Content Analysis of Flood Relief Efforts: Examining Coping and Recovery Themes in Resilience Narrative Analysis

Tengku Mohamad Amirulhakimi Tengku Mohd Hazrin[1], Suhaimi Abd Samad[2*], Hazlina Mohd Padil [3], Radduan Yusof[2], Mazlan Che Soh[2], Eley Suzana Kasim[4], Mohd Hairy Ibrahim[5]

[1]Faculty of Administrative Science and Policy Studies, University Teknologi MARA Shah Alam, Selangor, Malaysia

[2*]Faculty of Administrative Science and Policy Studies, University Teknologi MARA Cawangan Negeri Sembilan, Kampus Seremban, Malaysia

[3]Faculty of Law, University Teknologi MARA Cawangan Negeri Sembilan, Kampus Seremban, Negeri Sembilan, Malaysia

[4]Faculty of Accountancy, University Teknologi MARA Cawangan Negeri Sembilan, Kampus Seremban, Negeri Sembilan, Malaysia

[5]Faculty of Human Sciences, Universiti Pendidikan Sultan Idris, Perak, Malaysia

[*]Corresponding Author

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ABSTRACT

Climate change and pollution have increased frequency of floods. According to statistics, floods are becoming more frequent and causing significant damage, especially to the victims. Subsequently, victims must develop greater resilience. The aim of this study is to determine the focus on flood victims dealing with flood disasters. As part of the inclusion criteria, six relevant government documents were reviewed, all related to flood resilience. Thematic analysis was conducted using ATLAS.ti software identifies five main themes such as resilience behavior, community sustainability, disaster management, strategic planning, and global security. Therefore, the government should develop innovative strategies, utilize the latest technologies, and promote international collaboration to improve flood resilience. Encouraging community sustainability can help flood victims develop resilience behaviors, which is important for creating a society that can withstand natural disasters.

Keywords*:* Flood, Resilience, Malaysia, Policy, Risk management.

INTRODUCTION

Globally, floods are becoming more frequent and severe, affecting different parts of the world. One of the main causes is climate change, which is worsening weather conditions and leading to more rain and higher sea levels. Urban flooding is the result of inadequate urban infrastructure to withstand heavy rainfall, which is exacerbated by poor drainage systems to handle large volume of overflow water [31],[1],[38]. The socio-economic impact is enormous, as floods result in massive loss of life and displacement as well as massive damage to various infrastructures. Addressing the recurring problems of changing monsoons requires a

multi-pronged strategy that includes stronger disaster management plans, improved infrastructure, and sustainable development practices [18]. International collaboration and shared policies are crucial to increase the resilience of flood victims worldwide.

In Southeast Asia, flooding is a serious problem that affects millions of people every year and poses a difficult problem for the region. Due to frequent typhoons and heavy seasonal rains, countries such as the Philippines, Vietnam, Malaysia, and Indonesia are particularly prone to major floods during the monsoon season [33],[24],[29],[20]. Climate change is increasing the frequency of extreme weather events and making the region more vulnerable. Additionally, increasing urbanization without proper infrastructure planning makes densely populated cities more vulnerable to flooding. Furthermore, inadequate land management techniques and deforestation reduce the soil's capacity to absorb water, leading to runoff and flooding [34]. Flooding has serious socioeconomic impacts, endangering livelihoods and food security by severely damaging homes, infrastructure, and agricultural land.

The increasing frequency of floods in Malaysia is a serious issue, which points to environmental problems and the destruction of the country's larger infrastructure [31],[1], [38]. Major floods occur in Malaysia annually, especially during the northeast monsoon season, which lasts from November to March. The floods caused widespread destruction, increased the death toll and damaged homes and public infrastructure. These incidents have become more frequent and serious in recent years. Yusoff and Yusoff [38] found that the government has made significant investments in flood mitigation projects in response, including RM 11.8 billion earmarked for priority flood projects in Budget 2024.

Zulkifli [40] be on the same opinion that despite these efforts, socioeconomic costs remain significant and highlighted the need for further progress in disaster risk reduction and urban planning as well as sustainability. To reduce the likelihood of future floods and protect vulnerable communities, the Malaysian government must continue to prioritize building resilience to adapt to climate change.

Resilient communities are therefore better equipped to deal with flood disasters after taking remedial measures. For this reason, resilience is considered very important. These can mitigate the effects of floods, save the lives of victims, and cause the least damage to property [36],[18],[26]. Additionally, resilience can help victims adapt to unforeseen obstacles due to flood conditions change. As long as they continue to refine their strategies and practices from previous flood events, resilient communities will be able to weather floods more easily. Last but not least, incorporating resilience into flood disaster management encourages affected communities to work together to prepare, ultimately leading to more resilient communities [10],[37]. To help people and families cope with the stress and trauma caused by flooding, they are providing better mental health services. Therefore, due to their increased resilience to flooding, these communities are therefore better equipped to recover from flood disasters.

This study aims to explore the emphasis on the resiliency among victims in confronting the flood disaster. The content analysis approach was employed by referring to six (6) important government documents which have discussed the efforts, initiatives, strategies, and measures taken to address flood recurrence in Malaysia.

LITERATURE REVIEW

Flooding is a significant global issue, impacting millions of people annually through loss of life, displacement, and extensive economic damage. Climate change exacerbates the frequency and intensity of floods by altering rainfall patterns and raising sea levels [4],[5]. Rapid urbanization, which often lacks adequate infrastructure and planning, increasing the vulnerability of urban areas to flooding. Developing

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nations, which have limited resources for effective flood management and response systems, face disproportionate challenges [35],[36]. In addition, flooding affects water quality, spreads disease, and disrupts agriculture, threatening food security and livelihoods. Comprehensive strategies that combine improved infrastructure, sustainable land management, early warning systems and international cooperation are essential to mitigate the diverse impacts of floods worldwide.

Flooding is a critical issue in Southeast Asia, significantly affecting millions of people across the region each year. The tropical climate, characterized by heavy monsoon rains and frequent typhoons, makes countries such as Malaysia, Indonesia, Vietnam, and the Philippines particularly vulnerable. Rapid urbanization and deforestation exacerbate flood risks, as natural drainage systems are compromised, and urban infrastructure often fails to keep pace with population growth [16],[20],[15],[25].

Additionally, many communities are located in low-lying coastal areas and river deltas, making them exposed to sea-level rise and storm surges intensified by climate change. Effective flood management in Southeast Asia requires a multifaceted approach that includes improved urban planning, sustainable land use practices, robust disaster response mechanisms, and regional cooperation to address transboundary water management challenges [4],[34].

Flooding occurs in Malaysia almost every year when there is heavy rainfall for a long period [33],[25],[38]. According to the Department of Statistics Malaysia based on The Special Report on Impact of Floods in Malaysia 2022, Overall losses in 2021 flood disasters recorded were RM6.1 billion and currently the most devastating flood disasters in Malaysia's history. Also, flood incidents have been a significant concern, with a slight decrease in recent years. In 2022, the country reported 983 flood incidents, down from 1,057 in 2021. Sarawak recorded the highest number of floods, followed by Kedah, Terengganu, and Selangor. The impacts of these floods are substantial, affecting both the economy and the population.

A joint report by the World Bank and Bank Negara Malaysia indicated that a severe flood event could cost up to 4.1% of Malaysia's GDP and significantly increase unemployment. In response, the Malaysian government has allocated RM11.8 billion in Budget 2024 for 33 high-priority flood mitigation projects. The aim of these projects is to enhance the country's resilience to flooding through improved infrastructure. Key initiatives include the Klang River flood mitigation project in Shah Alam and a flood dam in Gombak, Selangor [39],[28]. Malaysia as a whole faces significant flood challenges, current policies and substantial investments in flood mitigation projects reflect a proactive approach to managing and reducing these risks.

Resilience is a critical concept in addressing flood issues due to it encompasses the ability of communities, infrastructure, and ecosystems to withstand, adapt to, and recover from flood disasters. Flood resilience also refers to the ability of communities and infrastructure to withstand and recover from the impacts of floods [33]. Furthermore, Gillani [1] stipulated that climate change poses a significant threat to Malaysia's resilience to floods. According to Etkins [11], resilience is the ability to return to the pre-disaster condition. The abundance of definitions of resilience leads to an abundance of theories of resilience in the context of flooding, depending on scope.

For this study, the researcher will examine the concept of the 'Prevention, Preparedness, Response, Recovery' (PPRR) framework which originates in the work of the State Governors' Association in the United States in 1978 [14] which identified the key stages of emergency management [8]. Since the introduction of the PPRR framework, researchers have further developed it into their models depending on the topic. For this study, the PPRR framework was referred to despite many criticisms [8],[13],[32], since PPRR looks into "pre" and "post" events, and not just the 'response' phase that they represent prevailing understanding of emergency management [22]. Therefore, this study posits that resilience behavior, community sustainability, disaster management, strategic planning and global security are within the PPRR framework as shown in the conceptual framework.

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Fig. 1: Conceptual Framework

Rising sea levels, changing rainfall patterns, and more frequent extreme weather events are expected to increase the frequency and severity of floods in the future. Nevertheless, there is little research on the emotional impact of flood victims on coping with recurring floods, such as in [27],[2].

As mentioned earlier, there are some limitations for Malaysia to fulfil the extensive flood resilience requirement. Mane [24] stated that the first limitation is disaster management planning while the second limitation is the response phase which takes years to integrate and redevelop. The other limitation is the lack of complex long-term policies which hugely affected the community resilience post-disaster. Given the country's vulnerability to flooding, particularly during the monsoon season, improving Malaysia's flood resilience is a critical challenge. Due to the frequency of floods, flood victims in Malaysia need to be more resilient due to the loss of property and emotional impact [33],[2].

MATERIALS AND METHODS

This research utilized a content analysis in qualitative methodology to address its research inquiries. It involves inductive analysis of textual data, creating typologies based on the data, categorizing the data, and tallying the frequencies of themes or categories within the data [9]. It relied on six (6) key national documents to analyze the emphasis on resilience in confronting flood disasters in Malaysia. These documents include 1) The Standing Order on Disaster Management Operations; 2) the MKN Regulation Instruction No. 20; 3) Annual Report NADMA 2018; 4) NADMA Strategic Plan 2019 – 2023; 5) Sustainable Development Goals (SDG) Indicators Malaysia 2019; and 6) Malaysia Voluntary National Review (VNR) 2021. Detailed publication information is provided in the table below.

TABLE 1: Reviewed Government Documents

NO	DOCUMENTS AND SOURCES	PUBLISHER	MENTIONS	YEAR
1	Peraturan Tetap Operasi Bencana Jabatan Kebajikan Masyarakat (Pindaan2018)	Department of Social Welfare	3	2018

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	The Standing Order on DisasterManagement Operations Department of Social Welfare (2018 Amendment)			
2	Majlis Keselamatan Negara. Arahan No.20 Dasar & Mekanisme Pengurusan Bencana *The Malaysian National Security Council (NSC)* *Regulation Instruction No. 20* *Policy & Mechanism for Disaster Management*	Prime Minister Department	3	2013
3	Laporan Tahunan NADMA 2018 *National Disaster Management Agency (NADMA) 2018, Annual Report*	NADMA	8	2018
4	Pelan Strategik Agensi Pengurusan Bencana Negara 2019 2023 *National Disaster Management Agency (NADMA) Strategic Plan 2019 – 2023*	NADMA	13	2019
5	Indikator Matlamat Pembangunan Mampan Malaysia 2019 *Sustainable Development Goals (SDG) Indicators Malaysia 2019*	Department of Statistics Malaysia	2	2019
6	Malaysia Voluntary National Review (VNR) 2021	The Economic Planning Unit (EPU), Prime Minister Department	9	2021

Thematic analysis was used to examine the data, which involved identifying recurring themes by grouping and categorizing statements and quotes in the flood resilience documents. The software ATLAS.ti version 23 was used for this analysis process. Figure 2 illustrates the methodology used in this study.

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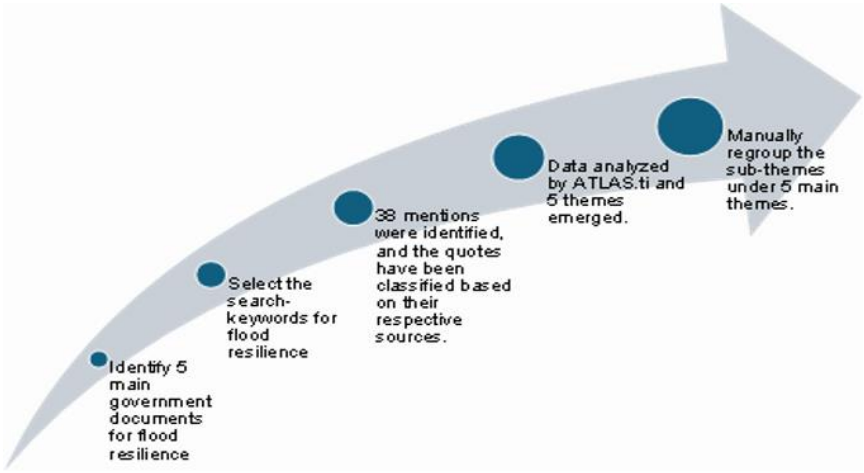

Fig. 2: Flow Process of Methodology

Based on the above figure, the process of producing this content analysis article begins with identifying some government documents related to flood resilience. Only six documents were identified that discussed issues related to flood resilience. The study filtered information and citations related to government initiatives and concerns about flood resilience using three main keywords: resilience, resilient, and resiliency, and related to flood disasters. By applying these key terms to Portable Document Format (PDF) documents, 38 relevant citations were identified and subjected to analysis.

Based on the analysis, 38 mentions were identified and listed. The qualitative research software ATLAS.ti was implemented to classify all mentions thematically. As a result, five main themes and several sub-themes were identified. Next comes the researcher, who is the main instrument in the qualitative manual combination of related subtopics and regrouping among the 5 main themes.

RESULT

The content analysis approach in the study requires research on texts that emphasize flooding and resilience. The following is a list of mentions found based on the analysis of the study.

TABLE 2: Quotes on Flood and Resilience from Various Sources of Malaysian Government Documents

No	PAGE	QUOTES
The Standing Order on Disaster Management Operations Department of Social Welfare (2018 Amendment)		
1	23	Certifying capacity building and Public Awareness programs in an effort to make communities more resilient in the face of disasters
2	26	Implement capacity building and Public Awareness programs at the State/District Level in an effort to make communities more resilient in the face of disasters.
3	29	Implement capacity building and Public Awareness programs at the District Level in an effort to make communities more resilient in the face of disasters.
The Malaysian National Security Council (NSC), Regulation Instruction No. 20 Policy & Mechanism for Disaster Management		
4	20	Certifying capacity building and Public Awareness programs in an effort to make communities more resilient in the face of disasters. JPBP DUTIES

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5	23	Implement capacity building and Public Awareness programs at the State/District Level in an effort to make communities more resilient in the face of disasters.
6	26	Implement capacity building and Public Awareness programs at the District Level in an effort to make communities more resilient in the face of disasters.
Annual Report NADMA 2018		
7	11	Improving disaster resilience through Disaster Risk Reduction (DRR) initiatives
8	14	Information that is equipped with the National Disaster Control Center's (NDCC) comprehensive data analysis can improve the effectiveness of disaster management, especially from the aspect of decision-making, response and strategies to increase the level of preparedness in creating a society that is resilient to disasters
9	33	The BBB principle is an approach to post-disaster recovery that reduces vulnerability and builds community resilience to deal with physical, social, environmental, and economic weaknesses and shocks.
10	48	The workshop also highlighted how APEC countries can take advantage of the activities implemented by regional and international institutions to build supply chain resilience against the impact of disasters.
11	49	The main purpose of the CBDRM program is to improve the ability of community leaders to proactively reduce disaster risk and be prepared, in addition to applying resilient values in the face of disasters.
12	53	In general, NADMA intends to highlight BBB (build back better) initiatives and mitigation elements where affected communities can enjoy an increased level of resilience to overcome disasters without compromising on the sustainability of recovery, improvement of infrastructure, livelihood, and their lives.
13	55	The BBB principle is an approach to post-disaster recovery that reduces vulnerability and builds community resilience to deal with physical, social, environmental, and economic vulnerabilities and shocks that is adopted as an international standard under the Sendai Framework.
14	58	This workshop is a platform to discuss recommendations for Key Performance Index (KPI) and Key Result Area (KRA) to the ASEAN Socio-Cultural Community (ASCC) Blueprint 2025 of which the ASEAN Committee on Disaster Management (ACDM) is one of the committees under it. ASCC aims to create a direction to improve the living standards of the ASEAN population through, among other things, cooperation to develop an ASEAN society that is resilient to disasters and climate change.
National Disaster Management Agency (NADMA) Strategic Plan 2019 – 2023		
15	2	With the extensive experience and knowledge of the members, I believe that the strategies contained in this plan can be realized successfully towards creating a resilient society.
16	26	Increasing Disaster Resilience Through Disaster Risk Reduction Initiatives (DRR).
17	27	Leading disaster risk reduction toward a country that Disaster resistant (in line with the theme of rmk11 anchoring growth of people focusing on prosperity and wellbeing of the people).
18	28	Leading the direction of National Disaster Risk Management in line with the national goal of disaster resilience through the development and implementation of disaster risk reduction policies.

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19	35	Establishment of the Committee – Coordinating, regulating, and ensuring the implementation of Disaster Risk Reduction measures carried out by Government Agencies involved in order to prevent or reduce the impact of disasters – Development plans (resilient structures, building codes, land use, environmental management).
20	89	Providing a society that is resilient and able to recover from the effects of disasters comprehensively covering physical and non-physical aspects is one of the important elements in ensuring that Malaysian society is able to become a first-class society in line with the National Mission outlined by Prime Minister.
21	89	The Community and Social Development Division was established as a division under the National Disaster Management Agency (to manage aspects of post-disaster community development from a non-physical point of view, including economic, social, cultural value, education, environmental and awareness redevelopment so that the community is not can only recover from the effects of disasters and even be able to become a more resilient community in the face of disasters in the future.
22	92	Strategic Objective – Forming resilient communities in the face of disasters
23	92	Strategy – Strengthening cooperation between the Government, GLC NGOs that are effective in achieve resilient communities, Ensure community recovery is done strategically and holistically, Create a Disaster Resilient Community Development Framework.
24	92	Program – NADMA Disaster Resilient Community Development Framework.
25	92	Key Performance Indicators – 100% of the NADMA Disaster Resilient Community Development Framework completed.
26	93	i) Key Performance Indicators – 100% of the NADMA Disaster Resilient Community Development Framework completed
27	94	Activities In Strategic Initiatives A study of the effectiveness of NADMA's Disaster Resilient Community Development Framework.
SUSTAINABLE DEVELOPMENT GOALS (SDG) INDICATORS MALAYSIA 2019		
28	iii	The Sustainable Development Goals (SDGs), introduced in 2015 by the United Nations General Assembly, are a global commitment towards a more sustainable future. This is an action plan towards sustainable, resilient and inclusive development, which outlines 17 goals and 169 targets that cover five areas of focus: community development, earth care, prosperity, peace and cooperation.
29	52	Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
MALAYSIA VOLUNTARY NATIONAL REVIEW (VNR) 2021		
30	93	Implementation of climate resilient and low-carbon development strategies enabled Malaysia to intensify its climate mitigation and adaptation actions as well as enhance disaster risk reduction.

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31	46	The Government is committed to reducing poverty across all dimensions and to strengthen the social protection system. Measures aim to build the resilience of societies, economies and environments to withstand and recover from adverse situations; foster mutually supportive relationships within communities; and enhance the current policy on capacities including resources to manage and evaluate the impacts of these partnerships.
32	46	The Government is committed to reducing poverty across all dimensions and to strengthen the social protection system. Measures aim to build the resilience of societies, economies and environments to withstand and recover from adverse situations; foster mutually supportive relationships within communities; and enhance the current policy on capacities including resources to manage and evaluate the impacts of these partnerships.
33	95	In strengthening the nation's resilience against flooding, structural and non-structural approaches were undertaken. The integrated weather and flood forecasting and early warning system were developed for several major rivers. By the end of 2019, 1.6 million people were protected from the impact of floods through the implementation of flood mitigation projects.
34	96	In increasing resilience against these disasters, hazard and risk maps are being prepared, while the monitoring and early warning systems are being enhanced to give a more accurate projections and warnings, enabling sufficient time for early responses.
35	96	Meanwhile, the Eleventh Plan, further strengthened climate action measures with a specific focus on strengthening resilience against climate change and natural disasters by mobilising resources towards strengthening disaster risk management, improving flood mitigation and enhancing climate change adaptation.
36	96	Spatial planning has also been used as a tool for linking planning and implementation. The Third National Physical Plan, formulated in 2016, includes an explicit thrust for spatial sustainability and climate change resilience. The Plan considers potential impacts of climate change on physical planning on both natural environments and human settlements. Other sectoral policies include the Green Technology Master Plan, 2017-2030, the National Transport Policy, 2019-2030, the National Automotive Policy 2020, the Roadmap towards Zero Single-Use Plastic 2018-2030 and the National Cleanliness Policy 2020-2030 and the National REDD Plus Strategy.
37	101	**Increasing Resilience and Adaptive Capacities Against Climate Change and Disasters** Integrated approaches for climate adaptation and disaster reduction will be adopted. This includes developing a national policy on disaster risk management and a multilevel disaster resilience plans as well as climate adaptation action plans at the national and state levels.
38	127	Malaysia's strategies to advance sustainability and resilience will focus on: Strengthening resilience against climate change and disaster risks by enhancing early warning systems, preparedness, response and recovery

According to Table 2, there are 38 references regarding flood resilience. Five primary themes were identified through ATLAS.ti AI coding. These themes highlight various aspects necessary to enhance resilience among flood victims. The first theme focuses on the resilience behaviors that flood victims need to adopt. The second theme underscores the importance of community sustainability. The third theme addresses the essential role of the government in fostering a resilient society through effective disaster management, strategic planning, and global security measures. The main themes and sub-themes are summarized in Table3.

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TABLE 3: Main Themes and Sub-Themes

Community Sustainability	Disaster Management	Global Security	Resilience Attitude	Strategic Planning
• Community development • Community empowerment • Envirоemental management • Government effort • Inclusive development • Infrastructure	• Climate change adaptation • Disaster preparedness • Disaster recovery • Resilience-building	• Protection Measures • Response • Warning • Commitment	• Adaptation • Awareness • Confidence • Preparedness • Recovery • Response • Optimism	• Collaboration And cooperation • Data analysis • Decision-making • Monitoring • Policy-making • Proactive • Projection & action plan

DISCUSSION

In this discussion section, the results of the study are discussed using a content analysis in the context of flood resilience. As mentioned in the findings, five main themes were identified, namely resilience behavior, community sustainability, disaster management, strategic planning, and global security.

A. Resilience Behaviour

Flood resilience focuses on coping strategies for individuals and communities affected by floods. Peter [22] found that this aspect of resilience emphasizes the importance of psychological and social factors in restoring the psychology of flood victims. Things victims can do include adapting to the changing conditions and actively participating with the community to restore the flood situation. The presence of family and community members is very important in building a social support network because they can provide emotional support to strengthen resilience [7]. Additionally, flood victims need to take proactive measures before, during and after the flood such as attending courses and training on how to manage personal safety during floods. This will make it quicker to recover from the psychological impact of the flood and allow the community to prepare for stronger flood resilience.

B. Community Sustainability

From a community sustainability perspective, flood resilience includes various elements that are important in building resilience to flood events. Fundamentally, Widi [36] found that maintaining social cohesion, equitable distribution of resources, and strong support networks are necessary to reduce the impact of floods on vulnerable communities. Additionally, policies and programs must be implemented that prioritize the needs of marginalized groups, as well as strong community networks that provide mutual assistance and support. The long-term prosperity and well-being of all citizens can be ensured by prioritizing community stability as a fundamental component of flood resilience [17]. This will help the community be more resilient and recover from flood events.

C. Disaster Management

According to Vladimir [35], effective disaster management must include preventive measures such as risk

assessment and an effective early warning system in the event of a flood disaster. The objective is to reduce the number of deaths and property damage during and after the flood. In order to reduce the costs of flood management, investments in improving infrastructure such as drainage systems, and flood barriers are also required. Stakeholders including government agencies, emergency response teams, private agencies, and community engagement must work together to provide information to promote a rapid and efficient response to difficult situations [12]. Disaster management also relies heavily on education and awareness initiatives that enable communities to identify flood risks and take preventive measures to protect their property and personal belongings. Communities can reduce the overall impact on lives and livelihoods by preparing for, responding to, and recovering from flood events by integrating disaster management principles into flood resilience strategies.

D. Strategic planning

Charlotte [6] agreed that strategic planning to address flood resilience involves a proactive process to minimize the adverse effects of floods. This is a joint and systematic assessment by various parties to identify appropriate measures for a flood area to increase the resilience of flood victims. These plans include coordinating efforts involving government agencies, the private sector, and community organizations to ensure that an integrated approach to flood risk management can be applied. In addition, strategic planning focuses on the effectiveness of highly resilient measures and making improvements from time to time to address flood disasters. Through these efforts, the community can be fully prepared if another flood event occurs in the future [23]. Therefore, the community will be able to work together to improve its ability to rebuild and be better prepared for difficulties before, during, and after this flood than before.

E. Global Security

Global security is also one of the things that help improve flood resilience through a fundamental approach to construction and modern technology to address the challenges of natural disasters such as floods [3]. First, developing infrastructure such as dams, levees and flood barriers using strong and quality construction materials is important to reduce the impact of floods on communities and critical infrastructure. This also necessary to reduce numerous flood-related costs.

Likewise, Kathryn [19] agreed that efficient response mechanisms are essential to minimize casualties and damage during flood events, including plans for rapid evacuation, deployment of emergency services, and accessibility to various resources. Additionally, a timely warning system leveraging advanced technology and data analytics from involved government agencies such as the Department of Irrigation and Drainage and the Department of Metrology enables proactive actions and decisions before more important steps are taken. International engagement and collaboration are important to consider sharing expertise, resources and best practices and promote a united front against the growing flood threat across the region [36]. For example, the cooperation between Malaysia and Indonesia who are always ready to mobilize their respective assets to help in the areas of food, medicine, and logistics. By comprehensively considering these factors, global security contributes significantly to strengthening flood resilience on a global scale.

CONCLUSIONS AND RECOMMENDATION

The analysis of the theme has revealed that the six government documents indeed highlight the importance of resilience in managing flood disasters. This emphasis on resilience is crucial not just for the country as a whole, but especially for flood victims who increasingly face unpredictable recurrent floods.

No preparation is possible without the full support of the relevant parties. It was found that the preparation process caused people to go through a series of stages before they were better prepared. Therefore, preparation must be conceptualized as a development process. For example, taking over survival items such

as food storage and medical supplies. This is called the predictor-willingness relationship. This is an element that must be considered at every level to ensure that the individual, family, community, and resources play a complementary role in maintaining hazard preparedness.

To have a resilient community, collaboration between all parties is very important. This is because the Malaysia flood disaster is a disaster that is expected based on the rainfall data, rainfall frequency, water rise rate and monsoon winds. Floods can disrupt economic and social activities and pose a threat and risk to victims. Ideally, victims need to take adaptation and flood protection measures. This can reduce the negative effects and improve well-being. If the victim is more inclined not to take appropriate adaptation measures, it can be assumed that the victim is avoiding dealing with this flood problem. As a result, the negative impacts of floods will last longer and the recovery process will take a long time, leading to an increase in property damage and a higher death toll.

Thus, it is essential to strengthen the preparedness and resilience of flood victims, realizing the increasing annual frequency of floods and the unpredictability of global climate conditions, which require coordinated efforts from everyone involved. Thus, the integrated efforts of various organizations, agencies and government institutions on victims are essential to create mitigation plans and increase flood resilience among the flood victims. In short, the PPRR framework is still applicable but with the appropriate modifications to meet the circumstances.

In summary, it is generally accepted that floods cannot always be prevented. Nevertheless, the impact of floods can be mitigated or reduced by adhering to resilience principles such as adequate preparation or learning from past events.

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