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Assessing The Information-Seeking Behavior Of Cianjur Earthquake Survivors: A Study Of Information Needs And Access

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Abstract

In the midst of a disaster such as an earthquake, one of the most important things is the dissemination of the right information. Searching for the right information can affect the safety of one's life. Therefore, studies related to information seeking behavior during disasters can illustrate how a person searches for information in response to circumstances during a disaster. This study aims to determine how much the level of conformity of information seeking behavior carried out by victims of the Cianjur earthquake disaster with the disaster information seeking behavior model. This research uses quantitative methods with a case study approach in the Cianjur area. The population in this study were earthquake victims in Cianjur with productive age (15-57 years). The sample used was 100 respondents using accidental sampling technique. The hypothesis in this study is the level of information seeking behavior of earthquake victims in Cianjur in accordance with the disaster information seeking behavior model. The results of the study obtained a score on the first warning dimension of 2.39. The dimension of recipient characteristics amounted to 2.83 and message characteristics amounted to 3.59. The information source horizon dimension was 3.03 and the feedback dimension was 3.36. Based on these results, an average score of 3.04 was obtained. The score is in the interval 2.51 - 3.25, which indicates that the information seeking behavior of earthquake victims in Cianjur is at the "appropriate" level with the disaster information seeking behavior model.
Keyword: *Information seeking behavior, Disaster, Earthquake, Cianjur*

Abstrak

Di tengah bencana seperti gempa bumi, salah satu hal yang paling penting ialah penyebaran informasi yang tepat. Pencarian informasi yang tepat dapat berpengaruh terhadap keselamatan hidup seseorang. Oleh karena itu, kajian terkait perilaku pencarian informasi selama bencana dapat menggambarkan bagaimana seseorang melakukan pencarian informasi dalam merespon keadaan pada saat bencana. Penelitian ini bertujuan untuk mengetahui seberapa besar tingkat kesesuaian perilaku pencarian informasi yang dilakukan oleh korban bencana gempa bumi Cianjur dengan model disaster information seeking behaviour. Penelitian ini menggunakan metode kuantitatif dengan pendekatan studi kasus di daerah Cianjur. Populasi pada penelitian ini adalah korban gempa bumi di Cianjur dengan usia produktif (15-57 Tahun). Sampel yang digunakan sebanyak 100 responden dengan menggunakan teknik aksidental sampling. Hipotesis dalam penelitian ini adalah tingkat perilaku pencarian informasi korban gempa bumi di Cianjur sesuai dengan model disaster information seeking behaviour. Hasil dari penelitian memperoleh skor pada dimensi peringatan pertama sebesar 2,39. Dimensi karakteristik penerima sebesar 2,83 dan karakteristik pesan sebesar 3,59. Dimensi cakrawala sumber informasi sebesar 3,03 serta dimensi umpan balik sebesar 3,36. Berdasarkan hasil tersebut diperoleh skor rata-rata sebesar 3,04. Skor tersebut berada pada interval 2,51 – 3,25 yang menandakan bahwa perilaku pencarian informasi korban gempa bumi di Cianjur dalam tingkatan “Sesuai” dengan model disaster information seeking behaviour.
Kata Kunci: Perilaku pencarian informasi, Bencana, Gempa Bumi, Cianjur

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INTRODUCTION

Indonesia is situated between the world's major tectonic plates. The country is encircled by four distinct tectonic plates: the Indo-Australian, the Eurasian, the Pacific, and the Philippine. The interaction between these plates renders Indonesia susceptible to seismic activity, as evidenced by the findings of the National Earthquake Study Center (2017, p. 1). Earthquakes in Indonesia can range in magnitude from minor to catastrophic, resulting in material losses and casualties. An earthquake is a seismic event that occurs when the earth's crust is fractured due to the sudden release of energy. This energy is generated by the movement of tectonic plates, which causes the buildup of pressure that ultimately results in the release of energy (Febrianti, 2018, p. 2).

On November 21, 2022, an earthquake shook the city of Cianjur. According to data released by the Meteorology, Climatology, and Geophysics Agency (BMKG), the earthquake had a magnitude of 5.6 with a depth of 10 km. In addition to being felt in Cianjur, the earthquake was also felt in several surrounding cities, including Bandung, Jakarta, Sukabumi, and Bogor (Supendi et al., 2022, p. 1). Based on data from the National Disaster Management Agency (BNPB) released on November 29, 2022, the earthquake has resulted in 327 fatalities (Alya, 2022).

In the context of a disaster such as an earthquake, the dissemination of information is of paramount importance. During a disaster, information becomes a primary need because every piece of information that a person receives can affect their safety. The definition of information is data that has been processed into a meaningful format for the recipient and that is useful for making current or future decisions (Ati et al., 2014, p. 1.5). This is consistent with the findings of Wray and Jupka, which indicate that information acquired during a disaster can influence how individuals choose self-rescue strategies that align most closely with their needs, thus reducing the distress experienced by those affected (Ryan, 2018). The provision of accurate and effective communication is a crucial aspect of successful disaster management, with the ability to save lives.

Nevertheless, the dissemination of information in the context of a natural disaster often gives rise to the circulation of fake news or hoaxes, which can exacerbate the situation and induce distress and unease amongst those affected. Hoaxes have been observed to have a negative impact on the psychological well-being of those experiencing a natural disaster, causing anxiety, distress, and in some cases, public panic. According to data provided by the Instagram account

@Jabarsaberhoaks managed by the Communication and Informatics Office of West Java Province, there were 50 instances of fake news or hoaxes related to the Cianjur earthquake between the time of the earthquake and the issuance of the aforementioned data on November 28, 2022 (Jabar Saber Hoaks on Instagram, 2022).

The proliferation of false information was exacerbated by individuals in Cianjur who were readily susceptible to the hoaxes and disseminated the misinformation without verifying the veracity of the information in question. Furthermore, according to Adi Maulana, a disaster expert and the head of the Center for Disaster Studies at Hasanuddin University, the level of disaster literacy in Indonesia has been identified as inadequate. Therefore, the information conveyed by the BMKG or related institutions cannot be accepted, digested, and implemented properly by the community. In addition to believing in hoaxes, the community has also not been able to interpret disaster information properly. Even within society, there are still thoughts that assume that disaster is a curse (Vinta, 2023).

Consequently, studies investigating information seeking behaviour in the context of disaster response are required. Such research can elucidate the manner in which individuals search for information in response to disaster circumstances. The disaster information-seeking behaviour in question can be quantified and analysed using a model developed by Barbara Ryan in 2018, which has been specifically designed to measure this phenomenon in the context of disasters. This model represents a synthesis of two existing models that serve as its foundation: the risk communication framework for natural hazards developed by Mileti (1995), which focuses on the communication of risk associated with natural hazards; Sorenson and O'Brien's model on the subject of disaster and the problem-specific everyday life information seeking model by Savolainen (2008) on information science. The principal objective of this model is to ascertain whether there exists an initial warning signal of a disaster, to identify the subsequent actions to be taken in light of such a warning, to delineate the principal information resources employed, and to delineate the information-seeking behaviours that are observed during a disaster.

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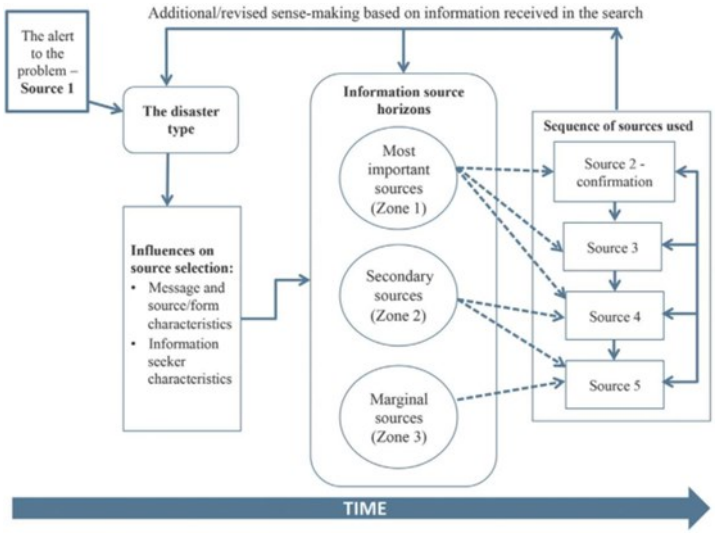

Figure 1. Disaster Information Seeking Behavior

The disaster information-seeking behavior model, as depicted in Figure 1, was developed by Barbara Ryan in 2018. This model integrates two existing models: the risk communication for natural hazards model developed by Mileti, Fitzpatrick, and O'Brien on the subject of disasters and the problem-specific everyday life information-seeking model by Savolainen (2008) on the topic of information science. The risk communication model for natural hazards by Mileti, Fitzpatrick, and O'Brien was selected for its assertion that when an individual receives a disaster warning, they will engage in communication activities to clarify the situation by corroborating the warning's content through alternative sources, such as neighbors, friends, family, or other media.

In the context of information science, Barbara Ryan (2018) employed the problem-specific everyday life information seeking model by Savolainen (2008). This model is employed because it considers the process by which an individual seeks information to address a problem and takes into account the concept of information source preferences and the criteria used in selecting information sources. Furthermore, this model also considers the sequence of using an information source. In his 2018 work, Ryan identifies the concept of sense-making as a feedback stage within the problem-specific everyday life information seeking model. This occurs when, at the conclusion of the information seeking process, it is determined that the individual has not yet resolved their problem. The presence of this sense-making process results in the reiteration of the information search process to the initial stage, in order to address the information gap that has been identified.

This model of disaster information seeking provides an explanatory framework for the phenomenon of information seeking in the context of disasters. By considering factors from the risk communication for natural hazards model proposed by Mileti et al. and the problem-specific everyday life information seeking model proposed by Savolainen (2008), the proposed model was developed with the potential to describe information seeking more effectively in disaster situations. The proposed model of disaster information seeking includes:

1. First warning (located outside the feedback loop).
2. Identify the problems faced by focusing on specific types of disasters.
3. Criteria for selecting information sources based on message and recipient characteristics
4. Order of importance of sources (horizon of information sources).
5. Order of information sources used
6. Feedback

In this model, the initial warning triggers an individual's information-seeking behavior during a disaster, becoming the first source of information (source 1). The type of disaster that occurs can affect the source and form of the initial warning of a disaster. After receiving the initial warning, the individual engages in source confirmation. This confirmation helps the individual understand the meaning of the situation that occurred. This source confirmation is one of the sense-making processes. This can be considered in the sequence of sources used as components of the proposed model as the second source (source 2—confirmation). The choice of information sources in this model is influenced by the characteristics of the sender (message) and receiver, as outlined in the risk communication model for natural hazards by Mileti (Mileti, 1995). It is posited that people will better understand disaster information if it is communicated with message characteristics consisting of:

1. Source: the warning information received comes from official and credible sources,
2. Consistency, namely the information conveyed is consistent because the consistency of the message determines understanding, belief, and personalization.
3. Certainty is that a message must convey a high level of certainty about the events that occurred and what the victim should do, the certainty of information determines the level of trust in a warning and influences a person's decision making.

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4. Accuracy is the message conveyed must contain accurate, timely and complete data. This accuracy must contain messages about risks, locations and what recipients should do factually.
5. Clarity: the warning message must be conveyed clearly and use simple language that can be easily understood.
6. Frequency, that is, the message must be conveyed repeatedly because the frequency of information conveyed affects hearing, understanding, trust and decisions.
7. Guidance: Warning messages should contain guidance information for recipients on what to do and the time they have to act specifically and clearly related to the disaster event that is occurring.
8. Channel of communication: the message is conveyed through various channels such as print or electronic media or delivered directly. Warnings can be delivered to the public in various ways, for example through voice, electronic signals, or print media. Sound can be direct or broadcast through loudspeakers, public address systems, telephones, radio or television. Signals include sirens, alarms, whistles, signs, and lights. Leaflets, brochures, or videos can be used to distribute graphic information and printed messages. Effective warnings use a variety of possible channels to reach as many people as possible in a short amount of time.

Factors that influence the selection of other information sources are the characteristics of the recipient which consist of:

1. Environmental cues, these environmental cues are related to message characteristics. Environmental cues are the result of a person's perception of the physical conditions of their environment in order to receive, understand and validate disaster warning information and understand the disaster situation.
2. Social setting, social setting factors characterize the context in which emergency information is received. These factors include whether or not the family is together when the alert is delivered, what activities are being carried out at the time, and what other people are doing in response.
3. Social ties, namely the recipient's social ties, can influence the decision to respond to an alert.
4. Socio-demographic is the socio-demographic characteristics of the recipient, such as resources, gender, and socio-economic class, can affect listening, understanding, trust, personalization, and response.
5. Psychological, namely the psychological characteristics of the recipient, such as cognitive ability, personality, or attitude, can also affect the recep-

tion of information. Limited cognitive ability to process information is an obstacle for everyone who receives a warning.

6. Pre-warning perception is the role pre-warning perception plays in listening and decision-making. The concept of selective perception refers to the tendency to filter information to fit an existing view.

The following aspect is the order of importance of sources (information source horizon). This contains the most important and most useful sources of information that emerge over time during disaster information seeking and depends on which sources are available at the time of the disaster, which sources have the most up-to-date information, and which are the most reliable (Savolainen 2008). The information source horizon is a construct that indicates the selection of information sources within the information environment used and positions them according to their potential to meet information needs. The positioning of these sources is based on an assessment of their accessibility and quality.

The information horizon is divided into three zones. Zone 1 contains the most important sources of information, which are considered the most relevant in terms of quality and accessibility. Zone 2 contains sources of secondary importance, while zone 3 contains less important sources of information. It is possible to search for information using more than three zones, according to one's assessment of the information (Savolainen & Kari, 2004). Information sources that are typically employed during a disaster are categorized according to their sequence of use. Ryan (2013) provides a classification of these sources, which includes:

1. Others: friends, family, neighbors, and acquaintances, who may have special experience or knowledge (including official agency staff who communicate unofficially or who have access to official information).
2. Media: radio, television, newspaper or magazine.
3. Internet: online news portals, social media, YouTube, etc.
4. Official institutional media: government agencies, disaster-related institutions (via the internet, personal contact in an official capacity, newsletters, social media, etc.).

The sequence of sources utilized in this study provides a more comprehensive understanding of source preference construction, as well as offering a more dynamic portrayal of the concept of source horizon. The sequence of sources demonstrates the chronological order in which a person intends to utilize or has utilized the sources that have been placed within the information source horizon. These sequences may also be referred to as information pathways, which repre-

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sent the routes that an individual may take when searching for information. Individuals have the autonomy to choose whether they want information related to a particular topic, which information to accept or reject, and whether to continue searching. Therefore, the dotted line on the right side of the information source sequence indicates that, if necessary, the information seeker can return to Source 2 to confirm more detailed information.

This feedback, or additional or revised sense-making based on information received in the search, is a means to return to the search stage and reuse information from the initial stage of information gathering. Feedback may reveal challenges in information seeking and help to explain disaster-related situations. It can also be used to modify the information search strategy and to reexamine previous decisions. Time is an essential factor to incorporate into disaster information search models, as it affects the number of sources consulted, the rate and intensity of information search, and the effectiveness of the search process. In light of the aforementioned explanations, it can be postulated that the problem at hand in this study is the degree of conformity between the information-seeking behaviour of those affected by the Cianjur earthquake and the disaster information-seeking behaviour model.

METHODS

This research employs a quantitative methodology with a case study approach. The population under investigation comprises victims of the Cianjur earthquake disaster, defined as those aged 15 to 57. This age group is capable of making independent decisions and actions in response to disaster situations. However, the population size is unknown, necessitating the use of the Cochran formula (Sugiyono, 2022) to determine the sample size. The sample size for this study was 100 individuals, selected via the Cochran formula with a 10% margin of error. This was conducted through the use of accidental sampling, given the extensive nature of the population and the vastness of the geographical location. In this research, the technique of "accidental sampling" was utilized. This technique occurs when the researcher identifies an individual who meets the established criteria and is willing to participate in the study at the moment of data gathering (Saat & Mania, 2020, p. 78).

In this study, the data collection technique employed was the distribution of questionnaires containing a series of statements that had been systematically arranged in relation to disaster information search behavior to respondents who had been directly affected by the Cianjur earthquake. In addition, a literature review was conducted to obtain secondary data. The questionnaire utilized a Likert

scale as a measurement scale. Furthermore, the analysis technique employed in this research was descriptive statistical analysis. Descriptive statistical analysis is an analytical technique employed in the analysis of data, whereby a description of the collected data is made without any generalizations being drawn from the research results (Nurdin & Hartati, 2019, p. 204). The initial stage of the analysis is to calculate the distribution of the data obtained from the distribution of questionnaires. Once the frequency of the data has been obtained, the answers to the questionnaire are then interpreted using the Likert scale formula. The subsequent step is to calculate the mean score in order to ascertain the respondent's assessment. This can be achieved through the application of the following formula:

$$x = \frac{\sum x}{n}$$

x = average

$\sum x$ = sum of all x's

n = sum of all values.

The interval scale is used to place the respondent's position in the object of assessment whether it includes Strongly Appropriate, Appropriate, Inappropriate, or Strongly Inappropriate. To determine the scale with the following formula:

$$\text{Scale Interval} = \frac{\text{Range}}{\text{Number of interval classes}}$$

$$\text{Scale Interval} = \frac{4\text{-}1}{4} = 0{,}75$$

Based on the above calculations, the scale of interpretation of the average score of respondents' answers is obtained with the following scale range:

Strongly Appropriate	= 3,26 - 4,00
Appropriate	= 2,51 - 3,25
Inappropriate	= 1,76 - 2,50
Strongly Inappropriate	= 1.00 - 1.75

RESULTS AND DISCUSSION

Validity Test

Based on the results of validity testing in the table 1 it can be seen that 26 statement items in the questionnaire show the value of r count> r table (0.195), and the significance value is all <0.05. So the results of the validity test all statement items are declared valid because they have met the predetermined criteria.

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Table 1. Validity Test Results

No item/statement	R count	R table 5% (N = 100)	Sig.	Description
1	0,383	0,195	0,000	Valid
2	0,278	0,195	0,005	Valid
3	0,503	0,195	0,000	Valid
4	0,463	0,195	0,000	Valid
5	0,453	0,195	0,000	Valid
6	0,668	0,195	0,000	Valid
7	0,725	0,195	0,000	Valid
8	0,680	0,195	0,000	Valid
9	0,593	0,195	0,000	Valid
10	0,679	0,195	0,000	Valid
11	0,648	0,195	0,000	Valid
12	0,735	0,195	0,000	Valid
13	0,638	0,195	0,000	Valid
14	0,355	0,195	0,000	Valid
15	0,618	0,195	0,000	Valid
16	0,641	0,195	0,000	Valid
17	0,602	0,195	0,000	Valid
18	0,635	0,195	0,000	Valid
19	0,651	0,195	0,000	Valid
20	0,737	0,195	0,000	Valid
21	0,703	0,195	0,000	Valid
22	0,502	0,195	0,000	Valid
23	0,635	0,195	0,000	Valid
24	0,556	0,195	0,000	Valid
25	0,666	0,195	0,000	Valid
26	0,634	0,195	0,000	Valid

Reliability Test

Based on the reliability test results in table 2 , it can be seen that the Cronbach's alpha value of 26 statement items is 0.919. This value is greater than the basic value, namely 0.919> 0.6. So from the results of the reliability test all statement items can be declared reliable.

Table 2. Reliability Test Results

Reliability Statistics	
Cronbach's Alpha	N of Items
0.919	26

The Alert To The Problem Dimension

Based on table 3, it can be seen that indicator 1 obtained a score of 2.13 and indicator 2 with a score of 2.66. The average score of 2.39 was ob-

tained, the score is in the interval 1.76 - 2.50. With this score, it shows that the behavior of searching for information about disasters by victims of the Cianjur earthquake in the first warning dimension is at the "Inappropriate" level.

Table 3. The Alert To The Problem Dimension

No.	Indicator/Statement	Frequency				Score
		SA	A	D	SD	
1	I received or received information warning of a potential earthquake.	10	24	35	31	2,13
2	After receiving the warning, I confirmed the truth of the warning information	33	25	17	25	2,66
Total						**4,79**
Average Score						**2,39**

Information Seeker Characteristic Dimensions

Based on table 4 obtained the following results indicator 1 with a score of 2.2, indicator 2 with a score of 3.15, indicator 3 with a score of 3.16. The average score is 2.83. The score is in the interval 2.51 - 3.25. With this score, it shows that the behavior of searching for information about disasters by victims of the Cianjur earthquake in the dimension of information source selection criteria on the characteristics of the recipient is at the "appropriate" level.

Table 4. Information Seeker Characteristic Dimensions

No.	Indicator/Statement	Frequency				Score
		SA	A	D	SD	
1	Before the earthquake, I saw or felt natural signs that an earthquake was about to occur such as changes in temperature or weather, changes in animal behavior	11	26	35	28	2,2
2	I am in an environment where values, norms and customs are practiced.	39	44	10	7	3,15
3	I have a close relationship with the surrounding community, considering the neighbors in my neighborhood as family.	40	42	12	6	3,16
Total						**8,51**
Average Score						**2,83**

The results of this study related to the characteristics of recipients in terms of demographics show that based on the gender of the respondents this research is dominated by women as much as 65% and based on age dominated by 15-25 years old as much as 66%. And in terms of education, the majority are at the high school / equivalent education level as much as 47%. Based on the place of residence or location, the majority are not far from the city center / district as

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much as 56%. While the results of research conducted by Barbara Ryan (2018) on floods and flash floods that occurred in Queensland Australia. In flood disasters based on gender dominated by women as much as 72% and based on age dominated by ages 40-55 years as much as 48%. And in terms of education, the majority are at the college level as much as 56%. Based on the place of residence or location, the majority are not far from the city center / district as much as 39%.

In contrast to the results of research on flash flood disasters based on gender dominated by women as much as 73% and based on age dominated by 40-55 years old as much as 39%. And in terms of education, the majority are at the college level as much as 70%. Based on the place of residence or location, the majority are not far from the city / district center as much as 24%. The characteristics of recipients in terms of demographics in research conducted by Solicha Nur Karina (2020) on the earthquake in Lombok. based on gender dominated by women as much as 62% and based on age dominated by ages 17-22 years as much as 24%. Based on the place of residence or location, the majority are in the city center / district as much as 44%. We can conclude that in terms of demographics, there are several similarities between this study and the two previous studies, namely the gender of respondents is dominated by women. The location of the respondents' residence in this study with research conducted on floods and flash floods has similarities, namely not far from the city/district center.

In terms of social setting and social ties, the results show that the social setting of the Cianjur community is an environment that still applies values, norms, and customs in their daily lives. And have close social ties between each other with a great sense of brotherhood between neighbors with each other. However, in terms of environmental cues, most of them did not feel environmental cues before the earthquake. This is the same as the results of research by Solicha Nur Karina (2019) on the characteristics of the Lombok community as much as 84% of the people there still apply values, norms, and customs in their daily lives. And 80% of the people there have close social ties between each other, considering the surrounding community where they live as part of the family. In addition, the results of flash flood research conducted by Barbara Ryan (2018) in Queensland social ties are also an important factor. Most people get the main warning from neighbors.

Message and Source/form Characteristics Dimensions

Based on table 5, the results of data processing show indicator 1 with a score of 3.66, indicator 2 with a score of 3.56, indicator 3 with a score of 3.62, indicator 4

with a score of 3.53, indicator 5 with a score of 3.63 , indicator 6 with a score of 3.61, indicator 7 with a score of 3.59, and indicator 8 with a score of 3.55. An average score of 3.59 was obtained. The score is in the interval 3.26 - 4.00. With this score, it shows that the behavior of searching for information about disasters by victims of the Cianjur earthquake in the dimension of information source selection criteria on the characteristics of the source or message is at the "strongly appropriate" level.

Table 5. Message and Source/Form Characteristics Dimensions

No.	Indicator/Statement	Frequency				Score
		SA	A	D	SD	
1	In fulfilling my need for earthquake-related information, I prefer to use information that comes from official sources. For example: BMKG, BNPB or local government agencies.	76	18	4	2	3,66
2	Consistency in information sources is very important to me. I prefer to use information sources that are consistent in their delivery.	67	26	3	4	3,56
3	I tend to look for information sources that provide a high level of certainty and accuracy about the current disaster situation.	72	22	2	4	3,62
4	I prefer to use information sources that provide complete and comprehensive information. (Information on earthquakes ranging from first warnings, earthquake conditions, and evacuation guidelines).	61	33	4	2	3,53
5	I choose to use sources of information that are easy to understand and conveyed in a language that is easy to understand.	70	25	3	2	3,63
6	I prefer to use information sources that are easily accessible and updated regularly and periodically.	69	26	2	3	3,61
7	I prefer to use information sources that provide guidance on the actions I should take during a disaster situation, especially evacuation actions.	66	29	3	2	3,59
8	I prefer information delivered using various media that are easily accessible and familiar to me, such as the internet, television, radio, etc.	65	27	6	2	3,55
Total						**28,75**
Average Score						**3,59**

The results of data processing on the dimension of message characteristics in this study show an average score of 3.59, which indicates that respondents choose information sources that have characteristics, namely information sources

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that come from clear or formal sources, and have a level of consistency, certainty, accuracy, clarity, and frequency of messages coupled with the level of guidance conveyed in the message using various media.

These results are in line with research conducted by Solicha Nur Karina (2020) on the people of Lombok, 92% choose formal information submitted by the government, and related institutions. 68% choose sources whose delivery is delivered in a timely, complete, and accurate manner related to certainty. 92% chose clear information that uses language that is easy to understand. 86% chose information that contained disaster evacuation guidelines. And 70% chose information that explained the location of the epicenter, earthquake-affected areas, and evacuation sites.

Not much different from previous research, research conducted directly by Barbara Ryan (2018) on flood disasters in Queensland which states that message characteristics that influence the selection of information sources include the source or form that carries the message (availability, accessibility, source credibility. as well as message consistency, accuracy, certainty, guidance, and frequency. From the results of these studies, it illustrates that the information source chosen is a source of information that has the characteristics listed in the disaster information seeking model.

Information Source Horizon Dimensions

Most Important Sources

Table 6 shows indicator 1 with a score of 2.41, indicator 2 with a score of 3.09, indicator 3 with a score of 3.18, and indicator 4 with a score of 3.15. The average score was 2.95. The score is in the interval 2.51 - 3.25. With this score, it shows that the behavior of searching for information about disasters by victims of the Cianjur earthquake in the dimension of the information source horizon on the use of most important sources is at the "appropriate" level.

Table 6. Dimension Information Source Horizon – Most Important Sources

No.	Indicator/Statement	Frequency				Score
		SA	A	D	SD	
1	I use "Other people: friends, family neighbors or colleagues" as my main source of information.	14	23	49	12	2,41
2	I use "Media: radio, television, newspaper or magazine" as my main source of information.	37	42	14	7	3,09
3	I used the information source "Official Institutions: BMKG, BNPB, local government BMKG, BNPB, local government" as the main source of information.	42	38	16	4	3,18
4	I used the information source "Internet: Social media, YouTube, online news portals" as the main source of information.	44	33	17	6	3,15
Total						**11,83**
Average Score						**2,95**

Secondary Sources

Based on table 7, the results of data processing show indicator 1 with a score of 2.89, indicator 2 with a score of 3.13, indicator 3 with a score of 3.11, and indicator 4 with a score of 3.21. An average score of 3.08 was obtained. The score is in the interval 2.51 - 3.25. With this score, it shows that the behavior of searching for information about disasters by victims of the Cianjur earthquake in the dimension of the information source horizon on the use of secondary sources is at the "appropriate" level.

Table 8. Dimension Information Source Horizon – Marginal Sources

No.	Indicator/Statement	Frequency				Score
		SA	A	D	SD	
1	I use "Other people: friends, family neighbors or colleagues" as an additional source of information.	44	33	12	11	3,1
2	I use "Media: radio, television, newspapers or magazines" as an additional source of information.	31	50	16	3	3,09
3	I used Official Institution sources of information: BMKG, BNPB, local government BMKG, BNPB, local government as additional sources of information	26	54	15	5	3,01
4	I used the information source "Internet: Social media, YouTube, online news portals" as an additional source of information.	32	45	19	4	3,05
Total						**12,25**
Average Score						**3,06**

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The information source horizon according to the disaster information seeking model is divided into three zones, namely zone 1 most important source, zone 2 secondary source, and zone 3 marginal source. The results of this study in zone 1 (most important source) the sources of information used by victims of the Cianjur earthquake are sources of information sourced from official institutions: BMKG, BNPB, local government. This source received the highest score among other sources in zone 1, which amounted to 3.18. Not much different from the results obtained from research conducted by Solicha Nur Karina (2019), the main source of information chosen and used by the people of Lombok during an earthquake is a source of information from official institutions. The results of research conducted by Barbara Ryan (2018) show almost the same results. In the flood disaster, the main source used by the St. George community was the official website containing weather news and flood maps issued by the Balonne Shire Council. However, in flash flood disasters the results show a difference, namely the main source of information used is television media. Not only in flash floods, the results of research conducted by Rahmi (2019) on earthquakes that occurred in Japan also showed differences, namely the main source of information at the time of the disaster came from family or neighbors.

Furthermore, for information sources in the 2nd zone (secondary sources). Judging from the highest score of the questionnaire data processing results of 3.21 Cianjur earthquake victims chose information sources sourced from the internet: social media, youtube, online news portals as a supporting source when searching for information. different results in research conducted by Solicha Nur Karina (2019) in the study the people of Lombok used media information sources consisting of radio, television, newspapers or magazines as a supporting source during the earthquake. Based on the results of research by Barbara Ryan (2018) h al the same happened to the Australian community in the flood disaster, the supporting information source used was the media in the form of ABC radio. The same thing happened in research conducted by Rahmi (2018) on the earthquake disaster that occurred in Japan that the supporting source used was broadcast media. However, differences exist in research by Barbara Ryan (2018) on flash flood disasters. Supporting information sources that Australians in Toowoomba use are other people's information sources, namely family, neighbors, friends, or colleagues.

In the 3rd zone, additional information sources (marginal sources). The results of this study show that the source of information with the highest score of 3.1 for additional information sources is other people's information sources: friends, family, neighbors, or colleagues used by Cianjur earthquake victims as

additional information in the search for information about disasters. These results are the same as the results shown in the Lombok earthquake conducted by Solicha Nur Karina (2019) additional sources of information used by the people of Lombok, namely other sources of information: friends, family, neighbors, or colleagues. Not much different from the sources of information used by earthquake victims in Japan. The results of research from Rahmi (2018) show that additional sources of information used are sources of information from colleagues/work community. In contrast to the results of Barbara Ryan's research (2018) in flood disasters, the additional source of information used is media information sources in the form of television, while in flash flood disasters the additional source used is radio.

Feedback Dimension

Based on table 9, the results of data processing show a score of 3.36. The score is in the interval 3.26 - 4.00. With this score, it shows that the behavior of searching for information about disasters by victims of the Cianjur earthquake in the feedback dimension is strongly appropriate.

Table 9. Feedback Dimension

No.	Indicator/Statement	Frequency				Score
		SA	A	D	SD	
1	I conduct a process of re-searching information about earthquake disaster when the information obtained does not meet the information needs I need.	56	29	10	5	3,36
Total						**3,36**
Average Score						**3,36**

The feedback is a step to return to the search stage if there are information needs that have not been met. The results of this study show a high score of 3.36. With this score, it marks that the Cianjur earthquake victims have carried out the process of re-searching information when the information has not met their needs. Research conducted by Solicha Nur Karina (2019) shows different results. As many as 46% of the people of Lombok did feedback these results were less than those who did not feedback or re-search as many as 54%.

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Table 10. Recapitulation of Data Processing

No	Dimensions	Score
1	The Alert to The Problem	2,39
2	Information Seeker Characteristics	2,83
3	Message and Source/Form characteristics	3,59
4	Information Source Horizon	3,03
5	Feedback	3,36
	Total score	**15,2**
	Average score	**3,04**

Table 10 is a recapitulation of data processing results related to the information-seeking behavior of Cianjur earthquake victims. Each dimension has a final score resulting from the average score of each statement/indicator in that dimension. Starting from the first warning dimension, recipient characteristics, source or message characteristics to feedback, an average score of 3.04 was obtained, which is in the interval 2.51 - 3.25. This score indicates that the information-seeking behavior carried out by victims of the Cianjur earthquake was at the "appropriate" level.

Figure 2. Research Findings

Based on Figure 2, it can be seen that the dimension of selecting information sources on the characteristics of the source or message is the dimension that has the highest score of 3.59 which lies in the interval 3.26 - 4.00, which shows that the results of this dimension are at the "strongly appropriate" level. Meanwhile, the first warning dimension is the dimension that has the lowest score, namely 2.39, which lies in the interval 1.76-2.50, this score indicates that the results of the first warning dimension are at the "Inappropriate" level.

Order of Use of Information Sources

Table 11. Order of use of information sources

Sequence-	Sources of information	Zone
1	Official Institutions: BMKG, BNPB, local government BMKG, BNPB	Primary source (*most important source*)
2	Internet: Social Media, YouTube, online news portals	*Secondary sources*
3	Other people: friends, family neighbors or colleagues	*Marginal* source

The order in which sources are used is closely related to the horizon of the source. To see the order of use of information sources can be seen from the use of primary, secondary, and marginal sources. The primary sources used was "Official Institutions: BMKG, BNPB, local government BMKG, BNPB". This source had the highest score of 3.18 as the main source of information used by respondents. The secondary sources of information used was "Internet: Social media, YouTube, online news portals". This source of information has the largest score of 3.21 as an additional source of information used by respondents. The marginal sources is the source of information "Other people: friends, family neighbors or colleagues". This source of information has the largest score of 3.1 as an additional source of information used by respondents.

The results of the research that has been conducted show that in the initial warning dimension, most of the 66 respondents stated that they did not get a warning before the earthquake occurred. These results are in line with previous research conducted in Lombok in the earthquake that occurred in 2018 by Solicha Nur Karina. Results from research Karina (2019) 100% of respondents did not get a warning of an earthquake. This is because earthquakes are disasters that cannot be predicted in advance. According to BMKG, a government agency that monitors earthquake activity in Indonesia, especially tectonic earthquakes cannot be predicted when the disaster will occur. (BMKG 2023). The earthquake that occurred in Cianjur was an earthquake with a fault that has not been well identified. (Supendi et al. 2022, 3). This is why there was no warning before the earthquake occurred.

In contrast to other disasters whose occurrence can be predicted, such as flood disasters by looking at environmental cues such as rainfall and water discharge levels in rivers that can be the basis for an early warning. Ryan (2018) explained that in the flood disaster that occurred in Queensland, people got the first warning from television that aired news and weather forecasts and in flash floods they got early warnings from friends, family, or colleagues.

The results of this study formed an order pattern of the use of information sources used by victims of the Cianjur earthquake, starting with using information sources originating from official institutions if these information sources have not met the information needs needed, followed by searching for information using information sources originating from the internet: social media, YouTube, online news portals. Then, the last source of information used by vic-

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tims of the Cianjur earthquake was sources from other people: friends, family, neighbors, or colleagues. There are similarities from the results of research conducted by Solicha Nur Karina (2019) on the order of use of information sources used by the people of Lombok. The people of Lombok also start the search for information by using sources from official institutions and the last order is other people's sources of information: friends, family, neighbors, and colleagues. However, in second place they used media information sources: radio, television, newspapers, or magazines. The earthquake in Japan also showed a similar pattern in the order of information sources. The first order of use was sources of information from family or neighbors. The second order was followed by sources of information from broadcast media. And finally, sources of information from colleagues/work community.

This sequence of information sources will differ from disaster to disaster and is influenced using primary, secondary, and marginal sources. An example is the research on floods and flash floods in Australia. The order of information sources in the flood disaster in St. George in the first order is the official website followed by using the information source me he forms radio and in the last order the information source used is television. The order of information sources is also different in flash floods. In the first order, the source of information used is television, followed by the second order, namely media information sources in the form of radio and in the last order, namely other people's information sources .

CONCLUSION

This research refers to the disaster information seeking behavior model, which is comprised of five dimensions: the first warning dimension, the recipient characteristics dimension, the source or message characteristics dimension, the information source horizon dimension, and the feedback dimension. Based on the findings and data analysis conducted, it can be concluded that the disaster information seeking behavior carried out by Cianjur earthquake victims obtained an average score of 3.04, which lies in the interval 2.51–3.25. This score indicates that the information-seeking behavior of Cianjur earthquake victims is at the "appropriate" level. Of the dimensions evaluated, the dimension that exhibited the highest level of conformity was that of selecting information sources based on the characteristics of the source or message. This dimension received the highest score of 3.59, which falls within the interval 3.26 - 4.00. The first warning dimension is that which has the lowest score, which is 2.39, situated within the interval 1.76–2.50. This result indicates that the first warning dimension is one that is located in the "inappropriate" level. This evidence suggests that the first warning was not optimally received by a significant portion of the Cianjur victims. It is thus incumbent upon duly authorised institutions to provide disaster mitigation education and disaster risk management with greater intensity, in order to forestall

the occurrence of disasters. One such means of achieving this is by introducing an understanding of disaster characteristics and the measures that can be taken to mitigate their impact, thus equipping the populace to respond effectively to natural signs or early warnings of a disaster.

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