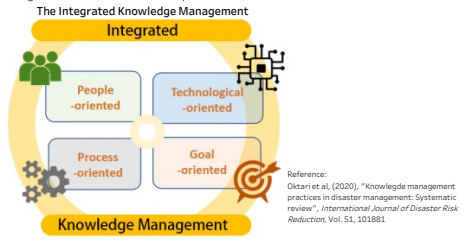


Research Publications about Disaster Knowledge Management in Indonesia

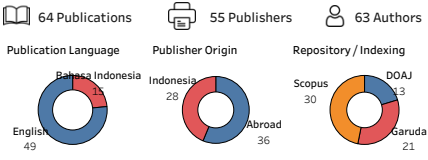
Indonesia Disaster Knowledge Update (IDKU) is one of the primary efforts of CARI! to contribute to knowledge management in Indonesia. To celebrate one year of IDKU's release, this month CARI! looks at disaster-related Knowledge Management (KM) research. In this edition, we will discuss the development of KM related to disasters in Indonesia. It includes all articles about KM research applied in disaster contexts. Moreover, we conducted an analysis based on four principle elements used by researchers in defining knowledge management practices.

Scientific knowledge is a fundamental asset in the effort to advance disaster management toward resilience, and, in the process, is changing the role of science in reducing disaster risks and disaster resilience from a strategic level (policy-making) to the practical level. Knowledge creation and management create an enabling environment for empirical and evidence-based problem-solving and decision-making, thus increasing capacity toward stronger disaster resilience. Knowledge Management (KM) is a management function aimed at formulating, implementing, and evaluating strategies that guarantee the process of disseminating the appropriate knowledge and format to the right individuals at the correct place and time.



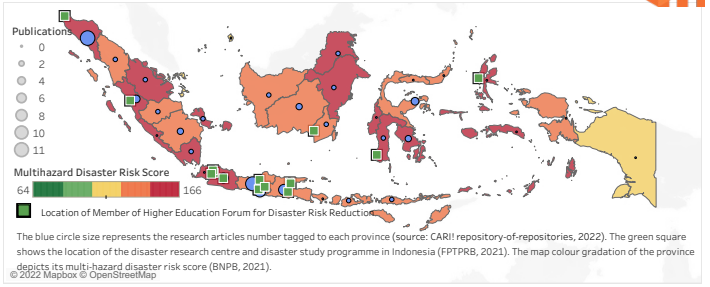
- 1) **People-oriented KM**  
Stimulate and promote a sense of innovation by owning a positive impact on the individual's affective engagement and impersonal trust. This includes enabling remote collaboration, supporting communities of practice, facilitating knowledge sharing, and encouraging storytelling.
- 2) **Process-oriented KM**  
Implementing support elements (i.e., cultural principles and leadership) to enhance knowledge capture and managing information (i.e., acquisition, distribution, and creation).
- 3) **Technological-oriented KM**  
Enhancing system integration and data mining, utilizing intelligent agents or exploiting the expert systems to support stakeholder collaboration, communication, undertaking information searches, and participating in real-time learning.
- 4) **Goal-oriented KM**  
Promote the performance of both individuals and organizations by ensuring the appropriate knowledge, can be used in the right format and manner as well as at the right time and place.

Research Articles Statistics



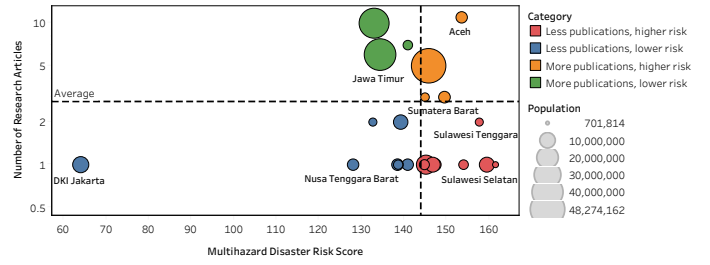
For the purposes of analysis on IDKU, we examined research articles that investigated knowledge management practices in disasters. The scientific articles we used in this analysis were obtained from Scopus DOAJ and Garuda. Based on the multi-stage filtration process that we conducted by using selecting keywords and systematic review, we obtained 64 research articles for our in-depth analysis.

Research Articles Distribution Map



In general, research on disaster knowledge management in Indonesia is still limited. The map shows provinces on Java Island such as Central Java and DI Yogyakarta are among the locations that have the highest number of articles. Aceh province in Sumatra is also one of the few provinces that have many research articles. Meanwhile, other provinces in Kalimantan, Sulawesi and Nusa Tenggara Islands have relatively few articles. None of the provinces in easternmost Indonesia has already produced any articles. It may correlate with the location of disaster study centres that is mostly located in western Indonesia. In addition, this region is also the location of significant disasters that have received a lot of attention from the public, including researchers, who later became the background for the development of research on KM in the region.

Research Articles VS Multihazard Disaster Risk Score

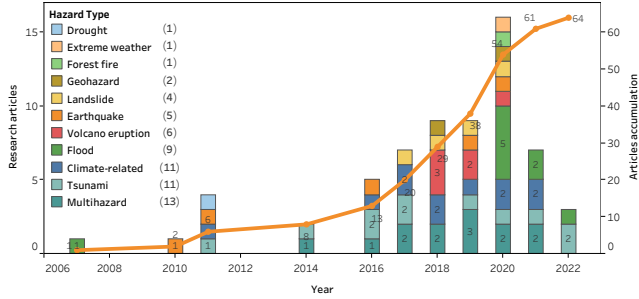




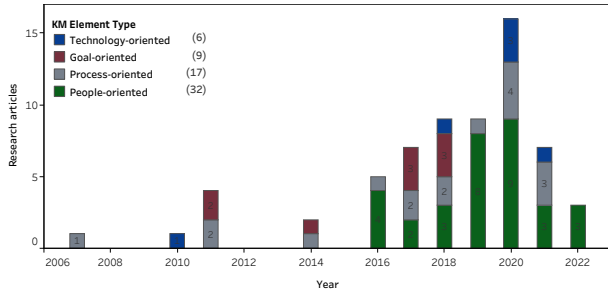
## Growth of Research Articles

## Top Research Articles

(a) Research Publication Articles Trend (hazard-type)



(b) Research Publication Articles Trend (KM element-type)



The bar chart above indicates the research articles' growth trend from 2007 to 2022.

The bar chart above (a) shows that from year to year interest in the topic of KM on disasters, although still relatively small compared to other topics, has seen an increasing change. The type of disaster hazard that is widely studied is multi-hazard type in par with tsunamis and climate-related type.

In bar chart (b) it is shown that the KM being studied is more related to the "People-oriented" element and there are still few studies for KM based on the other three elements such as technology, goals and processes. This shows that KM that focuses on these three elements is still rare, this is also one of the fundamental reasons for the establishment of CARI.

### Satellite-based damage mapping following the 2006 Indonesia earthquake-How accurate was it?

Kerle N. | International Journal of Applied Earth Observation and Geoinformation  
Published on September 3, 2010 | Cited by 45 articles

### Climate knowledge cultures: Stakeholder perspectives on change and adaptation in Nusa Tenggara Barat, Indonesia

Bohensky E. | Climate Risk Management  
Published on January 1, 2016 | Cited by 21 articles

### Half full or half empty? Shelter after the Jogjakarta earthquake

MacRae G. | Disasters  
Published on January 1, 2011 | Cited by 15 articles

### Collaborating on establishing an agro-meteorological learning situation among farmers in Java

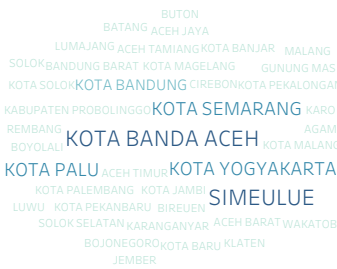
Winarto Y. | Anthropological Forum  
Published on July 1, 2011 | Cited by 14 articles

### Addressing inadequacies of sectoral coordination and local capacity building in Indonesia for effective climate change adaptation

Yoseph-Paulus R. | Climate and Development  
Published on January 2, 2018 | Cited by 8 articles

The list above is the top-five research articles on disaster knowledge management themes in Indonesia ranked by the number of citations from 2007 to 2022 sourced from the Scopus directory. Four out of five articles above discuss the extent of local knowledge applied in each disaster-related subject matter. Another one looks at the people-oriented knowledge management and how it correla..

## Top Investigated Cities



## Top Investigated Topics



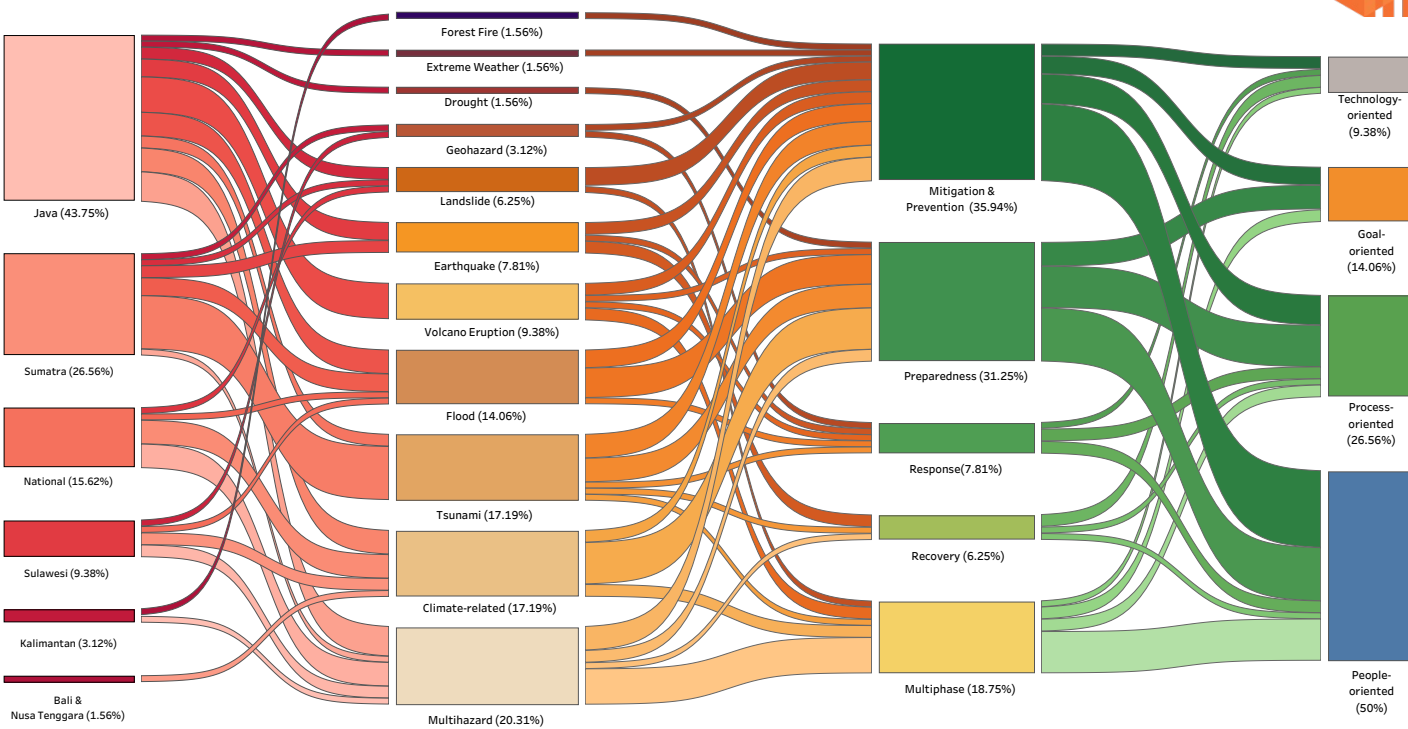
Several locations in Aceh province, such as Banda Aceh city and Simeulue district, were the most frequently investigated locations. Cities on the island of Java are also frequently studied, such as the city of Yogyakarta, the city of Semarang, and the city of Bandung. The city of Palu is also a city that has been researched quite a lot. The 2018 Central Sulawesi Earthquake, Tsunami, and Liquefaction, and The 2004 Indian Ocean Tsunami seem to have had a lot of influence to explore local knowledge about disasters such as "smong".

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Sankey Diagram of Research Articles: Location to Hazard type to Disaster Management Phase to Element Knowledge Management



The Sankey diagram is visualized proportionally to the number of publications. The larger size of the box and the wider lines indicate a greater number of publications accounted for them. The Sankey diagram illustrates the distribution of scientific publications and their relations across locations, type of hazards, and element (i.e. the box) as well as the number of publications connecting between the boxes. From Sankey above, we can see that studies related to KM have priority types of disaster hazards that vary between regions. In the Java region, studies related to KM tend to discuss KM related to the types of Volcano hazard, Multi-hazard and climate-related. Meanwhile, the Sumatra region has a great tendency to discuss tsunamis. If we look at the disaster management phase, the KM being studied tends to discuss the mitigation, prevention and preparedness phases. Meanwhile, in terms of KM elements discussed, they tend to discuss People-oriented and then followed by Process-oriented, Goals-oriented, and lastly research on Technology-oriented KM.