang, 59% of respondents demonstrated inadequate flood management capabilities, primarily relying on government support. This highlights the need for community empowerment and participatory approaches in resilience-building initiatives.

2.4 Global Insights on Flood Readiness

International research provides additional insights into the effects of floods and strategies for preparedness. Ao et al. (2021) discovered that individual flood experiences profoundly influence residents' perceptions of disaster readiness in Sichuan, China. Individuals who lost family members were more inclined to take proactive actions, while those who suffered only property damage exhibited a resigned demeanor and lower readiness levels. Education and prior experience were crucial, as individuals with higher education exhibited better preparation. The research highlights the significance of trust in local flood management systems and media coverage in promoting proactive preparedness behaviors. While these international findings provide important insights, their relevance to Malaysia lies in identifying shared challenges and adapting effective solutions. For instance, China's climate-induced flood vulnerabilities mirror Malaysia's monsoon-driven flooding patterns, suggesting that public education on flood risks could enhance community-level preparedness (Ao et al., 2021). Thailand's community-based flood disaster management strategies (Yodsuban & Nuntaboot, 2021) could serve as a model for Malaysia's rural areas, where localized response networks remain underdeveloped. Meanwhile, Turkey's urban flood risks, exacerbated by unregulated development and poor drainage infrastructure (Yildiz et al., 2021), reflect Malaysia's struggles with rapid urbanization and flood-prone city expansion. By integrating these global lessons, Malaysia can strengthen its national flood mitigation policies and local disaster preparedness frameworks.

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2.5 At-Risk Demographics: The Elderly Population

Research has also concentrated on the vulnerability of specific demographic groups, such as the elderly, during floods. Krongthaeo et al. (2021) emphasize the need for family-oriented community preparedness to protect senior populations in Thailand. Their research advocates for pragmatic strategies, such as stockpiling essential supplies, elevating homes, and relocating individuals to safer locations. The authors emphasize the importance of collaborative initiatives among families, healthcare institutions, and municipal authorities to ensure the safety and well-being of elderly adults during emergencies.

2.6 Toward a Holistic Approach

These studies collectively highlight the extensive and diverse effects of floods on communities. Effective flood management requires a comprehensive approach that incorporates risk management, psychological support, community resilience, and specific preparedness efforts for at-risk populations. By promoting collaboration among governments, NGOs, and communities, and by addressing both the physical and emotional aspects of disaster recovery, societies can strengthen their resilience and more effectively endure future flood events. This synthesis underscores the interrelation of these elements and offers a framework for policymakers and practitioners to develop more comprehensive and inclusive flood management measures.

3.0 Methodology

This study adopts a qualitative research methodology, employing a phenomenological design to investigate the lived experiences and perspectives of individuals who have repeatedly faced flood disasters in Jitra, Kedah. The phenomenological approach is particularly suitable for this research as it focuses on understanding the subjective experiences of participants and the significance they attach to their encounters with flood disasters. This study seeks to reveal the intricate and contextual realities of living in a flood-prone region by concentrating on the firsthand testimonies of individuals directly impacte.

3.1 Research Design and Justification

The phenomenological design was chosen for its capacity to provide a deep understanding of the respondents' life experiences. This approach allows the researcher to explore the core of the phenomenon as experienced by the participants, encompassing the emotional, psychological, and practical aspects of their experiences. Given the persistent occurrence of floods in Jitra, Kedah, this method is particularly relevant for elucidating the long-term effects and adaptive strategies of individuals who have encountered numerous flood events.

3.2 Sampling and Participant Selection

Purposive sampling was used to select participants who met specific criteria, ensuring that the study reflects the perspectives of individuals with substantial experience in flood disasters. Two respondents were chosen based on their direct experience with flood disasters on more than three occasions in the Jitra region. Participants were recruited through local community networks and NGO referrals. The selection process followed a purposive sampling strategy, where individuals were selected based on inclusion criteria such as:

a) Being a permanent resident of Jitra, Kedah, for at least five years.
b) Having experienced at least three flood events in the past five years.
c) Willingness to share personal experiences in an in-depth interview.
d) Ability to communicate experiences clearly and in detail.

Recruitment was carried out through local disaster relief groups, community leaders, and word-of-mouth referrals to identify individuals who met these criteria. This ensures that participants have substantial experience and understanding of the challenges and coping strategies associated with recurrent flooding. The small sample size aligns with the phenomenological method, which emphasizes depth over breadth in data collection. While the sample size may appear limited, phenomenological research prioritizes in-depth exploration of individual experiences over statistical generalization (Creswell & Poth, 2018; Smith & Osborn, 2003). The selection of two highly experienced flood survivors allows for a rich and detailed understanding of how emotional resilience is developed over time. Additionally, due to resource constraints and ethical considerations, a small sample size was deemed appropriate to ensure data saturation, where new themes cease to emerge—a common practice in qualitative research (Guest, Bunce, & Johnson, 2006).

3.3 Methods of Data Collection

Data were gathered using two primary methods: comprehensive interviews and field observations. Semi-structured interviews were conducted with a set of 13 open-ended questions designed to elicit in-depth narratives of the respondents' experiences, perceptions, and coping strategies during and after flood events. These 13 questions were carefully developed based on existing literature on flood resilience, psychological adaptation, and community disaster management. The questions aimed to capture a broad range of experiences, including initial flood encounters, preparedness strategies, emotional and psychological impacts, community support, and recommendations for future resilience measures. The questions were reviewed and refined through consultations with disaster management researchers and qualitative research specialists to ensure clarity and relevance. The interviews were conducted in a comfortable environment to ensure respondents felt at ease and were willing to discuss their experiences openly. Each interview lasted between 60 to 90 minutes, providing ample time for respondents to reflect on their experiences and provide detailed, nuanced responses. To supplement the interview data, the researchers conducted observations in areas commonly affected by floods. These observations provided contextual insights into the physical conditions of flood-prone regions and the community's adaptive behaviors during flooding events. The observational data helped to corroborate the interview findings, providing a more comprehensive understanding of the challenges faced by the community.

3.4 Data Examination

Thematic analysis was used to examine the data gathered from interviews and observations. This method involves a systematic process for identifying, organizing, and analyzing patterns and themes in the data. The analysis followed Braun & Clarke's (2006) thematic analysis framework, which includes:

a) Data Familiarization – Transcribing interviews and reviewing transcripts multiple times.
b) Generating Initial Codes – Identifying significant words, phrases, and patterns from responses.
c) Searching for Themes – Grouping similar codes into broad themes.

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d) Reviewing and Refining Themes – Assessing coherence and consistency in theme development.
e) Defining and Naming Themes – Finalizing the themes and ensuring alignment with research objectives.

Transcripts were manually coded to preserve contextual accuracy and ensure deeper engagement with the data. NVivo software was also used for cross-validation, helping to systematically identify recurring themes and patterns. The study began with the transcription of interview recordings, followed by multiple readings of the transcripts to familiarize the researcher with the data. Preliminary codes were developed to capture key concepts, which were then organized into overarching themes based on their relevance to the research objectives. The themes were refined through an iterative process, ensuring they accurately represented the respondents' experiences and perceptions. This analytical method allowed the researcher to uncover the fundamental meanings and significance of the respondents' experiences, providing a deeper understanding of their lived realities.

3.5 Ethical Considerations

The study adhered strictly to ethical considerations. Informed consent was obtained from all participants before their involvement, ensuring they fully understood the study's objectives, methodologies, and their rights as participants. Confidentiality was maintained by anonymizing all data and using pseudonyms to protect the identities of the respondents. Participants were informed of their right to withdraw from the study at any time without consequences. These measures were implemented to ensure that the research was conducted ethically and with respect for participants' rights.

3.6 Advantages and Disadvantages

The phenomenological approach has several strengths, particularly its ability to provide deep insights into individuals' subjective experiences. The study achieves depth and contextual understanding by focusing on a small sample size, which is essential for understanding the complexities of living in a flood-prone region. However, the reliance on a small sample size may limit the generalizability of the findings. Despite this limitation, the insights gained from this study can contribute to the development of more comprehensive disaster management strategies and provide a foundation for future research.

4.0 Results

Two permanent residents of Jitra, Kedah, were selected for comprehensive interviews to share their personal experiences in preparing for flood disasters in the region. The demographic information of the respondents, chosen through a purposive sampling technique, is presented in Table 1.

Table 1: Demographic information of the respondents.

R	Gender	Age	Race	Occupation
1	Female	29	Malay	Teacher
2	Male	34	Malay	Enterpreneur

The selection was made based on established criteria, specifically that both respondents are permanent residents who have lived in the Jitra area for over five years. Additionally, they possess considerable experience in managing flood disasters, having encountered flooding in their respective areas on more than three occasions. This experience provides a significant understanding of the strategies and actions implemented by the local community to address the challenges posed by flooding.

A comprehensive analysis of the data collected from the interviews revealed seven primary themes: early flood experiences, flood preparedness, experiences during the flood, challenges encountered during the flood, the house recovery process, support from the community and authorities, and recommendations for future improvements. These themes contribute significantly to forming a thorough understanding of the personal experiences of flood victims, offering deeper insight into their perspectives. Furthermore, within these seven primary themes, 23 interrelated sub-themes were identified. Each of these sub-themes provides further insights that reinforce the study's conclusions and will be elaborated upon in the findings section. This study not only outlines the experiences of the victims but also offers recommendations for improving future disaster management strategie.

4.1 Early Flood Experience

4.1.1 Initial Knowledge of Floods

The first respondent (R1) is aware that their residential area is situated on reclaimed land that used to be a paddy field. This knowledge indicates that the community is aware of the potential flood risk, but there may be a lack of comprehensive mitigation efforts. This factor may reflect the need for increased awareness and early mitigation measures by the authorities or the local community.

> *"We were indeed informed that the area we live in is a flood-prone area, aaa... where the place or the area of the house is aaa... what people say emmm... land fill on top of the paddy field, land fill on top of the paddy field only." [R1, 1:1]*

4.1.2 Flood Frequency

R1 and R2 stated that floods often occur in their area, and the frequency of floods exceeding four times a year is their norm. This may occur due to frequent rain, especially at the end of the year during the monsoon season. Frequent climate changes or unplanned development cause their area to often be hit by floods.

> *"In a year, it usually goes up three times, but in 2024, the house or the place we live in, in our area, has gone up five times."[R1, 1:4]*

> *"In a year, in my area, floods occur about five to six times a year."[R2, 2:3]*

4.1.3 Unexpected Experience

Although the respondents are aware of and conscious about the potential for their area to be flooded, the first experience of facing a flood still came as a shock, as stated by R2. This first experience highlights the importance of training or guidance in dealing with floods for communities living in flood-prone areas.

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"Quite chaotic as well, because it's the first time our house has been hit by a flood and we didn't expect this to happen." [R2, 2:1]

4.1.4 Taking Precautionary Measures

R1 mentioned that their first experience facing a flood prompted them to take precautionary measures. This shows that personal experience acts as a catalyst for increasing awareness and preparedness. Previous studies, such as those conducted by Ao et al. (2021), also show that personal experience is an important factor in motivating better preparedness measures against disaster risks.

"This is our first experience dealing with a flood, so we have taken precautionary measures." [R1, 1:6]

4.2 Flood Preparedness

4.2.1 Storage of Important Items

R1 and R2 are aware of the risk of valuable items and official documents being damaged when facing floods. The action of storing these items demonstrates their preparedness in efforts to preserve critical belongings.

"Items that are light or of relatively low value, which are easy to store, will indeed be kept in a safe place." [R1, 1:5]

"We want, if possible, important items like refrigerators, the expensive ones to be safe, and also important files not to be damaged by floodwaters."[R1, 1:7]

"Storing important documents and personal documents, family members, and oneself." [R2, 2:4]

4.2.2 Taking Precautionary Measures

Taking these precautionary measures shows that the respondents learned from the situations they experienced during their first flood, which was the main factor driving them to act in this manner. These precautionary measures demonstrate a higher awareness in facing the threat of future disasters.

"With the first experience of facing a flood, we have taken precautionary measures." [R1, 1:6]

4.2.3 Family Safety

The primary action taken by the respondents is to ensure that their families are in a safe condition. Efforts such as finding a safe place to stay during a flood disaster demonstrate high family values within the community, as well as prioritizing family safety over other priorities like protecting property.

"Because we want our family to be safe and for what people say, to be avoided from this flood." [R1, 1:8]

"We will find a safe place for aaa to have a daily routine as usual, right?" [R1, 1:11]

"We save ourselves and our family members first."[R2, 2:10]

4.2.4 Reduce Damage Costs

Respondents also strive to reduce damage costs after the flood by taking early preparatory steps, such as salvaging important items. This shows awareness of the significant economic implications of the flood and proactive efforts to minimize the post-disaster financial burden.

"We want to reduce costs after the flood is over, so we are making early preparations." [R1, 1:9]

"Saving the important items from the house." [R2, 2:5]

4.2.5 Water Condition Awareness

R2 emphasizes the importance of being aware of and monitoring the current water conditions as a step to determine whether there is a need to relocate to a safer place or not. This action demonstrates awareness of changes in flood situations and the ability to make decisions more efficiently based on current information.

"Taking note of the water condition, the current water condition" [R2, 2:6]

"Look at the current water situation, if necessary we will move to a temporary evacuation center, if not necessary we just need to stay at home." [R2, 2:11]

4.2.6 Property Damage

The flood has caused property damage and several personal belongings to be damaged and destroyed. This serves as a lesson for the respondents to be more prepared for future floods.

"Prevent household necessities from getting damaged and personal belongings from getting lost and destroyed." [R2, 2:8]

4.3 Experience During the Flood

4.3.1 Lost Home

Based on the interview, R1 stated that they had to leave their residence due to the flood, which had high water levels that prevented them from occupying the house. The following situation shows a severe impact on the daily routines of the respondents and also the community whose homes are uninhabitable due to the severe flood disaster.

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"Then our place of residence, we can't stay there, we have to find a safe place to carry out our daily routines, the house had to be left behind because we can no longer go in and out with the water level being so high, right?" [R1, 1:3]

4.3.2 Family Safety

Both respondents, R1 and R2, emphasized their priority of ensuring family safety. R1 mentioned the effort to find a safe location to avoid the risk of flooding, while R2 emphasized the importance of saving oneself and family members before thinking about anything else. This action reflects the values of family and protection as priorities among flood victims.

"Because we want our family to be safe and for what people say, to be avoided from this flood." [R1, 1:8]

"We will find a safe place for aaa to have a daily routine as usual, right?" [R1, 1:11]

"We save ourselves and our family members first." [R2, 2:10]

4.3.3 Difficulty of Relocation

The road that was cut off during the flood made the process of relocating to safer areas difficult. This indicates weaknesses in terms of infrastructure and accessibility during disasters. Challenges like this highlight the importance of emergency transport planning and the development of more flood-resistant infrastructure.

"The situation of the road being cut off means that I have to move to a safe place." [R2, 2:2]

4.3.4 Neighbourhood Spirit

R2 describes the spirit of mutual assistance among neighbours during the flood. Even in an emergency situation, this spirit of mutual assistance reflects the value of community solidarity, where neighbours come together to save personal belongings and household equipment. This harmony also has a positive impact on the victims' mental well-being by creating a sense of support and togetherness.

"The spirit of helping each other among neighbours saved personal belongings, household items, and also created a very lively flood atmosphere." [R2, 2:12]

4.4 Challenges in Facing Floods

4.4.1 Property Damage

The rising floodwaters caused several items in the house to be damaged and no longer usable. R1 and R2 stated that items that were difficult to move had to be left behind, resulting in property loss when the flood disaster was unavoidable.

"The things we can't lift or didn't expect to rise high, the floodwaters that will rise high, we just have to accept it." [R1, 1:2]

"Prevent household essentials from getting damaged and personal belongings from getting lost and destroyed." [R2, 2:8]

"Essential items, damaged household items." [R2, 2:15]

4.4.2 Lost Home

The victims' residence can no longer be occupied during the flood. The excessively high water levels forced the victims to leave their homes and move to safer places.

"Then our place of residence, we can't stay there, we have to find a safe place to carry out our daily routines, the house had to be left behind because we can no longer go in and out with the water level being so high, right?" [R1, 1:3]

4.4.3 Difficulty of Relocation

However, the difficulties in the evacuation process also became one of the challenges when the main roads out of the flood area were cut off, making it hard for them to evacuate using their own vehicles and forcing them to wait for boat assistance to arrive at their location.

"The situation of the road being cut off means that I have to move to a safe place." [R2, 2:2]

4.5 Home Recovery Process

4.5.1 Property Damage

Both respondents suffered property losses when they were hit by the flood. R1 mentioned that some household items could not be saved because they did not expect the water level to rise so high. R2 also stated that many essential and personal items were damaged or destroyed. This shows that although there was awareness in making preparations before the flood, the loss of property was unavoidable.

"The things we can't lift or didn't expect to rise high, the floodwaters that will rise high, we just have to accept it." [R1, 1:2]

"Prevent household essentials from getting damaged and personal belongings from getting lost and destroyed." [R2, 2:8]

"Essential items, damaged household items." [R2, 2:15]

4.5.2 Storage of Important Items

This step shows the victims' awareness of the need to avoid irreplaceable losses, such as official documents, which are important assets for the post-flood recovery process.

"Items that are light or of relatively low value, which are easy to store, will indeed be kept in a safe place." [R1, 1:5]

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"We want, if possible, important items like refrigerators, the expensive ones to be safe, and also important files not to be damaged by floodwaters." [R1, 1:7]

"Storing important documents and personal documents, family members, and oneself." [R2, 2:4]

4.5.3 The Difficulty of Washing the House

A great physical effort is required when cleaning a house that is full of mud due to flooding. Both respondents acknowledged that cleaning the house after the flood is the biggest and most significant challenge in the house recovery process. The condition of the house being messy and muddy causes the cleaning process to take a long time if done without the help of the public or advanced tools.

"The main challenge is definitely cleaning the house with the condition of muddy soil, and the state of the items, some of which are turned upside down and carried away by the water, right?" [R1, 1:13]

"The challenge of cleaning the house, the condition of the house can be described as a mess with a lot of mud." [R2, 2:14]

4.5.4 Improvement of Infrastructure and Equipment

R2 suggested the purchase of specialized equipment, such as boats, in preparation for more severe floods in the future. They also mentioned the need for more advanced cleaning equipment to facilitate the recovery process. This need reflects the victims' efforts to be better prepared for recurring disasters and to reduce the post-flood burden.

"Bought my own boat for my convenience and my family's, because we can't predict how bad things will get, sometimes it's not very high, sometimes you can only see the roof of the house." [R2, 2:18]

"Can also help in terms of more advanced cleaning tools and facilities." [R2, 2:19]

4.6 Support from the Community and Authorities

4.6.1 Initial Knowledge of Floods

R1 stated that the residents in the area had been informed earlier about the risk of their area being hit by a flood disaster, as their residential area is located on reclaimed land in a former paddy field, which increases the risk of flooding.

"We were indeed informed that the area we live in is a flood-prone area, aaa... where the place or the area of the house is aaa... what do people say emmm... a land reclamation on top of a paddy field, a land reclamation on top of a paddy field only." [R1, 1:1]

4.6.2 Temporary Evacuation Center

Temporary evacuation centers have been provided by the authorities to address the issue of residents losing their homes due to high floodwater levels.

"Maybe a place to stay, there is indeed a temporary shelter or a relocation center that has been provided for families whose houses were submerged because the floodwaters rose high." [R1, 1:10]

4.6.3 Food Aid

R1 and R2 reported that food aid, including ready-to-eat meals and basic necessities, was provided by NGOs and village chiefs. This assistance highlights the importance of collaboration between the community and external parties in ensuring that flood victims receive basic necessities promptly.

"NGO parties or village chief parties provide food that is ready to eat." [R1, 1:12]

"The items received during the flood were mostly food necessities." [R2, 2:13]

4.6.4 House Cleaning Assistance

Assistance from NGOs and village chiefs in helping with the house cleaning implementation is very important. This is because the cleaning workload is heavy, especially when items are scattered and the floor is covered in mud.

"The people or the NGO representatives or the village chief came to help wash, they helped wash the house." [R1, 1:14]

"Support aaa from aaaa workforce to clean the flood-affected house." [R2, 2:16]

4.6.5 Financial Contribution

Financial contributions greatly assist respondents, especially in repurchasing items that were damaged due to the flood disaster. This support not only alleviates the economic burden on the victims but also accelerates the recovery process.

"The parties that came to give financial donations aaa because err for the damage in the house la aa that was really, really helpful la." [R1, 1:12]

"Support from finances to buy damaged essential items and also to purchase personal necessities." [R2, 2:17]

4.6.6 First Aid

R2 stated that they had previously received first aid training from the Malaysian Civil Defence Force. This training is important to instil confidence in the community in handling emergency situations.

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"We were once given exposure by the Malaysian Civil Defence Force regarding some basic first aid during emergencies." [R2, 2:7]

4.6.7 The Importance of Early Preparation

Related agencies place great emphasis on the importance of early preparation, that is, before, during, and after being hit by floods.

"Support from relevant agencies regarding the importance of pre-flood, during-flood, and post-flood preparedness." [R2, 2:9]

4.7 Suggestions for the Future

4.7.1 Storage of Important Items

Important items such as official documents, valuable equipment, and household items (that are easily movable) become the primary choices for storage before being hit by floods. Both respondents agreed on the storage of important items for long-term use.

"Items that are light or of relatively low value, which are easy to store, will indeed be kept in a safe place." [R1, 1:5]

"We want, if possible, important items like refrigerators, the expensive ones to be safe, and also important files not to be damaged by floodwaters." [R1, 1:7]

"Storing important documents and personal documents, family members, and oneself." [R2, 2:4]

4.7.2 Reduction of Hard-to-Salvage Items

R1 mentioned that items that were damaged because they could not be moved during the flood would not be repurchased, but would be replaced with more easily movable items to facilitate preparation before facing a flood.

"The items that are already damaged, we won't buy the same thing again, we won't buy the same thing again." [R1, 1:16]

4.7.3 Document Management

R1 suggests the use of storage boxes for important documents so that they can be easily lifted and stored in a safer place. This proposal reflects an effort to improve document management to minimize losses and facilitate the relocation process during emergencies.

"Then we keep the documents near the bookshelf, but the bookshelf is difficult for us to lift and store in the right place, so maybe next time we will keep them in a storage box, it's easier for us to lift and store." [R1, 1:17]

4.7.4 Improvement of the Drainage System

R1 proposed improvements to the drainage system and water channels to reduce the risk of their area being flooded. This proposal highlights the importance of structural interventions by local authorities to ensure the effectiveness of water management in flood-prone areas.

"Maybe we need to create a proper drainage system, or water channels that help prevent flooding or water stagnation." [R1, 1:18]

4.7.5 Improvement of Infrastructure and Equipment

Meanwhile, R2 suggested purchasing a boat as an additional measure to face the upcoming flood, which might be worse than what they are currently experiencing. In addition, R2 also emphasized the need for more advanced and modern cleaning tools to facilitate their house cleaning during the recovery process after the flood.

"Bought my own boat for my convenience and my family's, because we can't predict how bad things will get, sometimes it's not very high, sometimes you can only see the roof of the house." [R2, 2:18]

"Can also help in terms of providing more advanced cleaning tools." [R2, 2:19]

5.0 Discussion

The rising frequency and intensity of flood events in Southeast Asia highlight the critical need to understand how communities respond and the strategies they employ for resilience. The town of Jitra, Kedah, in Malaysia, presents a significant case study for examining the experiences of flood victims, emphasizing their vulnerabilities and adaptive capacities. This paper consolidates empirical findings into seven key themes: initial flood experiences, flood preparedness, experiences during the flood, challenges encountered, home recovery processes, support networks, and future recommendations.

The inhabitants of Jitra demonstrate a significant understanding of the flood hazards in their area, as their residences are located on land that was once paddy fields, a region with a historical tendency for flooding. This spatial vulnerability aligns with wider observations regarding floodplain settlements, where communities often accept risk due to their agricultural and economic reliance (Mansor et al., 2023; Norizan et al., 2021). Participants highlighted that instances of flooding have increased in frequency in recent years, particularly in 2024, indicating possible shifts in climate patterns and urban runoff behaviors. Despite awareness, the initial responses to the flood were characterized by confusion and insufficient mitigation efforts, primarily due to resource constraints and knowledge gaps. This aligns with the findings of Ao et al. (2021), which highlight that direct experiences with flooding play a crucial role in influencing future preparedness actions. The recognition of vulnerability during the initial flood led participants to implement proactive mitigation strategies in future event.

Residents of Jitra are actively engaged in preparedness efforts that include the storage of essential items, the establishment of family safety protocols, and the implementation of precautionary measures aimed at minimizing property damage. The preparatory actions observed reflect individual risk perception and household adaptive capacity, as highlighted in the work of Krongthaeo et al. (2021). Ensuring physical readiness, including the acquisition of emergency supplies and the protection of valuables, has proven to be essential strategies for reducing the effects of flooding. Moreover, the distribution of information via community awareness initiatives was crucial in improving preparedness levels. Mansor et al. (2023) contend that strong information exchange enables effective collaboration between communities and authorities, thus enhancing disaster resilience. Disseminating information about evacuation routes, flood warning systems, and appropriate storage practices proved crucial in enhancing community preparedness.

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The flood event caused significant challenges, such as housing loss, displacement of individuals, and property damage. Participants shared their experiences of the emotional turmoil linked to evacuation and the accompanying uncertainty. Despite the challenges, the impact was lessened by robust social unity. Community solidarity, defined by mutual aid and neighborly support, became a fundamental aspect of resilience. This finding is consistent with the work of Raja Noor Afiz et al. (2023) and Ao et al. (2021), both of which highlight the importance of social support networks in times of disaster. Collaborative efforts reduced emotional burdens and promoted swift recovery, aligning with existing literature that emphasizes the significance of informal support networks in disaster situations.

The flood presented a range of challenges, including physical, emotional, and logistical difficulties. Loss of property and evacuation challenges emerged as significant issues, further complicated by post-flood recovery obstacles, including heavy mud accumulation, impaired infrastructure, and emotional fatigue. The results align with the work of Su and Khalid (2021), emphasizing the connection between material loss and psychological distress in populations impacted by floods. The challenges of cleaning and repairing homes highlighted the necessity for a cohesive approach to recovery support, merging material aid with psychosocial interventions. The identification of counseling services and emotional support as critical gaps in the existing recovery framework underscores the need for comprehensive flood management strategies.

The recovery phase encompassed a variety of strategies, such as salvaging valuables, obtaining emergency equipment, and rebuilding damaged properties. Pre-flood preparedness, including the protection of documents and the acquisition of boats, has been identified as a crucial factor influencing the efficiency of recovery efforts, as highlighted by Ao et al. (2021). Support from the community and institutions significantly accelerated the recovery process. Joint cleanup initiatives, led by community leaders and supported by governmental organizations, alleviated the pressure on individual families. Krongthaeo et al. (2021) highlight the importance of infrastructural investments and coordinated recovery operations in post-disaster rehabilitation, a view supported by the responses from Jitra participants.

Support from institutions and solidarity at the grassroots level played a crucial role in enabling recovery. Essential interventions included food aid, labor assistance, and financial contributions. The implementation of these support mechanisms alleviated both the physical and financial burdens faced by flood victims, thereby enhancing resilience and accelerating the recovery process. Raja Noor Afiz et al. (2023) highlight the interconnectedness of public institutions and community organizations in strengthening flood resilience. Similarly, Su and Khalid (2021) emphasize the importance of combining financial assistance with emotional support to achieve comprehensive recovery outcomes.

Participants suggested various measures to enhance resilience, such as improvements to infrastructure and reforms in disaster management. Improving drainage systems to avoid water stagnation has been recognized as a key focus, aligning with the suggestions put forth by Mansor et al. (2023). It was also proposed that there be improved collaboration between local authorities and health organizations to ensure prompt technical and logistical assistance (Krongthaeo et al., 2021; Yusoff & Yusoff, 2021). Additionally, initiatives aimed at enhancing community capacity, including flood simulation drills and resilience training, were recommended to bolster preparedness. Combining traditional knowledge with contemporary risk management strategies can develop a hybrid approach suited to Jitra's socio-environmental landscape.

The experiences of Jitra residents highlight the complex aspects of flood resilience, including awareness, preparedness, social solidarity, and institutional support. Despite the implementation of proactive measures after previous flood events, ongoing challenges highlight the need for a comprehensive, community-focused strategy in disaster management. Enhancing infrastructure, cultivating social networks, and improving information dissemination are essential strategies for developing sustainable flood resilience in at-risk communities.

6.0 Conclusions

In summary, this study provides an in-depth examination of the experiences, preparedness, and challenges faced by flood victims in Jitra, Kedah, offering valuable insights into the complexities of flood disaster management. The seven key themes identified—early flood experiences, flood preparedness, experiences during the flood, challenges faced during the flood, home recovery processes, support from the community and authorities, and recommendations for the future—underscore the multifaceted effects of floods on individuals and communities. The results not only align with current studies but also offer new insights into the significance of community resilience, proactive preparedness, and comprehensive recovery strategies. This investigation emphasizes the crucial role of awareness and risk perception in shaping preparedness behaviors, as well as the need for targeted interventions to address gaps in resources and knowledge. Additionally, the importance of community solidarity and social support in mitigating the physical and emotional impacts of floods is highlighted. Furthermore, the study emphasizes the need for cohesive recovery approaches that integrate financial aid, infrastructure improvements, and psychosocial support to promote sustained recovery and resilience.

The findings of this study hold significant practical relevance for the development and implementation of disaster management policies and practices. Key recommendations include enhancing community readiness through ongoing training initiatives and awareness efforts, strengthening social networks to encourage mutual support, advancing flood-resilient infrastructure, providing comprehensive support that addresses both material and emotional needs, and fostering collaboration between government entities, NGOs, and local communities. Implementing these measures can substantially reduce the impact of flood disasters and improve the well-being of affected communities.

This study contributes uniquely to the field of flood disaster research by shifting the focus from infrastructural resilience to the emotional and psychological resilience of flood survivors in Malaysia. While previous studies have extensively examined structural damage, economic losses, and government flood mitigation strategies, this research fills a critical gap by exploring the lived experiences and emotional coping mechanisms of flood victims through a phenomenological approach. Unlike traditional disaster studies that primarily rely on quantitative surveys or secondary data, this study employs in-depth qualitative interviews, providing a rich and nuanced understanding of how individuals emotionally navigate and recover from recurring flood events. By capturing firsthand narratives, this research offers valuable insights into the development of psychological resilience over time and the role of community support networks in influencing recovery outcomes. Furthermore, the study provides practical implications by identifying specific community-driven adaptation strategies that can inform Malaysia's flood disaster management policies. The findings present actionable recommendations for incorporating mental health support, trauma-informed community programs, and social resilience frameworks into existing disaster response mechanisms, ensuring a more holistic and survivor-centered approach to flood mitigation.

In the future, it is crucial to investigate the lasting psychological effects of repeated flood exposure, gender-specific aspects of vulnerability, the economic resilience of flood-impacted communities, the influence of technology and innovation on flood preparedness, and to conduct comparative studies across different regions to identify best practices in flood management. Addressing these knowledge gaps will contribute to the development of stronger, evidence-based strategies for managing flood disasters. This study demonstrates that floods are not just natural events; they are complex phenomena that significantly affect the lives of individuals and communities. It highlights the importance of a comprehensive and inclusive strategy for flood management that integrates the perspectives of those directly affected. The study advocates for a combination of community empowerment, infrastructure improvements, and psychosocial assistance. As climate change increasingly exacerbates the frequency and severity of floods, the insights gained from this study provide a crucial foundation for building more resilient communities and fostering a safer, more sustainable future for all.

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