Socioeconomic Factor, Disaster Literacy, and Disaster Awareness in Lampung Province

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A b s t r a c t

Natural disasters result in casualties due to the community's lack of preparedness, which results from the education and disaster awareness conditions among community groups. This paper describes the following questions: 1) How do socioeconomic factors affect disaster awareness? 2) Does a person's socioeconomic status affect their requirements and preferences for disaster information search? This study seeks to analyze a research issue utilizing case studies from two local administrations in the province of Lampung: South Lampung and Bandar Lampung. This research is based on a comparative case study, an approach to community-based research that fits perfectly. Two-month survey (May-July 2022) will be undertaken to assess the level of disaster awareness in the community and to determine how and where individuals with varied socioeconomic levels get disaster-related information. The conclusion of this study is the importance for decision-makers to understand the background cultural context and disaster experience.

Keywords: Disaster Education; Preparedness; Disaster Literacy

Introduction

Natural disasters have varying political, social, economic, and cultural effects on continents, nations, communities, families, and people according to their geographic location, risk exposure, and lifestyle choices. Natural disasters' frequency, intensity, and scale are growing globally, with estimated economic losses of $7 trillion between 1900 and 2015 (Rodrguez-Espndola et al., 2018). No nation is immune to natural disasters; thus, planning and implementing adequate disaster preparedness and mitigation policies and programs is vital to safeguard people's well-being and help build social resilience (Kita, 2017).

Individuals and families within a community have varied degrees of disaster susceptibility, influencing how they prepare for, respond to, and recover from a disaster. Vulnerable people (marginalized groups) are more affected by disasters than the rest of the community, according to the "vulnerability paradigm" (Ariyanto, 2018). Vulnerability is "the degree to which a population, individual, or organization is incapable of anticipating, coping with, resisting, or recovering from the effects of a calamity. "Occupation, level of income, housing

(e.g., homelessness), cultural background, degree of education, age, gender, and handicap are crucial factors for measuring disaster susceptibility. Due to limited access to social materials and resources and their capacity to engage in and contribute to society, a person's socioeconomic standing frequently influences their level of disaster risk (Rini, 2017). Consequently, people from low socioeconomic backgrounds (LSE) are frequently at more significant risk before, during, and after a natural disaster.

Socioeconomic status can influence an individual's level of disaster awareness (Bayayeh, 2017). Demographic traits are crucial in addressing environmental dangers; socioeconomic status can also affect an individual's disaster awareness. Those with LSE backgrounds frequently experience daily obstacles that directly influence their capacity to prepare for, respond to, and recover from natural disasters. These day-to-day challenges are caused by a variety of factors, including, but not limited to, lack of affordability of housing and lack of options that leave people living in disaster-prone areas such as low-lying areas vulnerable to flooding; limited access to resources; lower literacy rates; populations who require assistance to maintain day-to-day independence (e.g., due to language barriers, mobility issues, or health problems); lack of insurance coverage; limited access to mass transit; and limited access to mass mingling opportunities. For instance, due to the unaffordability of housing, LSE people are more likely to reside in homes of worse quality in location-vulnerable places (e.g., low-lying areas adjacent to rivers), which raises the chance of suffering more severe impacts and losses from a disaster.

Individuals and families from low socioeconomic origins are frequently and sometimes intergenerationally economically disadvantaged, making them the least prepared for and able to respond to disasters (Rini, 2017). People from the LSE group status frequently have few resources and experience several daily survival obstacles, resulting in a reluctance to invest in low-priority disaster preparedness initiatives (Akhirianto, 2019). Individuals of low socioeconomic levels are less likely to respond to emergency signals, even if they get them, due to insufficient resources (Al-Samarraie et al., 2017). For instance, persons may not be relocated if they lack access to suitable transportation or require particular support that they believe is not required if they are displaced (Teo et al., 2018). Despite the well-established association between socioeconomic class and disaster susceptibility, little is known about low socioeconomic group communities' information needs and preferences. This research intends to solve knowledge gaps through comparative investigations of LSE and non-LSE populations in community organizations that identify sources of disaster information and attempt to raise disaster awareness.

Previous research has demonstrated that consumers seek disaster information from various distinct yet generally accessible sources, such as the Internet, television, and newspapers. (Choi & Choi, 2018) discovered that the trustworthiness and reputation of an information source, as well as the background of the information seeker, most strongly influenced people's choice of information source. Very few research have examined how an individual's information-seeking activity affects their overall disaster awareness. A person's disaster awareness ultimately determines the strategy and nature of measures to mitigate and prepare for disasters and can contribute to reducing community vulnerability to disasters, particularly among those with low socioeconomic status. In addition, a more profound knowledge of the critical distinctions in information-seeking behavior can aid in developing successful intervention models and strategies.

Although several criteria can predict an individual's socioeconomic status, income level is the most significant predictor. Prior studies have used regression analysis to examine income as an independent variable, yielding contradictory results. Lindell and Hwang, for example, discovered no link between income and flood mitigation and the purchase of flood insurance but a negative correlation with wind mitigation (H. Kim & Zakour, 2017). Conversely, Wouter Botzen and Van Den Bergh discovered a marginally positive correlation between income, mitigation, and preparedness tactics (insurance demand) (Baytiyeh, 2017). Phillips and Metz demonstrate, however, that people in the lowest income quartile have limited resources for disaster preparedness and response (Gajanayake et al., 2018).

Based on the Indonesian Disaster Hazard Index from BNPB, Lampung Province is the sixteenth most disaster-prone province out of 33 in Indonesia. The flood disaster affected 136 locations in 14 districts/cities (Lampost. co, 2020). Significant and deserving of attention are regions with the potential for high to moderate landslides above 47.4% (Lampost. co, 2020). Not to mention the earthquake and tsunami that threatened the Lampung coast (Hutagalung et al., 2020), even Bandar Lampung is at risk (Adrian, 2016). Natural disasters are terrifying because of the devastation they create. For instance, the Sunda Strait tsunami resulted in 426 deaths, 7,202 injuries, and 23 missing persons (Gustaman et al., 2020). Risk of flood disasters with damage to public and domestic infrastructure in places (Kiranaratri et al., 2019) and rural areas (Anggraeni, 2020) where flooding is accompanied by landslides that result in unexpected casualties. The accident resulted in casualties because the town was unprepared, although it might have minimized the damage. This lack of readiness results from the lack of education and disaster awareness

among community groups. Consequently, this paper will describe the following study questions: 1) How do socioeconomic factors affect disaster awareness?; 2) Does socioeconomic status influence a person's wants and preferences while seeking disaster information?

Research Method

The Mixed Methode Research intends to examine a case study from two local governments in Lampung Province; South Lampung and Bandar Lampung. The comparison research focused on LSE and non-LSE respondents, and the findings will lead to a better understanding of the relationship between socioeconomic background, needs and preferences for acquiring disaster information, and disaster awareness. In addition, the collected data can be utilized to develop a model for enhancing community disaster awareness and disaster literacy. This study's findings apply to disaster researchers and practitioners and can be used as a guide for developing more successful programs to raise disaster awareness.

This research's methodology is based on a comparative case study, an approach to community-based research that fits perfectly with its exploratory nature. To study the research questions posed, a two-month survey (May-July 2022) was done to measure the level of disaster awareness in the community and to determine how and where individuals from diverse socioeconomic backgrounds get disaster-related information. Surveys are crucial because they effectively collect data from varied perspectives within a large population sample. The survey questionnaire consists of 30 open-ended and closed-ended questions to collect information about respondents' socioeconomic and cultural background, level of disaster awareness, information-seeking preferences, and disaster relief providers. A five-point Likert scale was employed to test the idea of awareness to reduce the chance of respondents providing a neutral response.

Results and Discussion

Perception Before and Following a Disaster

In the districts of South Lampung and Bandar Lampung, the majority of respondents had a clear understanding of what to do in the event of a natural disaster, as revealed by the results of the data analysis. The disasters suffered are of many types, as seen in Table 1.

Table 1
Various disasters that occur in the area of study

Type disaster	Consequence Which in Experience
Flood	• Damage goods electronic • Lost goods that drift carried away by the flood • Damage vehicle over a period long because effect water Damage to the house • The lost family which drift carried away current flood occurs skin disease • Difficulty getting water clean • Fail harvest because ricefield damaged caught flood Loss of time due to not being able to work
Earthquake	• Damage to houses, until a house collapses Damage vehicles because hit wreckage houses Livestock deaths from being crushed by rubble Cost loss due to having to repair houses • There is a member family who must be treated house sick because crushed by rubble house • They lost family who died because they hit a wreckage house, Lost a job because a factory collapsed in an earthquake
Avalanche	• Damage house caught soil Avalanche • Loss of time due to having to find an alternative way asphalt collapse and damaged so that no can be skipped • Trapped congestion because track transportation caught soil landslides. The land is damaged because it is in a landslide area • Lost soil because soil Avalanche to lower
Tsunami	• Damage to houses affected by tsunami Damage to vehicles caused by sea water Loss several objects which drift hit water Damage to household electronics • Electricity short circuit caught water until the light fire • Lost when to fish (parents) Damage boat which gets hit wave big in beach
Storms	• Damage house, especially part roof • Loss of money because must repair the house
Volcano erupts	• Fail harvest because plant caught ash volcanic It costs more to buy a mask • Loss of time because the place of work closed temporarily, so no wages

It will shape his thoughts on disaster mitigation based on his life experience dealing with disasters. This image of disaster is based on prior experience and the degree to which the

community has been prepared through various disaster literacy programs implemented by the government via the BPBD and other institutions in disaster risk awareness. The human perception of a stimulus is highly variable due to the existence of factors that influence it. Generally speaking, perception requires the presence of objects, senses, or receptors. Attention is crucial to perceptual processing (Martono et al., 2019). The residents' response of Bandar Lampung to disaster events demonstrates how they will respond and behave during and after a disaster. Both structural and functional elements influence perception. Functional factors derive from requirements, prior experiences, and personal observations, whereas structural elements are physical stimulation and affect nerves (Dinah, 2013). Their perceptions regarding disaster mitigation functionally and structurally influence a person's conduct.

Based on the respondents' beliefs and actions, it can be concluded that they comprehend what to do when a calamity strikes (Table 2). Campaigns conducted constantly in disaster areas by BMKG, BPBD, or local governments in partnership with educational institutions have had a positive impact, with most respondents gaining information about disasters. According to the data below, most respondents (80%) had undergone disaster education socialization in schools conducted by BPBD, BMKG and Local Government (Figure 1).
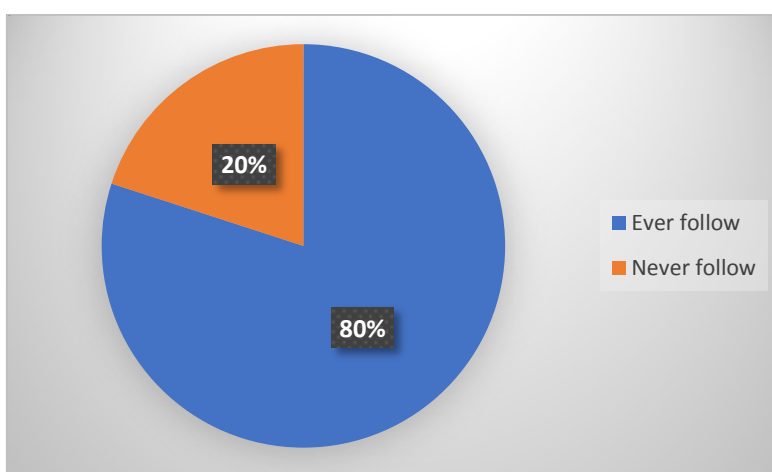

Figure 1. Responses Concerning Socialization Activity Participation

The Most Favored Method of Disaster Education Communication

We are familiar with Berlo's SMCR concept for delivering messages in communication science. When seen from the perspective of message delivery, the communication medium may also be referred to as a channel, channel, or media. In spreading information to promote awareness of non-government-made disasters, such as social campaigns and ongoing events, the communication channels used cannot be separated, as demonstrated by the goes to school activity.

Table 2. The activity was undertaken by respondents at the moment of disaster

Type Disaster	Moment Disaster Happened	After Occur Disaster
1. Flood	a. Run savely to the place which is higher and safer b. Save a member family trapped in a flood c. Secure vehicle and electronic goods d. Ensure home securities e. Attempted to extinguish electricity so that no shortage f. Quickly go to the neighbor which his house have a second floor g. Look for member family to collect in a safe place	a. Evacuate to a place which safe, like a refugee center b. Ensure all family in good condition c. Repair goods electronic which can still be fixed d. Keep a valuable letters in a safer place and clean up the dirty e. Ensure network electricity dry f. Look for the place which most safe to rest and look for the possibility of returning home
2. Earthquake	a. Go out of the house and stay away from trees or tall buildings b. Identify if there is a tsunami potency because the house is near the beach c. Securing family member which there is	a. Check house conditions and contents b. Securing vulnerable goods c. Check the safety of family member

		inside the house	d.	Report the incident to the local village
	d.	Save valuable object		
3. Avalanche	a.	Contact the police station or emergency office	a.	Look for the victim which still safe
	b.	Report to local head village to help victims	b.	Securing valuable object
	c.	Help the victim's, which is still safe	c.	Securing location from landslide disaster audience
	d.	Look for alternative track because track usually blocks by avalanche	d.	Contact party related so the help will come soon
	e.	Inform existence disaster to the family so that the family does not panic		
	f.	Save things that still can be saved		
4. Tsunami	a.	stay away from beach together	a.	Check the state the living place and village environment
	b.	Look for a family that there is at home and immediately ask to evacuate	b.	Reporting to health workers if there is person wounded
	c.	Look for information on the Internet		
	d.	Securing valuable objects which left		
5. Storms	a.	Quick enter to the home and lock all door and windows	a.	Check damage of the house
	b.	Gather family member to stay at home and take shelter	b.	Repair the house, which was damaged
			c.	Cooperation to help neighbors who are victims
6. Volcano erupts	a.	Use a mask if you go out of the house	a.	Clean the house
	b.	Evacuate if government requested	b.	Use a mask if you get out of the house
	c.	Use closed clothing and masks if will work in outside the house,		
	d.	Stay at home because volcanic dust is dangerous for breathing,		
	e.	Invite the family to stay home		
	f.	Close all channels which allow dust to enter the house		
	g.	Look for news information through tv and the Internet		

In this activity, the BPBD, and local governments, which serve as extensions of the government, carry out their responsibilities to enlighten and prepare students for potential disasters. The government also educates students about disaster types and assists them in preparation. Multimedia presentations, disaster handbooks, and animated educational videos serve as the communication medium (Fakhruradhi et al., 2019). With the assistance of communication channels, it will be easier for students (receivers) to comprehend the message the government wishes to convey. The context of communication science is called the source of the message (source). This study has a discrepancy between the communication channel model employed and the student's preferred communication channel. The student is the intended recipient of messages related to disaster mitigation (Figure 2).
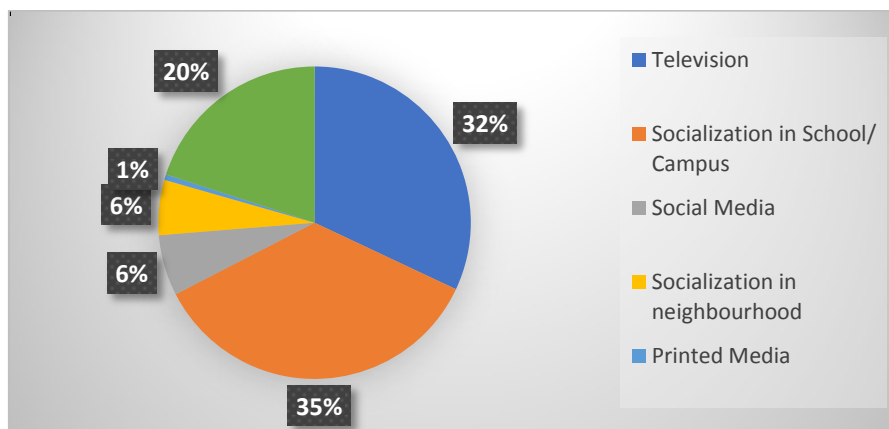

Figure 2. Source of Documentation

This study demonstrates that the socialization carried out thus far is appropriate and preferred as an effective effort to increase disaster awareness. The classroom is the appropriate medium communication where the source message interacts actively with the audience. However, when asked in greater detail, the community's preferred communication channels for disaster education are depicted in Table 3.

Table 3
Type of Communication Education Preferred

Answer	Amount	Percentage
Socialization direct	56	32.00%
Advertisement service Public	30	17.14%
Animation	21	12.00%
Film	33	18.86%
Roleplay mitigation disaster	23	13.14%
Videos Learning	12	6.86%

In classroom activities, disaster pocketbooks are frequently distributed as information delivery tools. Communication book also encompasses a message channel for communicating ideas to the target audience. Pocketbooks are less popular than others, however. Approximately 50.85% of them never read disaster pocketbooks. According to the findings of this study, socializing is the recommended method. Face-to-face instruction is believed to be the most effective method of disaster education. Students can ask directly. Typically, through socialization, such as counseling activities and disaster simulations, children will be asked to identify the many types of disasters and instructed on how to survive in disaster scenarios. In the activity, the students were explained through several channels of communication. When tools are unavailable, the communicator becomes the channel for conveying the information without tools such as PowerPoint or other media, or occasionally employing power point, playing films, and distributing disaster pocketbooks. However, the attempts to establish several communication channels in the classroom ran into several roadblocks. In addition to disastrous pocketbooks, which are rarely read, animated learning movies are also disliked. It is demonstrated that instructional videos rank bottom.
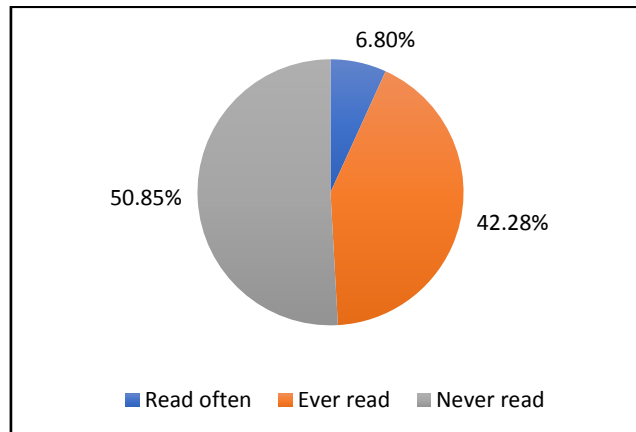

Figure 3. Obtain information from the disaster book as a source.

Based on the earlier findings, it is necessary to reconsider which communication channels are the most effective for raising disaster awareness. The 175 Public in Bandar Lampung case study demonstrates that the chosen communication strategy must also consider the optimal communication channel. The selection of communication medium is determined by the communicator's comprehension of the intended audience. According to the Elaboration Likelihood Model (ELM) theory, there is a dual-track audience. He could communicate effectively with him if he understood the target audience. ELM assumes that not all target audience members will comprehend the information or message. Specific individuals are the only ones who can create persuasive messages, and others are the only ones who can analyze the external factors that influence the message. There are two types of routes: central and peripheral. In determining the communication channel for previous disaster education, it is necessary to identify the audience that will be influenced (Syrian & Soedarso, 2019). Individuals of the type central route are critical

thinkers who must consider numerous factors when making decisions. Comparatively, the peripheral route is better suitable for emotionally-driven individuals. Typically, this type of person is readily moved by nonsensical things. Consequently, while crafting messaging regarding disasters, it is essential to consider the intended audience.

When attempting to reach educated individuals, it is essential to understand that Experts (TAs) have solid literacy abilities (reading and writing) and an interest in information. Thus, the displayed message will be modified to include more disaster-related information. According to ELM theory, the choice of route influences the creation of an individual's attitude. When someone has the motivation, opportunity, and capacity to process messages, they will be better able to comprehend persuasive and informative messages. On this path, individuals typically have a more permanent outlook (long endurance).

On the other hand, those who lack a more permanent attitude will be easily swayed by other factors. The message influencing his attitude enters his mind via a peripheral route. The application of ELM on this peripheral route can be implemented by creating a message that is either horrifying or humorous. Emotional characteristics have a significant impact on this type of audience. (1) Social proof, (2) Profits made, (3) Scarcity, (4) Credibility, (5) Response, and (6) Authority are peripheral route factors. It is shown when there is an earthquake and Mount Merapi erupts, when it is difficult to convince inhabitants to escape, and the caretaker becomes an adequate means of communication. Several other tactics are religious, such as employing the authority of religious leaders and the credibility of local religious leaders as persuaders to organize citizens.

In addition, the message should consider the cultural context of the event and the creators' personal experience with it. In the case study, 175 residents of Bandar Lampung have all encountered natural disasters. Consequently, the communication message that will be given does not need to be generic, as it will be directed at individuals who have never experienced a natural disaster. Therefore, it is imperative to comprehend the needs of the intended audience. After defining the target audience and the suitable communication message, selecting the communication medium or communication channel is equally important. In general, communication is the transmission of a message. So, what exactly is the message? Then, a means of communication is required.

In advertising and marketing, there are two methods for achieving message exposure. In this instance, the government may also adopt this science. In advertising, several media can be utilized depending on the desired level of exposure. Above The Line (ATL) media, such as television, radio, and newspapers, to raise public awareness. In the meantime, to be closer to the target audience, use Below The Line (BTL), where marketing typically involves exhibitions, limited promotions, and context disasters. It can be accomplished through direct socialization and flyer distribution. The Internet has also simplified the selection of a communication medium so that the term Through The Line (TTL) can be applied to situations where the Internet provides a broad message exposure to increase disaster awareness and facilitate rapid human interaction. Internet usage becomes effective when a tragedy hits, allowing people to report themselves as survivors. However, it is essential to know which media to use, for instance, a case study of 175 people in Bandar Lampung. The primary sources of information are television and newspapers, whereas social media is relatively small. In the future, it will be essential to use various mass media lines tailored to the audience's characteristics to be targeted. Coastal residents who are not all educated will undoubtedly speak differently than educated residents.

Similarly, based on how this community utilizes media, perhaps not all coastal residents have cell phones, but the majority listen to radio and television, and not all can read and write, so radio and television are preferable to social media. The choice of medium will also differ from that of people living in urban areas, where social media will be the second most popular source of disaster information after television. It also demonstrates that people with different backgrounds will choose different channels to obtain the information they require based on their characteristics.

Conclusions

The conclusion of this study is the importance for decision-makers to understand the background cultural context and disaster experience. The communication messages delivered in the Bandar Lampung study, all of which have experienced natural disasters, do not need to be universal, as they will be directed at individuals who have never encountered a natural disaster. Therefore, it is imperative to comprehend the needs of the intended audience. After defining the target audience and the suitable communication message, selecting the communication medium or

communication channel is equally important. There is a need to reevaluate which communication channels are most effective for raising disaster awareness. The case study conducted at 175 Public, which exists in Bandar Lampung and South Lampung, can serve as a simple example of how the chosen communication strategy must also consider the optimal communication channel. The selection of communication medium is determined by the communicator's comprehension of the intended audience. According to the Elaboration Likelihood Model (ELM) theory, there is a dual-track audience. He could communicate effectively with him if he understood the target audience. ELM implies that not all target audience members will comprehend the material or message. Only a select few individuals will craft persuasive messages, with additional processing factors outside the message.

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