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Cinema as a medium for disaster literacy and risk communication in Indonesia

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ABSTRACT

This study examines the role of cinema and audiovisual media as strategic instruments for strengthening disaster literacy and risk communication in Indonesia through a qualitative Systematic Literature Review (SLR) guided by the PRISMA framework. A total of 25 articles published between 2021 and 2025 were systematically selected from national indexed databases (SINTA and Garuda) and international academic platforms using keywords related to disaster films, educational media, and disaster literacy. The selected literature was analyzed using thematic synthesis and classified into four analytical dimensions: disaster representation, educational and literacy functions, social and psychological impacts, and mitigation and preparedness practices. The findings show that research in this field is largely oriented toward educational and mitigation perspectives, particularly through documentaries, animations, and digital learning media that convey disaster-related information in accessible and persuasive ways. Cinema is also understood as a cultural medium that integrates technical knowledge with emotional and social narratives, supporting the formation of collective awareness, empathy, and community engagement in disaster-prone areas. Audiovisual media further function as dialogical spaces linking formal education, community-based learning, and institutional risk communication strategies with implications for community preparedness and participatory disaster governance. This study contributes to the theoretical understanding of film as a medium of social representation and disaster communication, identifies gaps in long-term behavioral evaluation, and offers practical recommendations for integrating audio-visual media into disaster education and community outreach. Overall, cinema shows strong potential as a sustainable tool for strengthening disaster preparedness and enhancing social resilience in Indonesia.

Keywords: disaster literacy; audio-visual media; risk communication; disaster education Indonesia

1. INTRODUCTION

Indonesia is known as one of the countries with the highest level of disaster vulnerability in the world because of its position at the meeting point of three major tectonic plates and its complex geographical conditions, stretching from active subduction zones to archipelagic regions with thousands of volcanoes. Disasters such as earthquakes, tsunamis, volcanic eruptions, floods, and landslides periodically test the resilience of communities, the capacity of institutions, and the sustainability of social and economic systems in various regions (Logayah et al., 2023). These conditions cause not only physical and material losses but also psychosocial impacts that affect the sense of security, lifestyle, and social relations of the affected communities. Disaster literacy, namely, the ability of individuals to understand risks, prepare themselves, and take mitigation measures, is a key competency that determines the level of community resilience in facing and recovering from disasters. Adequate literacy enables communities to interpret early warning information, recognize natural signs, and respond quickly and appropriately to emergency situations. Therefore, strengthening disaster literacy must be positioned not only as a formal education agenda but also as part of a sustainable social development strategy based on local experiences and contexts.

The role of media in the context of disasters has undergone a significant shift. From merely conveying information, it has become an agent of social education that shapes collective awareness and influences how communities interpret risks and respond to threats. Broadcast media and television have proven to play a role in increasing community preparedness and literacy regarding disasters through the delivery of early warning information, evacuation simulations, and education-based coverage (Hasibuan et al., 2022). Advances in communication technology and visual culture have also expanded the reach of disaster messages, so that information is no longer one-way but rather part of a social learning process. In the last two decades, cinema has emerged as a more powerful medium for building emotional and reflective understanding of disasters through narrative and visual aesthetics. Films not only present the reality of disasters representatively but also internalize the values of empathy, solidarity, and preparedness into storylines that are easily accessible and relatable to audiences of all ages and social backgrounds. Thus, cinema has the potential to become a cultural space that connects technical knowledge about disasters with the audience's affective experiences, thereby deepening the meaning and memorability of mitigation messages.

Disaster film screenings in Indonesia, such as *Layar Merapi* with its open-air cinema initiative in disaster-prone areas, show that cinema can serve as a participatory vehicle for building disaster awareness at the community level through inclusive and dialogical screening spaces (Arifianto et al., 2025). This practice not only expands public access to disaster information but also creates a collective forum for sharing experiences, memories, and local strategies for dealing with risks. Through a combination of entertainment and education, cinema combines cognitive and affective aspects in disaster education so that mitigation messages are not only understood rationally but also experienced emotionally. This approach makes films an effective medium for fostering culturally based preparedness and strengthening community identity in responding to disaster threats. Edutainment-based films and digital media can increase the engagement of young audiences in risk mitigation learning through interactive narrative and visual formats (Prasetyaningsih et al., 2025). Thus, cinema serves not only as a one-way communication tool but also as a social learning space that encourages participation, reflection, and internalization of disaster values among the younger generation and the wider community.

This study aims to provide a comprehensive overview of how scientific literature assesses the role of Indonesian disaster cinema in building disaster literacy among various societal segments and social contexts. This study focuses on how film narratives contribute to the formation of risk awareness, prioritization of social empathy, and encouragement of preventive and adaptive mitigation behaviors. Through a systematic review of previous findings, this study attempts to map trends in disaster representation, message delivery strategies, and audience responses that emerge from the consumption of disaster films. In addition, this study identifies research gaps related to the accuracy of disaster information, the involvement of local communities, and the long-term impact of films on changes in people's attitudes

and behavior. This study also highlights the opportunities for developing cinema as a strategic educational medium within the framework of risk communication and contextual and sustainable mitigation education in Indonesia. This study is expected to provide theoretical and practical contributions to the development of collaboration between academics, disaster management agencies (BNPB/BPBD), and the creative industry in strengthening social resilience through film media.

2. LITERATURE REVIEW

2.1. The Concept of Disaster Literacy

Disaster literacy refers to the ability of individuals and communities to understand risks, make appropriate decisions, and act adaptively and proactively in facing various stages of a disaster, from pre-disaster and emergency response to the recovery phase. Disaster literacy includes knowledge about the types and impacts of disasters and the formation of attitudes, values, and practical skills in mitigation, preparedness, and context-based decision-making (Logayah et al., 2023). In the realm of formal education, the integration of disaster literacy has become a priority in the curriculum at various levels, with an emphasis on an interdisciplinary approach that links aspects of geography, science, social studies, and citizenship to build a holistic understanding (Nurdin, 2019). This approach aims to enable students to not only recognize threats theoretically but also develop critical thinking and responsive skills to emergency situations in their surroundings. The risk communication perspective highlights that public understanding of hazards is greatly influenced by risk perception, previous experiences, and the level of trust in the sources of information and media used to convey disaster messages (Romo-Murphy & Vos, 2014). In the framework of public policy, disaster literacy is closely linked to community resilience building, which requires continuous synergy between education, community strategies, and community-based disaster risk management (Moh et al., 2023). Thus, disaster literacy can be understood as a cognitive and social foundation that strengthens the capacity of communities to anticipate, respond to, and adapt to the ever-evolving dynamics of disaster threats.

2.2. Cinema as a Medium for Education and Social Representation

Cinema is a visual medium that plays an important role in constructing social reality and shaping public perceptions of disasters through the presentation of narratives, symbols, and emotions that build collective meanings about suffering, resilience, and solidarity. Through the theory of social construction of media, films can be understood as cultural texts that not only represent events but also interpret and provide a value framework for how society views risks and responses to disasters. Environmental and disaster films in Indonesia are able to convey educational messages while also evoking the emotional awareness of the audience, so that the viewing experience becomes a space for reflective learning (Briandana et al., 2024). The semiotic approach and media representation theory show that visual and narrative elements in films can imprint moral messages and sustainable collective values in the audience's memory. Cinema not only functions as a means of entertainment but also as an instrument of public communication that can strengthen understanding of the relationship between humans, nature, and disaster risk (Hicks et al., 2017). Through immersive aesthetic experience, films can broaden empathy for victims while increasing social sensitivity to the importance of preparedness and mitigation. Thus, cinema has strategic potential as a medium for social education that connects the cognitive and affective dimensions in disaster literacy.

2.3. Disaster Films in the Indonesian Contexts

The development of disaster films in Indonesia is rooted in social representations of natural tragedies and the collective history of a nation shaped by experiences of living in disaster-prone areas. The works in the Layar Merapi exhibition show how local narratives and community practices can be integrated through participatory cinema to increase awareness and preparedness among communities in high-risk areas (Arifianto et al., 2025). In general, Indonesian disaster films tend to emphasize human drama, the value of mutual cooperation, and spiritual dimensions that reflect the relationship between society and

nature, as well as beliefs in destiny and social resilience. The strengthening of disaster themes in national cinema after the 2004 Aceh tsunami marked a shift in disasters from mere natural events to humanitarian narratives laden with solidarity and moral reflection. Films such as *Hafalan Shalat Delisa* in 2011 utilize emotional and cultural approaches to build empathy while strengthening cross-generational collective memory (Prawoto & Octavia, 2021). The edutainment approach in films and visual media can increase the effectiveness of mitigation messages, especially for young audiences who are more responsive to narrative and symbolic formats (Prasetyaningsih et al., 2025). Thus, disaster films in Indonesia not only function as a medium of entertainment, but also as a cultural space that connects social experiences, local values, and disaster education in a single visual representation.

2.4. Media, Risk, and Public Awareness

Risk communication in the context of disasters emphasizes the important role of audio-visual media as a strategic means of instilling hazards awareness, shaping risk perceptions, and encouraging preventive actions at the individual and community levels. Local films and radio as broadcasting media are capable of building public preparedness through narratives that engage emotions, trust, and community participation in the process of internalizing messages (Romo-Murphy & Vos, 2014). In Indonesia, television and social media are the main platforms for disseminating disaster information, both in emergency situations and in the long-term education phase, with their wide reach and ability to shape the public agenda (Hasibuan et al., 2022). However, the main challenge that arises in maintaining a balance between the need for appeal and the demand for accuracy and reliability of technical information. Risk communication theory emphasizes that credible, consistent, and emotionally relevant messaging can increase public trust in information sources and strengthen the tendency to adopt preparedness behaviours. Studies on disaster communication in Indonesia have also found that community participation in group viewing and post-film discussions can deepen collective understanding and strengthen social engagement in risk reduction efforts. Thus, the media serves not only as a channel of information, but also as a space for social interaction that shapes shared awareness and community resilience to disaster threats.

2.5. Cinema and Sustainable Development

Disaster literacy contributes directly to the achievement of the Sustainable Development Goals (SDGs), particularly point 4 on quality education, point 11 on sustainable cities and communities, and point 13 on action against climate change. Cinema that contains messages of disaster mitigation and adaptation can strengthen social resilience through increased public awareness, the formation of pro-environmental attitudes, and the internalizations of collective responsibility for sustainability. Strengthening disaster literacy through popular media is in line with the community-based disaster risk reduction strategy promoted by UNDRR, as it encourages active citizen participation in the education and preparedness process (Amri, 2015). In this framework, disaster films serve as a medium for social learning that can bridge public policy with the daily practices of the community. Cinema can foster ecological awareness and broaden understanding of the links between disaster risk, climate change, and environmental sustainability (Prasetyo et al., 2024). Through contextual and emotional visual narratives, films can strengthen the integration between risk communication and community-based adaptation strategies. Thus, cinema not only contributes to the dissemination of information but also plays a role in building a culture of sustainability that supports long-term development agenda.

2.6. The Impact of Films on Public Attitudes and Behaviour

Research shows that films have a significant influence on increasing viewers' knowledge, empathy, and pro-social behaviour in the context of disaster preparedness and response. Cinema that combines educational and emotional elements has proven effective in building public preparedness and fostering adaptive behaviours oriented towards prevention and social solidarity (Subarno & Dewi, 2022). Films developed with community participation tend to be more effective in motivating changes in attitudes and behaviour than formal, one-way campaigns (Hicks et al., 2017). The emotional impact of film narratives

plays an important role in the process of internalizing social responsibility and concern for vulnerable groups, so that mitigation messages are not only understood cognitively but also experienced affectively. In a post-disaster context, community-based cinema can also function as a medium for social therapy that helps communities recover from collective trauma and rebuild a sense of togetherness and social trust (Jurriëns, 2014). Through discussion and reflection sessions accompanying film screenings, communities are encouraged to share experiences and formulate a shared meaning of the events they have experienced. Thus, films not only impact individual change but also contribute to strengthening social cohesion and community resilience in a sustainable manner.

3. RESEARCH METHOD

3.1. Research Approach

This study uses a Systematic Literature Review (SLR) approach with a qualitative-narrative orientation to examine the role of cinema and film-based media as instruments for disaster management in Indonesia. This approach was chosen because it allows researchers to trace, group, and synthesize conceptual and empirical findings from scientific publications in a structured and transparent manner, while also building a thematic mapping of the latest developments in research within a certain period of time (Djalante, 2018). The SLR is guided by the PRISMA framework to ensure a transparent and systematic process of literature identification, screening, and inclusion. The review is directed at identifying conceptual patterns, research focus trends, and the frameworks of meaning used by researchers in interpreting the relationship between film, disaster education, mitigation, and social representation.

3.2. Data Sources

Research data was obtained from scientific publications obtained through Google Scholar as the main search engine, followed by further searches through publisher portals and journal indexes. The identified databases included SINTA and Garuda indexed national journals, as well as journals and proceedings managed by international publishers. The dominance of journals is controlled by national portals, indicating studies in film and disaster literacy in Indonesia are still developing strongly in the local and regional contexts (Partini & Hidayat, 2024).

3.3. Literature Selection Criteria

The literature selection criteria were designed to ensure the thematic relevance and academic quality of the sources analysed. The inclusion criteria included (1) publications containing keyword or themes related to disaster films, educational media, and disaster literacy; (2) articles published within the last 5 years, namely the period 2021-2025 (3) publications available in full text with a scientifically verified methodological framework; and (4) literature directly relevant to the Indonesian context. Exclusion criteria include non-academic literature, duplicative publications, and popular articles that do not present clear methods or analytical frameworks (Desilia et al., 2023).

3.4. Data Analysis

Data analysis was conducted using qualitative thematic analysis of the selected literature texts. This study employed qualitative thematic analysis to identify recurring conceptual patterns and interpretative frameworks across the selected literature. Thematic analysis is particularly appropriate for synthesizing diverse qualitative findings because it allows systematic identification, comparison, and interpretation of themes across heterogeneous sources (Braun & Clarke, 2006; Glisczinski, 2018). In addition, narrative synthesis was applied to integrate findings from studies with varied methodological designs, enabling structured interpretation beyond statistical aggregation (Popay et al., 2006). This approach aligns with the study's objective to map conceptual trends and epistemological orientations in disaster cinema research rather than to examine causal statistical relationship. The initial stage began with in-depth reading to identify key terms, research objectives, and the focus of each article. Each source was classified into four main themes, namely: disaster representation, disaster education and literacy, social and psychological

impacts, and mitigation and preparedness. Next, the classification results were identified to see dominant patterns, study gaps, and variations in theoretical and methodological approaches. Narrative synthesis was used to integrate these findings with the visual and narrative dimensions of the film with the process of social meaning formation, audience emotional responses, and disaster education implications (Subarno & Dewi, 2022).

4. RESULT

4.1. Literature Selection and Publication Trends

The literature selection process followed the PRISMA flow adapted to a qualitative approach in social and educational studies. The initial search yielded 145 publications identified through Google Scholar using a combination of thematic keywords related to disaster film, educational media, and disaster literacy. After removing duplicates and screening titles and abstracts, 56 articles were reviewed in full text. Of these, 25 articles met the inclusion criteria and were further analysed through thematic synthesis. See Figure 1

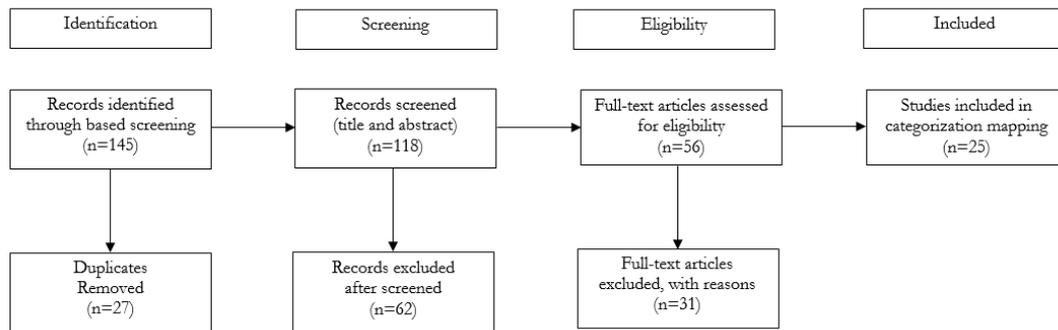


Figure 1. PRISMA Selection Flow

Source: Processed from secondary data (2026)

Thematic synthesis of selected literature was then conducted using a SLR approach through searches in the SINTA and Garuda indexed national journal databases, as well as journals and proceedings managed by international publishers. The article analysed were published between 2021 and 2025, with the following distribution: 2 articles in 2021, 3 articles in 2022, 8 articles in 2023, 6 articles in 2024, and 6 articles in 2025. This distribution pattern shows a significant increase in academic attention in 2023, which then remained relatively stable in the following two years, indicating a phase of consolidation of studies in the field of cinema as a medium for disaster literacy. See Figure 2

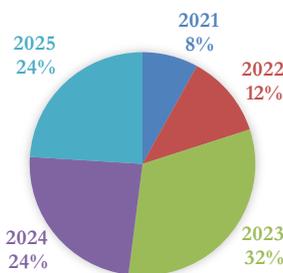


Figure 2. Publication Trends 2021-2025

Source: Processed from secondary data (2026)

This temporal distribution reflects the increasing academic attention to the role of media in the context of disasters, particularly in a national landscape marked by a high frequency of hydrometeorology and geological disasters. The surge in publications in 2023 can be understood as a response to the growing need for a more contextual and experience-based educational approach in post-COVID-19 society. The 2024-2025 period shows a phase of strengthening and deepening of studies, in which the focus of research begins to shift from merely introducing media as a learning tool to exploring cinema as a space for risk communication and social representation. In this context, film and audio-visual media are positioned as mediums capable of integrating technical information about disasters with cultural and emotional narratives. Thus, the media not only functions as a channel for conveying messages, but also as an arena for the formation of collective meanings regarding risk and community resilience.

4.2. Thematic Classification of Studies

Building upon the analysis of publications trends, the next stage of the review focused on identifying the substantive themes addressed in the selected studies. A thematic classification was conducted to map the dominant research focuses, allowing the literature to be grouped according to major analytical dimensions related to cinema, disaster literacy, and risk communication. This classification provides a clearer understanding of how scholarly attentions is distributed across different aspects of disaster-related audio-visual media. See [Table 1](#)

Table 1. Classification Results

No.	Author (Year)	Research Title	Focus of Study			
			Representation	Education	Social Impact	Mitigation
1.	Arifianto et al. (2025)	Layar Merapi: Encouraging disaster preparedness through open-air cinema initiatives in Dukun Subdistrict		✓	✓	✓
2.	Erlangga et al. (2025)	The Use of Documentary Films as s Crisis Communication Medium in Environmental Issues		✓	✓	✓
3.	Hardianto et al. (2025)	Ecocritism in the Film Script Bangkit! By Anggoro Saronto	✓			
4.	Mufida & Hikmah. (2025)	Development of Earthquake Disaster Self-safety Learning Animation for Early Childhood at RA AI Wildan Gondanglegi		✓		✓
5.	Quthy & Hikam. (2025)	Disasters in the Film Bangkit by Roko Prijanto and its Relevance to Indonesian Language Learning in Grade XI	✓	✓		
6.	Rahmawati & Khusna. (2025)	The Influence of Documentary Films on Students' Cognitive and Psychomotor Skills in Applying Geological Disaster Mitigation and Adaptation Material in Grade XI at SMAN 1 Karang Trenggalek		✓		✓
7.	Arifianto et al. (2024)	Films as Visual-Based Disaster Literacy in Sumber Village, Magelang, Indonesia		✓	✓	✓
8.	Aulady & Setiyawan. (2024)	The Use of Digital Video Learning Media in Early Childhood in Kwadungan District, Ngawi Regency, to Improve Understanding of Floods		✓		✓
9.	Khaerani et al. (2024)	Media Representation in the Pangandaran Beach Tourism Area	✓		✓	✓
10	Rosfiantika, E. (2024)	Volunteer Capacity Development through Documentary Film Making in the Lembang Fault Area		✓	✓	✓
11.	Setyaningsih & Dewi. (2024)	The Use of Animated Videos on Volcanic Eruptions to Promote Knowledge of Volcanic Eruptions among Children at the		✓		✓

		At-Tanzil Cheras Guidance Center in Malaysia				
12.	Sundari et al. (2024)	Resilient Golden Generation Tsunami: E-Comics and Animations Turn Fear into Strength for the Future of Bandar Lampung		✓	✓	✓
13.	Ayu & Anggraini. (2023)	The Aquaman Film as a Medium for Global Environmental Awareness Campaigns	✓	✓	✓	
14.	Bachtiar et al. (2023)	Design of Video on Information Literacy for Earthquake Disasters in Lembang		✓		✓
15.	Cikaleres et al. (2023)	Directing a Documentary Film About Flooding in the Dayeuhkolot Area of Bandung	✓		✓	
16.	Buston et al. (2023)	The effect of education through the animated video “ECAMI” on the behaviour of elementary school children regarding preparedness in tsunami disaster evacuation in the city of Bengkulu		✓	✓	✓
17.	Hidayat et al. (2023)	Development of Powtoon-Based Animated Video Learning Media for Geography Subjects on Natural Disaster Mitigations		✓		✓
18.	Ramelan & Mayar. (2023)	Development of Self-Awareness Animation Videos for Children in Facing Haze Disasters		✓	✓	✓
19.	Susantyo et al. (2023)	Video Blogging Media in Microlearning Disaster Mitigation Material		✓		✓
20.	Zukam dini & Rohman (2023)	Education on climate change mitigation and adaptation using documentary films		✓	✓	✓
21.	Bella et al. (2022)	Adaptation of Tere Liye’s Novel Hafalan Shalat Delisa into the Film Hafalan Shalat Delisa Directed by Sony Gaokasak	✓		✓	
22.	Mahmudah & Fauzia (2022)	Application of a simulation model on earthquake disaster mitigation learning based in animated videos to improve student learning outcomes		✓		✓
23.	Tarmawan & Fikri (2022)	Analysis of Disaster Representation Framing in the Film Bangkit! (2016) Through Montage Techniques from a Subjective Perspective	✓			
24.	Afrina et al. (2021)	Educational Film Screening as an Innovation for Padang Panjang City Library Services.		✓	✓	
25.	Latifah et al. (2021)	Development of Animated Videos on the Process of Tsunami Formation as an Effort to Reduce Disaster Risk		✓		✓

Source: Processed from secondary data (2026)

Thematic classification shows that the dominant focus in the literature is on the dimensions of education and mitigation, particularly through the use of animated media and documentary films as a means of conveying informative and persuasive disaster messages. Studies on representation tend to appear in the analysis of fiction and documentary films positioned as cultural texts, while discussions of social impacts are more often associated with community participation, the role of volunteers, and changes in audience attitude and behaviour. Within this framework, films and audio-visual media are understood as medium capable of integrating technical information about disasters with cultural narratives and emotional dimensions. The media not only functions as a channel for conveying messages, but also as an arena for the formation of collective meanings regarding risk and community resilience.

5. DISCUSSION

The findings from the analysed literature indicate an increase in academic attention to cinema as disaster literacy, which corresponds with the growing need for more inclusive and contextual risk communication strategies. Film narratives are positioned as capable of strengthening collective memory, fostering social empathy, and encouraging community participation in mitigation and adaptation efforts. These results confirm the role of cinema not only as a cultural product but also as a strategic instrument in building risk awareness and strengthening sustainable disaster literacy in Indonesia.

From a theoretical perspective, these findings can be interpreted through risk communication theory, which emphasizes that effective communication must address not only technical information but also emotional and social dimensions of risk perception (Covello & Sandman, 2001; Slovic, 1987). Emotionally engaging narratives enhance public understanding and retention of hazard-related information by shaping how individuals perceive and evaluate risk. In line with narrative transportation theory, audio-visual storytelling can reduce cognitive distance between abstract risk concepts and lived experience (Green & Brock, 2000). By integrating visual, emotional, and contextual dimensions, cinema facilitates meaning-making processes that extend beyond the transmission of technical information and support experiential learning (Kolb, 1984).

The observed dominance of educational and participatory cinema also aligns with social cognitive theory, which suggests that individuals learn not only through direct instruction but also through observation and modelled behaviour (Bandura, 2001). Community-based audio-visual media may strengthen preparedness and social engagement by presenting relatable role models and concrete mitigation practices. However, research in disaster education also highlights the importance of structured drills and simulation-based training, which provide procedural competence that narrative media alone may not fully achieve. This suggests that audio-visual media may be most effective when integrated with formal disaster education frameworks rather than functioning as a standalone intervention (Renn & Walker, 2008).

Nevertheless, these findings should be interpreted within certain boundaries. The prominence of audio-visual media in disaster education may partly reflect publication trends and funding priorities rather than a universal pedagogical superiority. Moreover, the effectiveness of cinema-based disaster literacy depends on audience characteristics, cultural context, media literacy levels, and access to digital infrastructure. Risk perception research demonstrates that individuals interpret hazard information differently depending on social, trust, prior experience, and cultural worldviews (Slovic, 1987). These contextual factors shape how narratives are interpreted and how mitigation messages are translated into action.

5.1. Representation of Disasters in Indonesia Cinema as Cultural Texts

Film functions as a cultural text that reflects human-nature relations, value systems, collective trauma, and the ways society interprets risk and uncertainty in everyday life. From the perspective of media representation theory, cinematic narratives do not merely depict reality but actively construct meaning by selecting, framing, and emotionally encoding social experiences. Within this theoretical framework, disasters in Indonesian cinema are often portrayed not simply as natural phenomena but as outcomes of imbalanced ecological and social interactions, where nature is depicted as an active entity responding to exploitative human practices (Hardianto et al., 2025; Mustika Ayu & Dewi Anggraini, 2023). This interpretation supports broader theoretical arguments in environmental communication and ecocriticism, which emphasize that narratives play a crucial role in shaping public understanding of environmental risk and responsibility.

The thematic patterns identified in this review also align with previous studies demonstrating that disaster narratives function as affective bridges connecting audiences' emotional experiences with real disaster contexts. Such narratives strengthen social awareness and reinforce the role of film as an experience-based learning medium, particularly when stories emphasize solidarity, survival, and shared vulnerability (Bella et al., 2022; Quthy & Hikam, 2025). Region-based documentaries further extend this

function by visualizing local risks and everyday survival practices, contributing to the formation of collective memory and reinforcing the cultural identity of disaster-prone communities (Cikaleres et al., 2023; Khaerani et al., 2024). These findings are consistent with earlier research in visual anthropology and disaster studies, which suggests that locally grounded storytelling enhances the social relevance and emotional resonance of risk communication.

Cinematographic techniques such as framing, montage, and subjective camera perspective also play an important role in shaping audience interpretation by directing attention toward victims and affected communities (Tarmawan & Fikri, 2022). Through these visual and narrative strategies, disasters are represented not merely as spectacular events but as complex human experiences embedded in social structures, cultural meanings, and everyday negotiations of vulnerability. Thematic synthesis across the reviewed studies indicates that Indonesia disaster cinema consistently emphasizes human resilience, communal solidarity, and moral reflection, suggesting a distinctive narrative pattern shaped by cultural values and collective historical memory.

Nevertheless, these interpretations should be considered within certain boundaries. The representation of disasters in film is influenced by production context, narrative conventions, and audience expectations, which may limit the diversity of perspectives portrayed. Commercial considerations, ideological framing, and the selective nature of storytelling may also shape which aspects of disasters are highlighted or omitted. Furthermore, the symbolic and emotional dimensions of cinematic narratives do not always translate directly into behavioural changes, as audience interpretation depends on social background, media literacy, and prior disaster experience. These contextual factors indicate that while cinema contributes to shaping meaning and awareness, its representational power operates within broader social, cultural, and institutional conditions that influence how disaster narratives are understood and acted upon.

5.2. Cinema as a Medium for Education and Disaster Literacy

Cinema, animation, and educational video are positioned as central instruments in disaster education across formal and non-formal settings. Their effectiveness can be interpreted through experiential learning theory, which argues that knowledge is more deeply internalized when learners engage with concrete experiences and reflective observation rather than abstract instruction alone. By transforming technical mitigation concepts into visual and narrative forms, audio-visual media bridge abstract hazard information with contextual and participatory learning experiences (Arifianto et al., 2024; Quthy & Hikam, 2025; Rahmawati & Khusna, 2025). In this sense, cinema does not merely transmit information but simulates risk situations, allowing audiences to imagine responses and consequences within emotionally meaningful scenarios.

The reviewed studies further indicate that public screenings in disaster-prone areas function as dialogical spaces that connect local experience with broader mitigation discourse (Arifianto et al., 2025; Rosfiantika, 2024). This participatory dimension aligns with social learning theory, which suggests that individuals adopt behaviours through observation, discussion, and collective reflection. In crisis communication contexts, documentary films integrate factual data with emotional storytelling, thereby strengthening both cognitive understanding and environmental concern (Bachtiar et al., 2023; Erlangga et al., 2025; Zukmadini & Rohman, 2023). Compared with traditional lecture-based disaster education, audio-visual narratives appear to enhance engagement by embedding mitigation messages within culturally recognizable stories.

Among children and adolescents, animated media, e-comics, and digital videos contribute to transforming fear into adaptive and resilient attitudes while improving preparedness-related knowledge and behaviour (Mufida & Hikmah, 2025; Noor Aulady & Setiyawan, 2024; Setyaningsih & Dewi, 2024; Sundari et al., 2024). Micro-learning formats and video blogging further extend accessibility, reinforcing disaster messages through repetition and concise delivery (Buston et al., 2023; Hidayat et al., 2023; Mahmudah & Fauzia, 2022; Ramelan & Mayar, 2023; Susantyo et al., 2023). These findings are consistent with broader educational research showing that multimodal learning environments enhance retention and behavioural readiness by activating both cognitive and affective pathways.

However, the educational potential of cinema should not be viewed as universally superior to other instructional methods. Simulation-based drills, structured evacuation exercises, and technical training remain crucial for developing procedural competence and rapid response capacity. Audio-visual media may be most effective when integrated with hands-on practice rather than replacing it. Furthermore, the impact of cinema-based disaster literacy depends on factors such as age, prior disaster experience, technological access, and media literacy levels. In communities with limited digital infrastructure, face-to-face facilitation and blended approaches may yield stronger outcomes than media-based interventions alone.

From a broader perspective, cinema functions not only as an institutional learning medium, but also as a platform for environmental awareness and cross-cultural campaigns that reshape public understanding of the relationship between humans, nature, and disaster risks (Afrina et al., 2021; Latifah et al., 2021; Mustika Ayu & Dewi Anggraini, 2023). This expansion from classroom-based instruction to community-wide engagement reflects a shift toward more holistic and culturally embedded models of disaster literacy, where education is intertwined with identity formation, social responsibility, and collective resilience.

5.3. The Social Impact of Cinema on Community Awareness and Participation

Beyond its educational function, cinema can be interpreted as a socio-cultural arena in which meaning about disasters is collectively constructed and negotiated. From the perspective of participatory communication and social learning theory, audio-visual narratives do not merely transmit information but create shaped spaces for dialogue, reflection, and community engagement. Community-based screenings, for instance, bring together residents, volunteers, and institutional actors, enabling the exchange of local knowledge and strengthening social cohesion as well as collective preparedness (Afrina et al., 2021; Arifianto et al., 2024). These findings are consistent with previous studies participatory media, which argue that public viewing contexts transform audiences from passive recipients into active interpreters who relate visual narratives to their lived experiences.

The social impact becomes more pronounced when communities are involved not only as audiences but also as contributors in the production process. Participatory filmmaking practices enhance community ownership, increase risk awareness, and strengthen disaster communication capacity (Erlangga et al., 2025; Khaerani et al., 2024; Rosfiantika, 2024; Zukmadini & Rohman, 2023). This observation aligns with earlier research emphasizing that collaborative media production fosters collective identity and reinforces relationship between local communities, stakeholders, and policy actors, particularly in disaster-prone and tourism-based regions where risk perception and economic interests intersect. The thematic patterns emerging across the analysed literature suggests that cinema operates not only as a representational medium but also as a process that reshapes social relations and local capacities.

Among children and adolescents, audio-visual media contribute to measurable changes in preparedness attitudes and behaviours, including emotional readiness, evacuation responses, and the transformation of fear into adaptive resilience. These findings support prior educational and psychological studies indicating that narrative-based learning enhances both emotional engagement and long-term behavioural retention. At a broader scale, cinema also functions as a platform for environmental advocacy, cultivating collective empathy toward ecological crises and reinforcing awareness of human-nature interdependence (Bella et al., 2022; Cikaleres et al., 2023; Ramelan & Mayar, 2023; Sundari et al., 2024). This thematic development demonstrates that the influence of cinema extends beyond individual cognition to the level of shared values and public discourse.

However, the literature also indicates several boundary conditions that shape the extent of this social impact. The effectiveness of cinema in fostering awareness and participation depends on factors such as accessibility, cultural relevance of narratives, facilitation of post-screening discussions, and the presence of institutional or community support structures. Without these conditions, film screenings may remain symbolic events with limited long-term influence on behaviour or preparedness practices. Thus, while cinema possesses significant potential as a catalyst for social awareness and participation, its

transformative role is most evident when integrated into broader community engagement and disaster risk reduction initiatives.

5.4. The Role of Cinema in Risk Communication and Mitigation Practices

The findings indicate that risk communication through cinema can be understood as a dialogical and experiential process that integrates cognitive, emotional, and social dimensions. From the perspective of risk communication theory and experiential learning, information is more effectively internalized when audiences are able to relate abstract mitigation concepts to familiar social contexts. Audio-visual narratives grounded in local experiences enable disaster messages – such as evacuation procedures, preparedness measures, and early response strategies – to be communicated in ways that are both comprehensible and culturally meaningful (Erlangga et al., 2025; Khaerani et al., 2024). This interpretation is consistent with previous studies in disaster communication that emphasize the importance of narrative framing and emotional engagement in shaping public understanding and response to risk.

Another thematic patterns emerging from the analysed literature concerns the role of audio-visual media in supporting practical learning. Visual simulation and demonstration contribute not only to cognitive comprehension but also to the development of psychomotor skills, particularly in understanding hazard mechanisms, early warning systems, and mitigation procedures (Bachtiar et al., 2023; Rahmawati & Khusna, 2025; Rosfiantika, 2024). These findings reinforce earlier research showing that multimedia-based instruction enhances retention and facilitates the translation of knowledge into action, especially in community-based disaster preparedness programs. In this sense, cinema functions not merely as a channel of information but as a medium that connects knowledge, perception, and behavioural readiness.

The literature also highlights the effectiveness of simple, repetitive, and easily accessible media formats in strengthening self-awareness and practical preparedness across various hazard contexts, including earthquakes, tsunamis, haze, and climate-related risks (Hidayat et al., 2023; Latifah et al., 2021; Mufida & Hikmah, 2025; Ramelan & Mayar, 2023; Setyaningsih & Dewi, 2024; Sundari et al., 2024; Susantyo et al., 2023). Compared with earlier top-down communication models that prioritized technical information delivery, these studies indicate a gradual shift toward more empathic, culturally grounded, and participatory approaches. The thematic development across studies suggests that disaster communication is increasingly understood as a social process that involves interpretation, dialogue, and shared meaning-making.

However, the effectiveness of cinema in risk communication is shaped by several boundary conditions. The impact of audio-visual media depends on factors such as the relevance of narratives to local risk contexts, the availability of facilitation or discussion spaces after screenings, audience literacy levels, and the continuity of educational programs. Without these supporting conditions, the influence of films may remain limited to short-term awareness rather than producing sustained behavioural change. Thus, while cinema demonstrates significant potential as a medium for communicating risk and promoting mitigation practices, its contribution becomes most substantial when integrates into broader disaster risk reduction strategies and community-based learning initiatives.

5.5. Social Implications and Policy Relevance of Disaster Cinema

These findings of study extend beyond academic mapping and relate directly to broader social issues in Indonesia, particularly social cohesion, public trust in risk communication, inequality of access to disaster information, and long-term sustainability. In disaster-prone regions, disparities in educational access, digital infrastructure, and institutional capacity often produce uneven levels of preparedness and risk perception (Moh et al., 2023; Partini & Hidayat, 2024). In this context, cinema and audio-visual media can function as bridging mechanisms that translate technical disaster knowledge into culturally accessible narratives. By embedding mitigation messages within emotionally resonant and locally grounded stories, film-based communication may help reduce cognitive and informational gaps between experts and communities, thereby strengthening inclusive disaster literacy.

From a governance perspective, the integration of cinema into disaster risk reduction strategies has implications for the quality of public trust and participatory governance. Risk communication research

emphasizes that public trust increases when information is perceived as credible, consistent, and socially relevant (Covello & Sandman, 2001; Slovic, 1987). Community-based screenings and participatory filmmaking initiatives, such as those identified in Indonesia contexts, create dialogical spaces where local knowledge, institutional perspectives, and lived experience intersect (Arifianto et al., 2025; Hicks et al., 2017). Such as practices may contribute to strengthening social cohesion by fostering collective reflection and shared responsibility in facing disaster risks. For local government and disaster management agencies (BNPB/BPBD), this suggests that audio-visual strategies should not be positioned merely as supplementary communication tools, but as integrated components of community engagement and resilience-building programs.

These findings also carry practical implications for educators, NGOs, and the creative industry. Schools and universities can incorporate documentary films, animation, and digital storytelling into disaster education curricula to complement simulation-based training and technical instruction (Rahmawati & Khusna, 2025; Subarno & Dewi, 2022). NGOs and volunteer organizations may utilize participatory filmmaking to enhance community ownership and communication capacity in high-risk areas (Rosfiantika, 2024; Zukmadini & Rohman, 2023). Meanwhile, collaboration between policymakers and the film industry can support the production of culturally grounded disaster narratives aligned with broader sustainable development objectives, particularly those related to quality education and resilient communities (Amri, 2015).

However, the social impact of cinema is conditioned by structural factors, including media literacy levels, access to digital infrastructure, and continuity of institutional support. In communities affected by the digital divide, reliance solely on online dissemination may reinforce rather than reduce inequality in access to preparedness information. Therefore, hybrid approaches that combine audio-visual media, face-to-face facilitation, and piratical drills are likely to produce more equitable and sustainable outcomes. By situating cinema within broader governance, educational, and community frameworks, disaster literacy initiatives can move beyond awareness-raising toward long-term behavioural adaptation and strengthened social resilience.

5.6. Practical Recommendations for Policy and Implementation

The findings of this study indicate that cinema and audio-visual media have practical potential to support disaster literacy and risk communication when integrated into existing institutional and community frameworks. To translate this potential into implementable actions, several targeted steps can be considered across different governance and social levels.

At the national and regional policy level, disaster management agencies (BNPB/BPBD) and local governments can incorporate audio-visual media into formal disaster risk reduction programs by allocating specific budget lined for educational film production and community screenings. Integration with existing preparedness campaigns, school safety programs, and early warning outreach can ensure continuity rather than one-time interventions. Previous studies on disaster education in Indonesia emphasize that sustained and structured programs are more effective than isolated communication activities in strengthening preparedness behaviour (Desilia et al., 2023; Partini & Hidayat, 2024).

At the institutional level, schools and universities can adopt blended learning approaches that combine documentary films, animation, and digital storytelling with evacuation drills and simulation exercises. Audio-visual materials should be aligned with curriculum objectives and followed by guided discussions to reinforce critical reflection and procedural understanding. Research in disaster education demonstrates that experiential and multimodal learning environments enhance both knowledge retention and behavioural readiness when combined with practice-based training (Rahmawati & Khusna, 2025; Subarno & Dewi, 2022).

At the community level, NGOs, volunteer organizations, and local cultural groups can facilitate participatory filmmaking and community screenings in disaster-prone areas. Such initiatives may strengthen local ownership of risk communication and improve the relevance of mitigation messages by incorporating local knowledge and lived experiences. Participatory media projects have been shown to

enhance communication capacity and community engagement in disaster preparedness (Rosfiantika, 2024;).

Collaboration with the creative industry also represents a strategic opportunity. Film producers, broadcasters, and digital content creators can be encouraged through public-private partnerships or grant-schemes to develop culturally grounded disaster narratives that balance educational accuracy with audience engagement. Risk communication research suggests that emotionally engaging narratives improve message retention and public awareness when supported by credible information sources (Hicks et al., 2017; Slovic, 1987).

In terms of priority and feasibility, the most immediately implementable step is the integration of curated disaster films into existing education and community outreach programs, since these structures are already in place. Medium-term actions may include the development of participatory film initiatives and regional screening networks, while long-term strategies may focus on institutionalizing audio-visual communication within national disaster risk reduction policies.

However, these recommendations must consider practical constraints, including uneven digital infrastructure, limited funding for cultural programs, and variations in media literacy across regions. Hybrid approaches that combine offline screenings, printed educational materials, and face-to-face facilitation are therefore likely to be more effective in reducing inequality of access and ensuring broader community reach.

6. CONCLUSION

Cinema and audio-visual media in Indonesia play a strategic role as a medium for disaster literacy and community-based risk communication that not only conveys technical information but also builds cultural meaning, social empathy, and community participation through contextual and humanistic visual narratives. The dominance of research focus on the dimensions of education and mitigation confirms that documentaries, animations, and educational videos are proven to be effective in improving cognitive understanding, preparedness, and mitigation practices across age groups and social contexts. This study also provides practical recommendations for integrating audio-visual media into disaster education, community outreach, and participatory risk communication programs. The limitations of this study lie in the scope of the literature, which is still dominated by national sources and qualitative approaches, so that generalization of findings on an international scale and the measurement of long-term impact are still limited. In addition, most studies have not integrated a systematic quantitative evaluation of behavioural changes after cinematic media intervention. Therefore, further research is recommended to expand the international database, combine qualitative and quantitative methods, and develop a longitudinal evaluation to measure the effectiveness of cinema in building sustainable disaster literacy.

Ethical Approval

Not Applicable

Informed Consent Statement

Not Applicable

Authors' Contributions

BAIW conceptualized the study, designed the Systematic Literature Review protocol based on the PRISMA framework, conducted literature screening and thematic synthesis, and drafted the manuscript. AW contributed to the validation of article selection, analysis of findings, and development of the theoretical framework. AS assisted in data interpretation, critical revision of the manuscript, and final editing. All authors have read and approved the final version of the manuscript.

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The data presented in this study are available on request from the corresponding author due to privacy reasons.

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