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Data Article

Data on knowledge management and natural disaster preparedness: A field survey in East Lombok, Indonesia

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ABSTRACT

Knowledge management is a vital part of disaster preparedness in reducing the disaster impacts. This article presents data based on a field survey of 200 people in East Lombok, Indonesia. The data taken from the survey is presented to examine how the community utilized the knowledge created and transferred during the preparedness phase into actions during the response phase. This article's data can be served as a starting point to examine knowledge management topics in humanitarian operations literature further and to reveal more novel insights from the survey results. This data-in-brief article accompanies the paper "Knowledge management and natural disaster preparedness: A systematic literature review and a case study of East Lombok, Indonesia" by Ratih Dyah Kusumastuti, A. Arviansyah, N. Nurmala, and Sigit S. Wibowo.

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Specifications Table

Subject	Social sciences
Specific subject area	Safety research
Type of data	Primary data
How data were acquired	Through a field survey in East Lombok regency in Indonesia.
Data format	Analyzed survey data
Parameters for data collection	Personal data; disaster preparedness knowledge and the source of knowledge before mid-2018 earthquake; response during mid-2018 earthquake; disaster preparedness knowledge and the source of knowledge between mid-2018 and early 2019 earthquakes; response during early 2019 earthquake.
Description of data collection	The data is gathered by distributing questionnaires directly to 200 residents in Sembalun and Sambelia sub-districts, East Lombok regency, West Nusatenggara province, Indonesia.
Data source location	Sembalun and Sambelia sub-districts, East Lombok regency, West Nusatenggara province, Indonesia
Data accessibility	With the article Data is in a Microsoft Excel file. Sheet 1 presents the survey data, Sheet 2 explains the data label, and Sheet 3 explains each question's options.
Related research article	Kusumastuti, R.D., Arviansyah, A., Nurmala, N., Wibowo, S.S. Knowledge management and natural disaster preparedness: A systematic literature review and a case study of East Lombok, Indonesia. International Journal of Disaster Risk Reduction. In Press. https://doi.org/10.1016/j.ijdrr.2021.102223

Value of the Data

- The field survey data extends the understanding of knowledge management activities during the preparedness phase and proffer insights on how the knowledge creation and transfer in the preparedness phase can make a difference during the response phase of a natural disaster.
- The data is unique/rare and was taken from actual events (not an isolated experiment), comparing two responses towards two consecutive massive earthquakes, with disaster preparedness activities done in between earthquakes.
- For researchers, this article allows statistical analysis extension. For humanitarian organizations, this article gives insights into knowledge transfer methods that work well with communities during the preparedness phase.
- The article can be used as a starting point to further discover additional findings from the survey data.

1. Data Description

The data in this article is the data collected from a field survey using a questionnaire that was developed based on a systematic literature review on knowledge management and disaster preparedness [1,2]. We inquired about the activities practiced before the mid-2018 earthquake and between the mid-2018 earthquake and the early-2019 earthquake. We also elicited the community's responses during the two earthquakes to define the activities' impact on the community's responses during the disasters.

Based on the Regional Agency for Disaster Management (BPBD) data, we chose two subdistricts in East Lombok Regency and five villages in each of the selected subdistricts that experienced severe impacts/damages from the earthquakes. We included 100 people from the Sambelia sub-district and 100 people from the Sembalun sub-district for this survey. The respective village heads conducted the respondent selection in each village (as they knew well the villagers' condition after the earthquakes); 20 respondents were selected. Due to traumatic and sensitive

issues, heads of the villages invited the selected respondents to the village meeting areas so that our local enumerators could ask and fill in the survey; hence, all questions were answered by the respondents.

Below is the English version of the questionnaire with the summary of the survey result.

Questionnaire - English version including response

Page 1

Section - Consent

Did you experience the July 2018 earthquake & the February/March 2019 earthquake? (choose only one)	Frequency	
Yes (continue to F1)	200	100%
No (end)	0	0%
Total		100%

Personal Data (Summary of personal data can be seen in the related paper)

F1 Respondent's name: *completed*

F2 Age (in years): *completed*

F3 Gender: (choose only one)

Male - Female

F4 Respondent's address: *completed*

F5 Phone number: *completed*

F6 Occupation: (choose only one)

Farmer (own land) - Farm laborer - Civil servants - Private employees - Entrepreneurs - Unemployed - Other, please specify

F7 Last education level: (choose only one)

No school - Primary education (SD) - Junior high school (SMP) - Senior high school (SMA) - Diploma

Bachelor's Degree - Other, please specify:

F8 Religion: (choose only one)

Muslim- Catholic - Protestant - Hindu - Buddhist - Confucianism - Other, please specify

F9 Number of family members that create income for the family: (choose only one)

None - One - Two - More than two

F10 What was your total monthly household income before the earthquake in July 2018 (in Indonesian Rupiah)? (choose only one)

Below 1 million - 1 million to 2 million - 2 million to 5 million - above 5 million

F11 What was your total monthly household income between July 2018 and February/March 2019 (in Indonesian Rupiah)? (choose only one) below 1 million- 1 million to 2 million - 2 million to 5 million - above 5 million

F12 What was your total monthly household income after the earthquake in February/March 2019 (in Indonesian Rupiah)? (choose only one) below 1 million- 1 million to 2 million - 2 million to 5 million - above 5 million

Before the July 2018 earthquake

P1 Do you have any information about earthquake disaster preparedness before July 2018? (choose only one)	Frequency	
Yes (continue to P2)	5	3%
No (continue to Q1)	195	98%
Total	200	100%

P2 If yes, state what sources and information were obtained on disaster preparedness: (options can be more than one)

N=5 respondents	Disaster risk	Disaster map	Evacuation route	Self-evacuation procedure
Mass media (newspaper, TV)	1	1	0	1
Social media	1	0	0	1
Internet	0	0	0	1
Village meeting	0	0	0	0
Socialization/ education/extension	2	1	1	1
Disaster simulation	2	1	1	1

P3 If you attended a socialization/education/extension, please state the organizer of the activity: (options can be more than one)	Frequency	
Government	0	0%
Indonesian Red Cross	0	0%
NGO	0	0%

P4 If you attended a disaster simulation, please state the organizer of the activity: (options can be more than one)	Frequency	
Government	0	0%
Indonesian Red Cross	0	0%
NGO	0	0%

P5 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *disaster risks* **where I live** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: none.

P6 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *disaster-prone locations* **where I live** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: none.

P7 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *evacuation routes* **where I live.** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: none.

P8 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *self-evacuation procedure* **where I live.** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: none.

P9 Which potential disaster that can affect the area where you live: (options can be more than one), N= 200 respondents	Frequency	
Earthquake	55	28%
Flood	103	52%
Volcano eruption	15	8%
Landslide	21	11%
Other, please specify	6	3%

During the earthquake in July 2018

Q1 Where were you when the earthquake occurred: (choose only one)	Frequency	
Inside a building (continue to Q2)	123	62%
Outside a building (continue to Q4)	77	39%
Total	200	100%

Q2 Inside the building: what did you do for the first time when an earthquake occurred? (choose only one)	Frequency	
Protect yourself (continue to Q3)	13	7%
Exit the building (continue to Q6)	103	52%
Stay quiet, waiting for the earthquake to finish (continue to Q6)	7	4%
Total	123	100%

Q3 Inside the building: if your action were to protect yourself/your family, what would be done: (options can be more than one), N= 13 respondents	Frequency	
Get down	7	54%
Take cover under tables/beds	5	38%
Hold on to something	4	31%
Keep away from windows	5	38%
Turn off the stove/electricity	0	0%
Other, please specify:	0	0%

Q4 Outside the building: what did you do for the first time when the earthquake occurred? (options can be more than one), N= 77 respondents	Frequency	
Get down	26	34%
Avoid buildings/electric poles	40	52%
Keep driving	0	0%
Avoid landslides	2	3%
Other, please specify:	0	0%

Q5 What did you first do after the earthquake? (choose only one)	Frequency	
Stay in place	102	51%
Find a safe place	91	46%
Go to a shelter/meeting place that has been determined	7	4%
Total	200	100%

Q6 Who did you contact after conditions were deemed to be safe? (choose only one), N = 200 respondents	Frequency	
Family	125	63%
Village officials	27	14%
Head of the neighborhood unit	2	1%
Informal community leader	3	2%
Other, please specify:	0	0%
Total	157	63%

Page 2

The time between the first earthquake (July 2018) and the second earthquake (February/March 2019

R1 Did you get any information about disaster preparedness between August 2018 and February 2019? (choose only one)	Frequency	
Yes (continue to R2)	109	55%
No (continue to S1)	91	46%
Total	200	100%

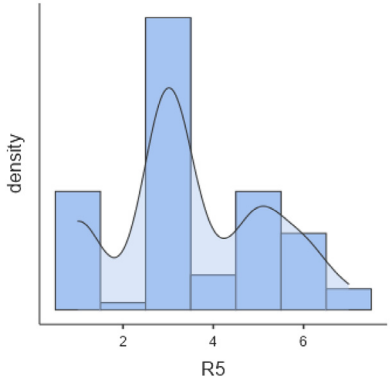
R2 If yes, state what sources and information were obtained on disaster preparedness: (options can be more than one)

N=109 respondents	Disaster risk	Disaster map	Evacuation route	Self-evacuation procedure
Mass media (newspaper, TV)	26	9	0	18
Social media	8	1	4	9
Internet	9	0	3	10
Village meeting	23	4	10	15
Socialization/ education/extension	50	15	22	48
Disaster simulation	19	9	10	16

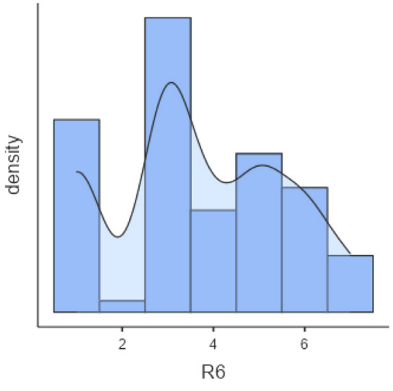
R3 If you attended a socialization/education/extension, please state the organizer of the activity: (options can be more than one), N = 109	Frequency	
Government	51	47%
Indonesian Red Cross	22	20%
NGO	35	32%

R4 If you attended a disaster simulation, please state the organizer of the activity: (options can be more than one), N = 109	Frequency	
Government	51	47%
Indonesian Red Cross	0	0%
NGO	0	0%

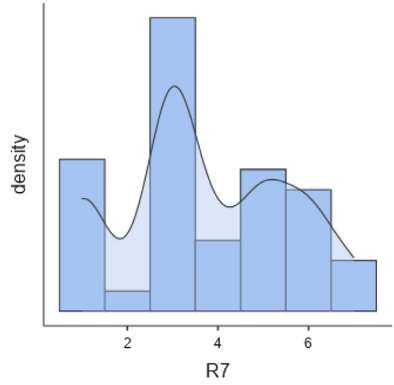
R5 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *disaster risks* **where I live** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: 3.51 ± 1.66.



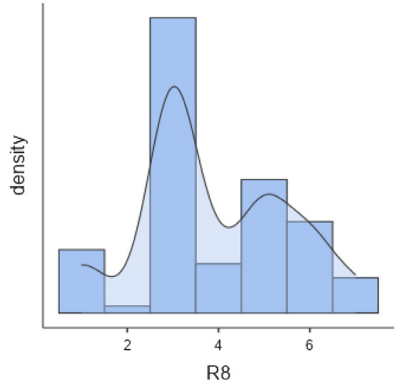
R6 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *disaster-prone locations* **where I live** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: 3.66 ± 1.83.



R7 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *evacuation routes* **where I live.** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: 3.70 ± 1.81.



R8 After obtaining the information/consultation/extension/simulation mentioned above, I understand about the *self-evacuation procedure* **where I live.** (Likert scale, 1 = strongly disagree, 7 = strongly agree). Mean ± SD: 3.81 ± 1.54.



During the earthquake in February 2019

S1 Where were you when the earthquake occurred: (choose only one)	Frequency	
Inside a building (continue to S2)	52	26%
Outside a building (continue to S4)	148	74%
Total	200	100%

S2 Inside the building: what did you do for the first time when an earthquake occurred? (choose only one)	Frequency	
Protect yourself (continue to S3)	12	23%
Exit the building (continue to S6)	35	67%
Stay quiet, waiting for the earthquake to finish (continue to S6)	5	10%
Total	52	100%

S3 Inside the building: If your action was to protect yourself/your family, what would be done: (options can be more than one), N= 12 respondents	Frequency	
Get down	5	42%
Take cover under tables/beds	4	33%
Hold on to something	4	33%
Keep away from windows	3	25%
Turn off the stove/electricity	11	92%
Other, please specify:	0	0%

S4 Outside the building: what did you do for the first time when the earthquake occurred? (options can be more than one), N= 148 respondents	Frequency	
Get down	43	29%
Avoid buildings/electric poles	68	46%
Keep driving	1	1%
Avoid landslides	5	3%
Other, please specify:	0	0%

S5 What did you first do after the earthquake? (choose only one)	Frequency	
Stay in place	67	34%
Find a safe place	119	60%
Go to a shelter/meeting place that has been determined	14	7%
Total	200	100%

S**6 Who did you contact after conditions were deemed to be safe?** (choose only one), N = 200 respondents	Frequency	
Family	141	71%
Village officials	13	7%
Head of the neighborhood unit	2	1%
Informal community leader	1	1%
Other, please specify:	0	0%
Total	141	71%

THE SURVEY IS FINISHED AND THANK YOUDIB107156

2. Experimental Design, Materials, and Methods

Extant studies have a limited view on knowledge management framework, specifically during a community preparedness phase on sudden-onset natural disasters. The preparedness phase is vital considering the volatility and unpredictability of this kind of disaster [3,4]. We employ the survey in Sembalun and Sambelia sub-districts (in East Lombok regency of West Nusatenggara province of Indonesia) to investigate whether the knowledge created and transferred during the preparedness phase would improve the community's response during sudden-onset natural disasters. Our related article describes the measurement scale development based on a systematic literature review and in-depth interviews with eight humanitarian organizations in Indonesia. We also conducted a pretest to improve the questionnaire readability.

The survey covers 200 respondents who have experienced two earthquakes within six months based on the purposive sampling method. The survey is a structured questionnaire constructed chronologically and comprises of (1) respondents' characteristics; (2) knowledge management activities before the first earthquake; (3) respondents' response during the first earthquake in mid-2018; (4) knowledge management activities between both earthquakes; and (5) respondents' response during the second earthquake in February 2019. We employ local enumerators to conduct the survey and brief them regarding all the questions in the survey questionnaire. The collected data is then analyzed to identify whether the respondents acted cor-

rectly, i.e., adhere to the guidelines published by the National Agency for Disaster Management (BNPB) shared through disaster preparedness activities, such as community meetings and social engagements. We analyze the survey data using statistical software (Statistical Package for Social Sciences/SPSS). Further potential statistics analysis can be performed; this includes but not limited to, for instance, (1) effectiveness analysis of disaster preparedness information sources on individuals' correct responses towards earthquakes, (2) crosstab analysis to investigate relationships between individuals' perceptions, their profiles, and response towards earthquakes.

Ethics Statement

The research team has explained the study's objectives and the required information to the respondents. They were aware of the research process and voluntary participation. The respondents could remain anonymous, and their responses are treated privately. Consent has been obtained orally from the respondents.

CRediT Author Statement

A. Arviansyah: Writing - original draft preparation, review, and editing; **Ratih Dyah Kusumastuti:** Project administration, Writing - review and editing; **N. Nurmala:** Conceptualization, Data curation; **Sigit S. Wibowo:** Software, Visualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have or could be perceived to have influenced the work reported in this article.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2021.107156.

References

[1] A.M.T. Thomé, L.F. Scavarda, A.J. Scavarda, Conducting systematic literature review in operations management, Prod. Plan. Control. 27 (2016) 408–420, doi:10.1080/09537287.2015.1129464.
[2] D. Denyer, D. Tranfield, Producing a systematic review, in: Sage Handb, Organ. Res. Methods., Sage Publications Ltd, Thousand Oaks, CA, 2009, pp. 671–689.
[3] B.M. Beamon, B. Balcik, Performance measurement in humanitarian relief chains, Int. J. Public Sect. Manag. 21 (2008) 4–25, doi:10.1108/09513550810846087.
[4] L.N. Van Wassenhove, Humanitarian aid logistics: supply chain management in high gear, J. Oper. Res. Soc. 57 (2006) 475–489, doi:10.1057/palgrave.jors.2602125.