



# **CONTENT ANALYSIS OF PROBLEMS DISASTER RISK REDUCTION (DRR) WITH SUSTAINABLE DEVELOPMENT GOALS (SDGS) IN INDONESIA BASED ON THE READY STAGES OF THE DRR INTEGRATION PROCESS**

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<p><b>Received:</b> 6<sup>th</sup> April 2022 <b>Accepted:</b> 6<sup>th</sup> May 2022 <b>Published:</b> 17<sup>th</sup> June 2022</p>	<p>This research is based on raising awareness, assessing, and finally creating a new need, to integrate DRR with the Sustainable Development Goals (SDGs) in a new disaster risk reduction called the Sendai Framework for Disaster Reduction (SFFDR). The integration scheme above provides a big picture of the positive impact and significance of the integration between DRR and the SDGs. Not only reducing the impact of the infrastructure of a disaster area but also reducing the risk of human resilience affected by the disaster. The mixed-method used in this research will be analyzed by making categorization and clustering contextually through the NVIVO application. Five stages of classification of stakeholder readiness in integrating DRR with SDGs namely Knowledge, Understanding, Mastery, Advocacy, and Implementation. The integration of DRR with the SDGs can ensure the realization of a community living system that is resilient and adaptive in dealing with disasters, thereby minimizing the negative impact of disasters on the achievement of the SDGs.</p>

**Keywords:** DRR (Disaster Risks Reduction), SDGs (Sustainable Development Goals), NVIVO application, integration, 5 stages of readiness

Countries in the world have previously used the Hyogo Framework for Action (HFA) as a blueprint as well as a framework for disaster risk reduction efforts. In 2015, the HFA ended and started a new step leading to the Disaster Risk Reduction (DRR) framework (Sunarti E. , Sumarno, Islamia, & Fithriyah, 2018). This new framework is based on raising awareness, assessing, and finally creating a new need, to integrate DRR with the Sustainable Development Goals (SDGs) in a new disaster risk reduction called the Sendai Framework for Disaster Reduction (SFFDR).

The new chapter to integrate DRR with the SDGs is considered a strategic action in realizing the mandate of Indonesian Law Number 24 of 2007. In this Indonesian Law, apart from the 3 main phases covering disaster management such as the pre-disaster, emergency response, and post-disaster phases, there is a phase in the formation of policies and programs that can prevent or reduce the risk of a disaster.

There are at least two main factors why the integration of DRR with the SDGs is important in disaster management: first, the integration of DRR with the SDGs ensures the realization of a community life system that is resilient and adaptive in dealing with disasters, thereby minimizing the negative impact of disasters on the achievement of the SDGs. Second, the integration will lead to the prevention of disasters caused by multi factors (extreme weather, climate change, eruptions, and disasters caused by human activities). (Sunarti *et all*, 2018).

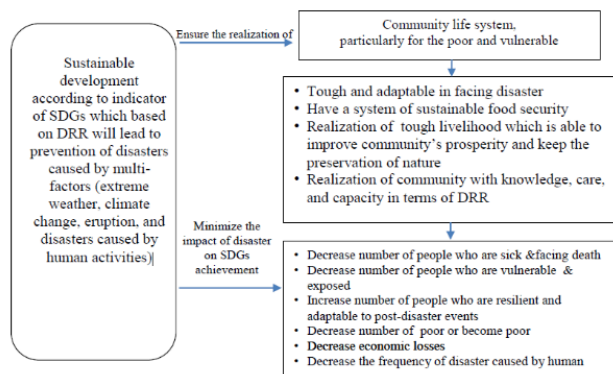


Figure 1 Why integration of DRR with the SDGs is important

The integration scheme above provides a big picture of the positive impact and significance of the integration between DRR and the SDGs. Not only reducing the impact of the infrastructure of a disaster area but also being able to reduce the risk of human resilience affected by the disaster.

Research on the integration of DRR and SDGs in Indonesia is still limited. The research entitled "Integrating Disaster Risk Reduction With Achieving Sustainable Development Goals" seeks to capture the readiness of regional disaster managers to fulfill the global DRR agenda. The research was conducted in provinces and regions with volcanic eruptions (Karo Regency, North Sumatra), forest, land and haze disasters (Riau Province), mining-related disasters (Bombana Regency, Southeast Sulawesi Province), and drought (Kab. Indramayu, West Java Province).

The results of the study found several important findings: 1) Disaster management has not become one of the regional priority programs, 2) DRR has not been integrated in an integrated manner in regular development as well as in development planning, 3) It is believed that disasters interfere with development, but 4) Regional disaster management actors have not thought about the need to assess disaster disturbances to development, especially in achieving development goals, so 5) The program actors do not yet have an idea of the urgency of DRR, let alone the urgency of its integration into development; 6) Socio-economic evaluation of regional investment has not been carried out by including disaster risk in it, 7) Likewise, so far there has been no calculation of the impact of disasters on disruptions to the achievement of the MDGs or predictions of disruptions to the SDGs. These findings are a note of the importance of capacity building for disaster management (DM) actors in the regions (Sunarti E. , Sumarno, Syafrudin, & Aliya, 2015).

Another study was conducted by Sunarti et al. (2018) with the title "Integrating Disaster Risk Reduction with Sustainable Development Goals: Mechanism Analysis and Readiness of Stakeholders. This study found problems that are still obstacles in the integration process between DRR and the SDGs. First, stakeholders in charge of disaster management still do not understand and know the importance of DRR.

So that it can be found in the field that there is no holistic disaster risk management model, as well as the development of more specific and applicable risk assessment methods. In addition, it is necessary to increase the capacity of policy makers, such by intensifying literacy, awareness, and budgeting in disaster risk management. The third problem is coordination that has not been well established between stakeholders. This issue relates to the number of stakeholders involved as well as the power dynamics between stakeholders and efforts to reach an understanding of each task or work focus. The next factor is that not all districts/cities have BPBD (Regional Disaster Management Agency). From the explanation above, the positive potential of the integration of DRR with the SDGs in Indonesia is still hampered by several existing problems. Research from Sunarti et al, (2018) produces a comprehensive description, although it is limited in the research methods presented in the paper. The research resulted in 5 stages of readiness needed by stakeholders in the integration process between DRR and SDGs; namely Knowledge, Understanding, Mastery, Advocacy and Implementation. In which 2 of the 5 stages, namely Knowledge and Advocacy, will be the main variables of this research to assess how far stakeholders have carried out the stages of readiness to integrate DRR and SDGs as a manifestation of disaster management which is embedded in Law No. 24 of 2007. In addition, this paper will also try to find problems that occur in the integration process. To produce findings based on the two objectives above, the writing of this article uses an interpretation method of document-based collection as well as utilizing internet-based methods, which are then qualified through the help of the NUD\*IST (Non-Numerical Unstructured Data Indexing Searching and Theorizing) application and Vivo (In-vivo) or commonly abbreviated as NVIVO. The advantage of this research is that research on the integration between DRR and SDGs in Indonesia is still rare, especially those that use the content analysis method of data sought through the documents of the disaster actors involved. Further research is needed in order to obtain stronger and clearer results in seeing how the development of the integration of DRR and SDGs in realizing the spirit of Law No. 24 of 2007 in Indonesia.

**THEORITICAL FRAMEWORK**

The integration of DRR with the SDGs based on several studies reveals that the integration is able to create a community life system that is resilient and adaptive in dealing with disasters. Although the integration of DRR with the SDGs in

Indonesia is a strategic action of an integrated development plan and is a manifestation of the mandate of Law 24/2007, the integration is still hampered by several problems in its implementation. (N.R, Mardiah, Lovett, & Evanty, 2017). Such as disaster management policies which are not clear in Law 24/2007; low budgeting policies from the national or regional level to implement DRR to the weak political will of stakeholders to implement DRR.

In this study, we used variables and indicators that were determined based on the authors' findings from previous studies. There are five stages of classification of stakeholder readiness in integrating DRR with SDGs (Sunarti et al 2018) Knowledge, Understanding, Mastery, Advocacy, and Implementation. These five stages in the journal are used as a stage that must be carried out by stakeholders to facilitate the integration of DRR towards the SDGs in accordance with the wishes of Law No. 24 of 2007.



Sumber: Sunarti, et all (2018)

Figure 2 DRR with SDGs Integration Model according to Sunarti et all (2018)

Knowledge is the most basic stage in the disaster management process. Without basic knowledge, the process of disaster management readiness stages in integrating DRR and SDGs will not get maximum results and can harm the affected groups. Before moving to a more practical stage in the process of integrating DRR with the SDGs, stakeholders must understand and know the importance of knowledge to integrate these two things for regional development (Sunarti, et all, 2018).

Understanding and Mastery are related to the early stages of Knowledge which have a basis related to the readiness of stakeholders regarding information and insights related to the integration process. In these two stages, stakeholders must begin to understand and master regional needs in the importance of integrating DRR and SDGs.

The next stage is Advocacy. Advocacy is about persuading components of society to make changes, whether in policies, practices, systems or structures (International Federation of Red Cross and Red Crescent Societies,, 2012) For vulnerable communities, the role of Advocacy in dealing with disasters is crucial, especially regarding information related to disasters. In this stage of readiness, stakeholders have tried to advocate for the integration of DRR and SDGs to other relevant agencies or regions. The last stage is Implementation. This stage is in the form of implementation for stakeholders related to the integration of DRR and SDGs. At this stage, stakeholders have begun to integrate DRR and SDGs through programs related to disaster management in their working areas.

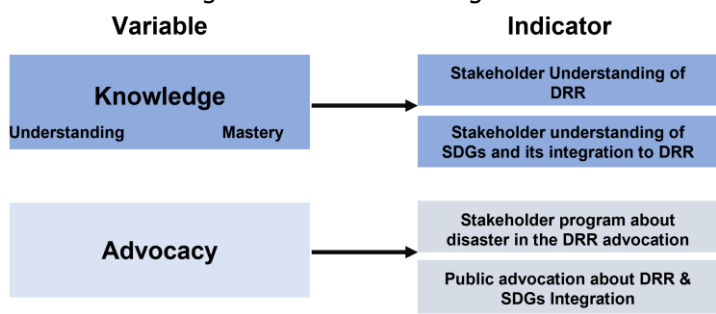


Figure 3 Two Variables and 4 Research Indicators

This article makes four of the five stages as research variables by combining two stages; namely Understanding and Mastery into the Knowledge stage, this is based on the author's findings in the writing of Weichselgartner & Pigeon (2015) which explains that Understanding and Mastery have entered the Knowledge stage which has crucial and broader efforts related to the implementation of DRR and its integration into the SDGs. Based on these reasons, we narrow the research variables into two main variables, namely; Knowledge and Advocacy.

The first variable, Knowledge, will see how well stakeholders understand the integration of DRR and SDGs knowledge. This layer will be supported by two indicators, namely: (1) Stakeholder understanding of DRR; (2) Stakeholders' understanding of the SDGs and their integration into DRR. This initial layer is a crucial foundation. At this Knowledge stage, disaster management and management stakeholders do not fully understand and master the importance of DRR and its integration into the SDGs (Sunarti E. , Sumarno, Islamia, & Fithriyah, 2018).

The second variable is Advocacy which is seen as having a role as education related to disaster management and management information carried out by stakeholders to disaster actors and the community, especially vulnerable communities. Advocacy referred to in this variable is how the communication efforts or activities related to the integration of DRR and SDGs are in various sectors. In their research findings, Sunarti et all (2018) explained that advocacy is an important component in the integration process. However, the problem in implementing this component is that there are still no strong efforts to advocate for disaster management and capacity building for disaster-related

stakeholders. This layer will be supported by two indicators, namely; (1) Disaster stakeholder program in DRR advocacy; (2) Public advocacy on the integration of DRR and SDGs.

Therefore, the search for data that is processed through two main variables will be supported by two indicators in each of the variables. By making 4 stakeholders who play a role in disaster management, namely the central government, regional governments, BNPB (National Disaster Management Agency), and Non-Governmental Organizations (NGO) as the main actors, the data will be sought through the two variables and each of these indicators. There are two objectives of this research, first to find the problems that occur in the integration of DRR and SDGs in Indonesia; second, to find out which actors have carried out the integration process of DRR and SDGs in Indonesia. The search for data was limited to starting in 2015, the year the SFFDR was inaugurated as the latest blueprint for disaster risk reduction for countries, and as an initial milestone in the integration of DRR with the SDGs.

### RESEARCH METHODS

Mixed-method is the research method that will be used in this paper. The main characteristic of mixed-method research is that it combines quantitative and qualitative approaches by including quantitative and qualitative data in one research study (Gay, Mills, & Airasian, 2011). Furthermore, Creswell and Plano Clark (2011) define mixed-method research as a study that includes at least one quantitative strand and one qualitative strand (Creswell & Clark, 2011). Mixed-method is a method that is considered to provide answers to research problems that are better than qualitative and quantitative research methods that do not have sufficient accuracy when used alone (Fajri, 2021). The form of this research uses a mixed-methods sequential explanatory design which consists of two different phases: qualitative followed by quantitative (Creswell *et al.* 2003).

The source of the data obtained in doing this research is a secondary data source, which according to Sugiyono (2013) is a source of providing data that is indirectly given to data collectors: either through documents or other people. This research will collect data through documents related to the source of the research being conducted. In analyzing the problem of integrating DRR and SDGs in Indonesia, the first thing to do is to find official documents related to the variables and indicators of this research, which are sourced from the documents of the 4 disaster actors/stakeholders described above. Then it will be analyzed by making categorization/clustering contextually through the NVIVO application. The categorization/clustering was formed through the results of the interpretation of the data found related to the problems of DRR integration with the SDGs faced by the stakeholders from the document.

Any data found will be recorded or classified into a framework that has been created in the NVIVO application based on the theoretical framework approach described in the discussion before. Qualitative data (text) is collected and analyzed in order and helps to explain or elaborate, on the quantitative results obtained in the second phase. This process, known as data qualification, is carried out with a content analysis mechanism, namely reading each paragraph/sentence in the document or source from the research topic to completion. Data qualification in the NVIVO application is formed by a structure known as a code. Code is each category of interpretation of the data found textually. The theoretical framework described above is also transferred to codes in the NVIVO application.

### The Problem of Integration of DRR with SDGs in Indonesia

The problems contained in the integration process of DRR and SDGs are from various sources grouped from the 4 actors mentioned above. This section will further provide an overview regarding the interpretation of the problems that hinder the integration process in Indonesia as one of the embodiments of Law No. 24 of 2007. Based on the theory and document we found, the code structure developed in this paper to explore this problem has 1 (one) main code with 4 sub-codes: the mother code which is the supporting code for the 3 sub-codes is *the Problem of Integration of DRR with SDGs*. Then based on our findings in the results of data qualification through NVIVO, we added 4 sub-codes that represent the problems that occur in the integration process; (1) *Weak coordination in the integration process*; (2) *Limited quality and quantity of human resources who understand DRR*; (3) *Budgetary limitations*; (4) *The local government's commitment to the importance of DRR integration is not yet optimal*.

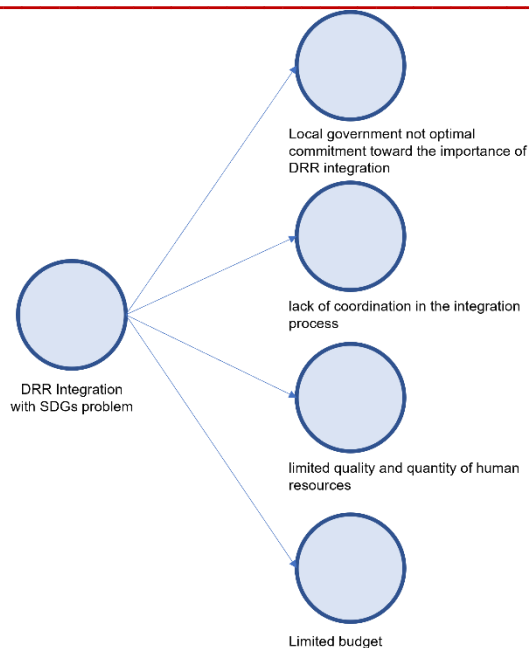


Figure 4 Codes and Sub Codes for DRR and SDGs Integration Problems

After the authors found the main problems that caused the inhibition of integration between DRR and SDGs, the authors formed 2 (two) mother codes based on the theoretical framework above and formed 2 variables and 4 indicators: the first mother code is the Knowledge variable, which has indicators or sub -codes [*Stakeholder understanding of DRR*] and [*Stakeholder understanding of SDGs and their integration into DRR*].

The second mother code is the Advocacy variable, which has indicators or sub-codes [*Public advocacy on the integration of DRR and SDGs*] and [*Disaster stakeholder program in DRR advocacy*].

The two variables or the mother code have the aim of finding out which actors have implemented the integration between DRR and SDGs even though they have had problems so far.

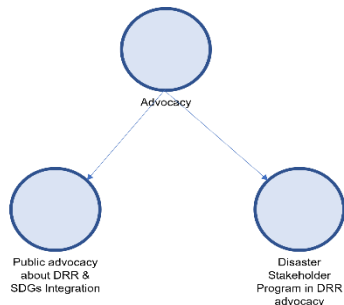


Figure 5 Advocacy Variables and Indicators

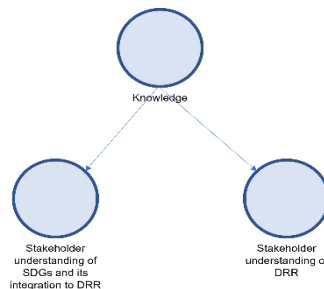


Figure 6 Knowledge Variables and Indicators

**RESULTS AND DISCUSSION**

In qualifying the data through NVIVO, it was found from 4 disaster-related actors/stakeholders that all of them were aware of the problem of integration between DRR and SDGs.

Gambar 1 Variabel Knowledge dan Indikator

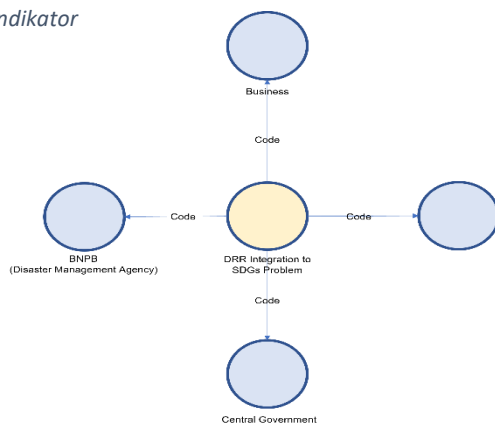


Figure 7 Understanding Integration Problems by Actors



In Figure 7, the code [DRR Integration Problem with SDGs] gets the coding of each actor in the NVIVO application. From the figure, it can be interpreted that the data embedded in the code from the search for documents obtained from the four actors acknowledges that there are problems with the integration process.

The emergence of an awareness of disaster that is owned by the 4 actors is mainly driven by the Government based on Law no. 24 of 2007 concerning disaster management. The government as the driving force is triggered by the authority and the budget. The authorities then can embrace many stakeholders related to disasters.

Other actors such as NGOs prefer to work independently in the field. This happens because there is distrust of the existing structure because it is considered unable to carry out the rules optimally. Meanwhile, another factor is the desire to carry out promotions and direct action on target.

The next question is, what are the problems recognized by these disaster stakeholders/actors when implementing the integration between DRR and SDGs? To find this answer, the code [Problems of Integration of DRR with SDGs] has 4 sub-codes, each of which is a finding of problems that are often experienced by disaster stakeholders/actors when carrying out the integration.

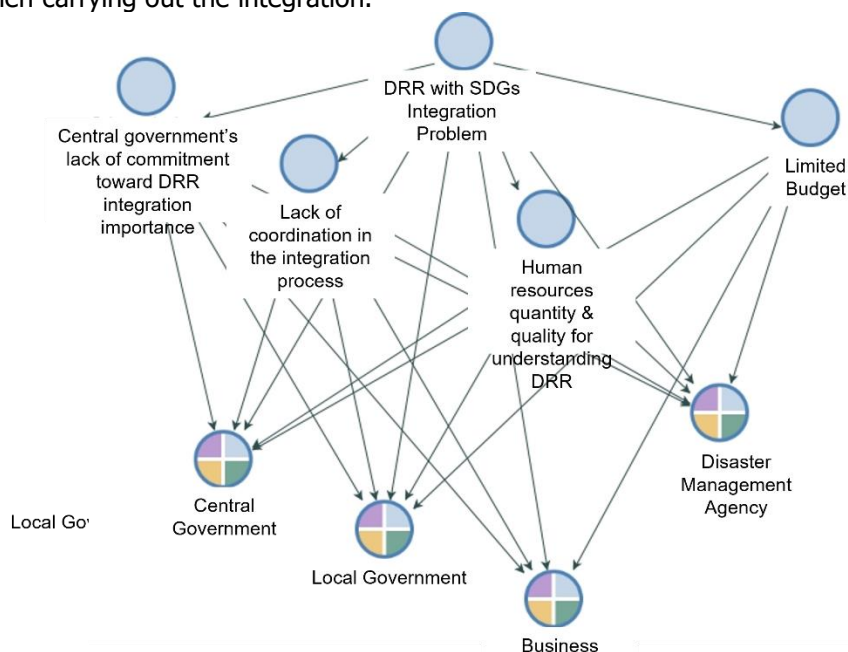


Figure 8 Integration Problems of DRR and SDGs by Actors

Of the 4 sub-codes, [Budgetary limitations] and [The local government's commitment to the importance of DRR integration is not yet optimal] are the top integration problems recognized by the four disaster actors. Followed by the sub-codes [Weak coordination in the integration process] and [Limited quality and quantity of human resources who understand DRR]. Figure 8 illustrates that 3 of the 4 sub-codes or integration problem findings, were recognized by all disaster actors, except sub-codes [Limited quality and quantity of human resources who understand DRR] which are not recognized or are not included in the coding of the integration problems found in NGO actors. The problems mentioned above lead to one main problem, specifically the low capacity of human resources. The lower the capacity of human resources, the ability to cope with disaster risk will be lower and vice versa.

What affects this low capacity? Human resources (HR) standardization is the key to increasing capacity. BNPB as an institution that has authority related to disaster does not yet have a special education place that is able to standardize human resources in disaster matters. The placement of HR in BNPB is still adjusted to the existing HR educational background.

Compared to other institutions such as BMKG, BNPB needs to make plans for this HR standardization issue. BMKG has special education places that is able to standardize the capacity of human resources who will work at BMKG regardless of their educational background.

Another issue that is still in the context of capacity is the government's perspective on DRR. DRR has not been seen as a development aspect. State development is certainly expected to have long sustainability so that people can continue to enjoy the benefits of development. The position of DRR in development is to regulate how disaster risk reduction will have an impact on the development that has been and is being carried out by the state. DRR can protect and minimize disaster risk from a development perspective.

In other findings, the understanding of NGO actors in looking at the quality and quantity capacity of HR related to DRR in carrying out the integration process towards the SDGs for disaster management in Indonesia no longer needs to be asked. This actor focuses more on issues such as budget, weak coordination, and weak commitment during the integration process.

NGOs do not feel they have HR capacity problems because they are actors that indeed focused on HR capacity in disaster matters. This is due to the interest of them to save their production centers and markets. Because the risk of disaster in the production center and the market is high, it will be difficult for NGOs to maintain the sustainability of

a conducive business situation. This is manifested by the application of Occupational Safety and Health or commonly abbreviated as K3 (*Keselamatan dan Kesehatan Kerja or Work Security and Healthiness*) which is filled with certified HR in every NGO.

Human resource development in NGOs is difficult to applied in BNPB. Apart from the lack of standardization of human resources, the authority possessed by BNPB makes the urgency to develop human resources low. BNPB can call volunteers, Search and Rescue or commonly abbreviated as SAR, or other institutions if there is an urgent need related to a disaster. Compared to NGOs that have an interest in securing production centers and markets, BNPB does not have factors that can encourage the development of human resource capacity.

The presence of problems recognized by various actors of interest certainly raises questions; whether this problem occurs because there are no regulations that regulate this integration problem so that the integration process clearly has obstacles and there is no good progress, or actually there are regulations and programs for actors that are devoted to supporting this integration process but their implementation is still not optimal or not working at all. This question will be answered through Knowledge and Advocacy code which will see which actors have initiated and carried out the integration process.

**KNOWLEDGE**

Knowledge code has 2 sub-codes, each of which is related to one another. After exploring the existing problems, as the most basic stage, Knowledge will see the extent to which disaster actors/stakeholders have understood the urgency of integrating DRR and SDGs in disaster management in Indonesia.

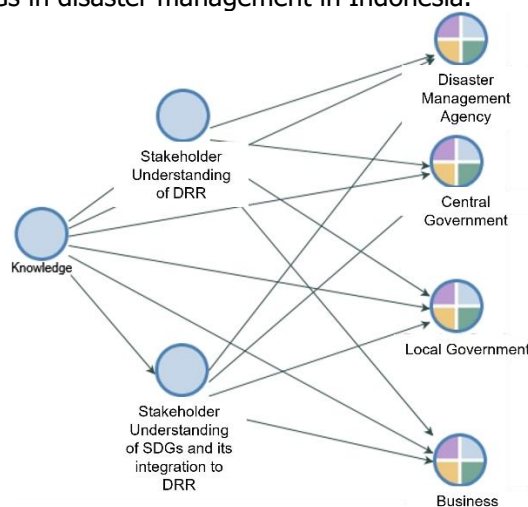


Figure 9 Coding Knowledge Search Results

In Figure 9, it can be seen that all actors have claimed to understand the basic stages of Knowledge so that the coding of the NVIVO application shows the mother code and sub-codes connected to each actor case. BNPB is the top actor in understanding Knowledge because as a leading actor in disasters, BNPB has a National Disaster Management Plan (RENAS PB) which makes the actor already carry out the Knowledge stage in the integration process of DRR and SDGs, followed by other actors.

Even so, the Knowledge aspect still has weaknesses that must be addressed. The Knowledge aspect has not been maximized because the perspective of disaster management is still too local. Actors have not seen disaster as a global social agenda. So that disaster problems that should be handled globally, are more dominantly managed locally. By thinking globally, actors can ask for global assistance in every disaster problem that happened in the domestic level.

Although the four actors received coding from code Knowledge, several actors as described above still admit that there are problems that occur in the integration process, specifically the problem that hinders this stage is the lack of quality and quantity of human resources who are able to understand the importance of DRR integration. and SDGs, so that in its implementation there are still obstacles because 3 of the 5 stages of stakeholder/actor readiness in the process have not been maximized even though the regulations have been implemented.

**ADVOCACY**

After conducting a search on the Knowledge code as a basic stage, the Advocacy code will explore the implementation side regarding how information and knowledge related to the

integration between DRR and SDGs are channeled through program implementation and information dissemination to the public. Code Advocacy has 2 sub-codes, among which will see who has run the program or who has carried out public advocacy regarding the integration process.

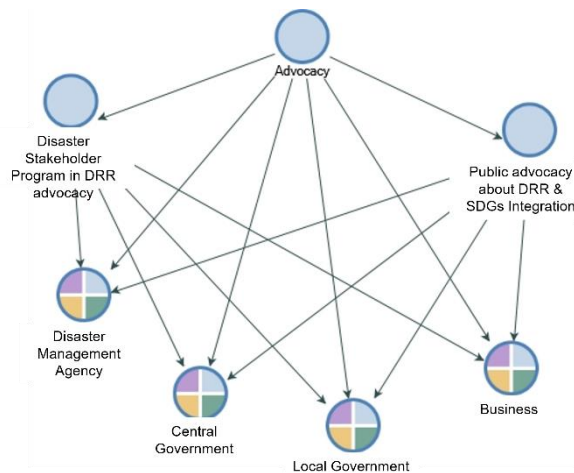


Figure 10 Search Results for Coding Advocacy

In Figure 10, Code and its sub-codes from Advocacy get coding to all the actors. Indicates that there are programs and public advocacy carried out by stakeholders. NGOs are seen to be more prominent than the Central Government and Regional Government actors in implementing advocacy and programs related to the integration of DRR with SDGs into society, although it can be said that the programs and public advocacy of the central and regional governments have been included in the BNPB agenda where they remain firmly as the leading actor in both codes. As previously explained, the interest of NGOs to secure production centers and markets encourages them to carry out advocacy related to disasters. Every actor has received coding in the system. However, as described above, there are still problems in the integration process so the Advocacy stage is still not optimal in its implementation.

**CONCLUSION**

The integration of DRR with the SDGs can ensure the realization of a community living system that is resilient and adaptive in dealing with disasters, thereby minimizing the negative impact of disasters on the achievement of the SDGs. In addition, the integration will lead to the prevention of disasters caused by multi factors (extreme weather, climate change, eruptions, and disasters caused by human activities). Of course, there is a need for a strong work program from the center to the regions to be able to manage disasters well in order to avoid all dangerous risks due to disasters. However, in general, through these 5 stages of readiness, the stakeholders have been given concepts regarding how to produce good integration.

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