Study of Post-Natural Disaster Management Policy Implementation in Palu City: A Grindle Theory Approach to Policy Content

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Abstract

This research aims to examine the implementation of post-natural disaster management policies in Palu City by applying Grindle's theoretical approach to policy content. Palu City, as a disaster-prone area, has a history that underlies the urgency of this research. A qualitative approach with non-probability sampling techniques is used to understand in more depth the dynamics and complexity of post-disaster management policies. Primary data was obtained through in-depth interviews with informants selected purposefully, including affected residents, government institutions, and related non-government organizations. The research results highlight various aspects of the implementation of post-disaster management policies in Palu City. Constraints in land acquisition and budget limitations are the main challenges. Data analysis through Grindle's theoretical approach reveals the importance of considering policy content, such as the types of benefits produced and desired changes, as well as the policy context, including the roles and interests of the actors involved. This research also includes an evaluation of community perceptions of the policy and their level of participation in its implementation. By considering theoretical and practical aspects, this research provides a solid foundation for recommending more effective policy improvements focused on meeting the needs of affected communities and improving disaster preparedness and management in the future. Finally, this research has important implications for making policies that are more adaptive and responsive to the local disaster context and community aspirations.

Introduction

Natural disasters, as unexpected events, can cause major damage and widespread impacts in various sectors (Kadri et al., 2014). One area that is often the victim of natural disasters is Palu City, a vital city in Central Sulawesi Province, Indonesia (Darma & Sulistyantara, 2020). This city's long history records various natural disasters, such as earthquakes and tsunamis, which brought significant losses, both in infrastructure and the welfare of its people. The earthquake and tsunami event in 2018 was a devastating example and had a major impact on the city of Palu (Paulik et al., 2019). Therefore, a comprehensive study is needed regarding the implementation of post-natural disaster management policies in Palu City to understand the extent to which mitigation efforts have been carried out and provide recommendations for improving policies in the future (Ismeti et al., 2023).

The context of Palu City as a research location has a significant contribution. The city of Palu is located in a disaster-prone zone with a history of vulnerability to earthquakes, tsunamis, and other natural disasters (Allokendek & Ellisa, 2022). Given the high risk of disasters in this region, research on post-natural disaster management policies becomes very relevant to improving community preparedness, response, and recovery (Surjono et al., 2020). In addition,

the unique social and economic characteristics of Palu City mean that this research provides insight into how post-disaster management policies can be adapted to the specific local context (Yulianto et al., 2021).

Post-disaster recovery efforts are a critical phase in helping affected areas recover and rebuild their lives (Moatty et al., 2017). Post-disaster management policies in Palu City aim to mitigate the impact of disasters and facilitate social, economic, and infrastructure recovery (Kautsary, 2022). The Grindle Theory approach, which focuses on analyzing the policy context, can provide a deeper view of the content of policies and the dynamics of their implementation (Wicaksono, 2021). By dissecting policy dimensions, this research can reveal the factors that influence the effectiveness of post-natural disaster management policies in Palu City.

The aim of this research is to contribute to the understanding of post-disaster management policies in the specific context of Palu City. Using the Grindle Theory approach, this research will analyze in depth the suitability between policy content and its context, with an emphasis on policy objectives and their impact on society (Surbakti et al., 2021). Apart from that, understanding in depth the implementation of post-disaster management policies in Palu City is very important to identify the mitigation efforts that have been carried out, as well as the potential and limitations that exist. Factors such as the role of government, community participation, availability of resources, and coordination between institutions have a major influence on policy implementation (Salvesen et al., 2008). This research will highlight the extent to which post-disaster management policies in Palu City meet community needs and whether their implementation achieves the desired goals. It is important to recognize the obstacles and barriers faced during the implementation of post-disaster management policies in Palu City. Obstacles in policy implementation provide valuable lessons for improving and enhancing policies in the future. This also opens up opportunities to consider various strategies that can help overcome these obstacles, including increasing the role and participation of communities in the post-disaster management process.

Not only exploring policy aspects, this research also focuses on better understanding community perceptions and participation in post-disaster management policies. Exploring the public's views on policy and how they are involved in its implementation opens up opportunities to improve interactions between government and society, as well as to build better trust and cooperation. This is important to ensure that the policies implemented meet the needs and expectations of the affected communities

Methods

The research method used in this research is a qualitative method, applying nonprobability techniques for sampling (Alvi, 2016; DeCarlo, 2018). This approach allows researchers to understand social phenomena or other complex aspects in depth by emphasizing qualitative data collection and analysis rather than statistical representativeness (Barrett & Twycross, 2018; Mayer, 2015). The nonprobability sampling technique refers to a technique for selecting informants that does not provide an equal opportunity for each element or member of the population to be selected as an informant (Vehovar et al., 2016). The sampling approach used in this research is purposive, which means that the selection of informants as data sources is based on certain considerations (Etikan et al., 2016). These considerations include, for example, the selection of individuals who have relevant knowledge related to the research objectives or individuals who have special roles that make it easier for the researcher to gain insight into the social situation being studied.

In following a qualitative approach, the selection of informants is based on criteria aligned with the research objectives (Gilchrist, 1992). Informants are chosen based on the belief that they

have the ability to provide relevant information about the post-disaster mitigation implementation in Palu City. The selection of informants is guided by the objectives and targets of the research, with an effort to choose informants who can reflect various aspects of the setting, individuals, activities, and the diverse characteristics of the research objects (Kumar, 1989). The interviewed informants include residents who were victims affected by the disaster, both those living in temporary shelters (Huntap) and those who have not yet obtained Permanent Housing. It involves various parties such as the Regional Disaster Management Agency (BPBD) of Palu City, the Head of the Disaster Mitigation Task Force (SATGAS), Buddhist Tzu Chi Foundation for Huntap Tondo I and II, the Public Works and Public Housing Implementation Team for Huntap Tondo I and II, the Public Works and Public Housing Implementation Team for Huntap Duyu, and the Balaroa Huntap Implementation Team.

The social situation in this research refers to a context consisting of three main elements, namely location (place), individuals involved (actors), and activities that occur (activities), which interact with each other in synergy (Hoppler et al., 2022). The researcher himself acts as a subject in this research, functioning as an instrument or tool used to collect relevant data and information (Poggenpoel & Myburgh, 2003; Wilkinson & Birmingham, 2003). Meanwhile, the focus of this research is on communities that have been affected by the severe impact of natural disasters in Palu City.

This research uses two types of data sources, namely primary data and secondary data (Hox & Boeije, 2005). Primary data is information obtained directly by researchers through field observations and in-depth interviews with research subjects. The main source of primary data is information resulting from interviews with previously determined research subjects (Johnston, 2014). On the other hand, secondary data refers to information found in various literature, related documents, library research, and other documents that can support understanding of the problem that is the focus of the research (Wagh, 2021). This secondary data includes laws and regulations related to the implementation of post-disaster policies in Palu City, as well as various articles, journals, reports, and statistical data that are relevant to the research object.

In this qualitative research, data analysis techniques involve various data sources collected through various data collection techniques, known as triangulation (Flick, 2004; Noble & Heale, 2019). Continuous data collection was carried out until the data was deemed to have reached saturation level. The data obtained is generally qualitative in nature, although it is possible that there are quantitative elements. Therefore, the data analysis in this research still does not have a definite pattern, in accordance with Miles and Huberman's (1994) statement that analytical methods in qualitative research are not well defined.

Miles dan Huberman (1994) also stated that data analysis in qualitative research should start at the data collection stage. When conducting interviews, researchers have carried out an initial analysis of the answers obtained. If the answer is still unsatisfactory, the researcher will continue to ask additional questions until the data is deemed credible. Qualitative data analysis activities are carried out interactively and continuously until they reach saturation. Stages in data analysis include data collection, data reduction, data presentation, and drawing conclusions or verification (Friedman, 2011).

At the data reduction stage, researchers select and confirm relevant data to answer research problems. This data reduction aims to obtain data that is in accordance with the problem formulation and research objectives (Dye, 2021). After that, the data presentation stage involves a brief description and explanation of the relationship between categories and tables. The data is presented systematically in accordance with the theory used in the research (Graue, 2015; Onwuegbuzie et al., 2012). The results of presenting this data help researchers draw

conclusions based on the data that has been analyzed, in accordance with the research focus on the implementation of post-disaster management in Palu City.

Results and Discussion

In the policy context, Grindle's (1980) theory emphasizes six crucial aspects that form context dimensions (Mubarok et al., 2020). First is the identification and consideration of the interests underlying the policy. Second, it refers to the type of benefits desired from implementing the policy. Third is the degree of change desired by the policy, whether it is a major change or just an improvement on the status quo. Fourth, it involves the position of policymakers in determining, directing, and influencing policy implementation. Fifth, highlight who is implementing the program and how this implementation occurs in the field. And sixth, consider the resources used in the policy implementation process, including the financial, human, and infrastructure resources required. Understanding the content of this policy will help in understanding how the policy is formulated, implemented, and evaluated in the context of managing natural disasters in the Palu City area.

Interests Influenced by Policy

In the context of implementing post-natural disaster management policies in Palu City, it is necessary to note that each policy always has a diverse impact on various parties. Some parties feel disadvantaged, both socially and economically, as a result of implementing this policy. On the other hand, there are also parties who feel they have benefited, both economically and socially. Policy implementation often cannot completely avoid the emergence of perceptions about parties who suffer losses and benefits from policy implementation.

The problem that arises in the context of implementing post-natural disaster management in Palu City is that there are obstacles related to land acquisition that affect the distribution of housing. This involves rules that may not be appropriate to the situation on the ground. Apart from that, the construction of Huntap was hampered due to budget limitations and the availability of adequate building materials. Moreover, the distribution of Huntap by BPBD seems not to be on target, so some recipients are considered inappropriate. Alignment between policies and their implementation is sometimes also disrupted by political factors, which can cause resistance from parties that feel disadvantaged.

As stated previously, land acquisition by local governments appears to be inadequate from a legal perspective. The unclear reasons related to providing compensation to people who claim their land without valid documents are one of the obstacles. If we refer to Law No. 2 of 2012 concerning land acquisition for public purposes, there is a legal basis that confirms that land claims submitted by the community without a strong legal basis have no legal basis, and the land is actually legally owned by the state.

Further analysis of the data that has been presented regarding interests influenced by policy content indicates that, in Grindle's perspective, this aspect is part of the policy substance. If a policy does not cause harm to certain parties, then its implementation will be smoother because it will not trigger resistance from parties who have an interest in implementing the policy. Thus, it is important to pay attention to ethical aspects when implementing policies, including how leaders carry them out in accordance with applicable regulations and laws (Marshall, 2017).

Types of Benefits Generated

In the second stage of Grindle's theory of policy content, the focus is on revealing the benefits felt by the beneficiary group as a result of policy implementation. The eligibility criteria for obtaining a permanent housing unit, referred to as a "Huntap," are very accessible. Informants revealed that the requirements for obtaining housing involve a land ownership certificate and

personal identity documents submitted to the local administration office and the Regional Disaster Management Agency (BPBD).

The government granted freedom to individuals who did not wish to move to areas designated by the government, known as "Huntap areas." Residents are given the option to choose a location of their choice by proving land ownership, and the government provides financial incentives for housing development, both through independent means and contractual agreements. In addition, the government also provided satellite housing units, referred to as "Satellite Housing Units," consisting of fewer than 200 permanent residences. However, there is resistance arising from people who are reluctant to be relocated to areas determined by the government. The main reasons for this rejection include the fear of losing land rights and the greater distance from their previous residence.

Regulations imposed by local governments relate to permanent housing, called "Permanent Shelter," and include guidelines regarding monitoring and utilization of grant or relocation funds for permanent housing. One important policy directive mandates optimal utilization by stipulating that vacant residences should be reallocated to other affected individuals if they are unoccupied. On the other hand, if the housing unit is rented, a contractual agreement must be made after the end of the rental period. After that, the housing unit will be used by the victim's family, including children who are currently studying.

According to the results of the government's monitoring and evaluation of the use of permanent housing units in the Huntap area, there are a total of 113 permanent housing units in the Huntap area. Comprehensive assessment and monitoring procedures identified the emergence of 17 distinct issues. These problems include matters relating to relationships between families, indications of joint occupancy by individuals, uninhabited housing units, and land ownership disputes. This empirical information is strengthened by additional interviews conducted with informants, thereby strengthening the statement that the beneficiaries of the permanent housing program correspond to the intended target group.

The lack of personnel in policy implementation, coupled with a lack of open communication by local governments to affected communities, as well as a lack of coordination between stakeholders involved in policy implementation, is a real challenge (Arruada & Buainain, 2013; Peters, 2018). This is further strengthened by information obtained from other informants regarding the receipt of Huntap (post-disaster housing) and the types of benefits obtained from programs organized by the central and regional governments, as well as the role of local communities or disaster victims.

The benefits obtained from this policy, especially in terms of earthquake-resistant and livable housing provided by provincial and regional governments as program implementers, have begun to be seen. However, this policy shows inaccuracies in targeting, as evidenced by the existence of certain individuals who received Huntap but were not among the residents affected by the disaster. Apart from that, there are several families living in one house, and the previous tenants or boarding house residents are also Huntap recipients.

Degree of Desired Change

The degree of desired change is one of the indicators in Grindle's theory that is included in policy content. This requires changes in attitudes, behavior, and culture, which are the targets of the policy (Wicaksono, 2021). In particular, it is related to the post-disaster rehabilitation and reconstruction policy in Palu City, which has been implemented by the regional government of Central Sulawesi Province.

This policy aims to provide positive change, including changes in attitudes, survival, and the provision of adequate and sustainable housing. In this context, post-natural disaster

management policies in Palu City require changes or the provision of social security for victims directly affected. One of the main needs of the community is permanent housing, the provision of clean water, and location security, which are different from before.

In line with the view above, policy implementation involves two main perspectives. A "bottom-up" perspective involving the community as disaster victims and a "top-down" perspective from the government The importance of collaboration between government and society in achieving the desired degree of change was also emphasized by other informants, referring to program implementers or target recipients.

Post-disaster management policies in Palu City require changes in behavior and attitudes as one of their objectives, especially in terms of providing permanent housing. Even though the local government has a target to complete this program by mid-2021, there are still obstacles, such as land status issues.

Problems surrounding permanent housing involve various aspects, from distribution and development to providing land for victims of natural disasters. Even though every victim wants change, especially in fulfilling basic needs such as housing, some people are still reluctant to be relocated to locations prepared by the government. Apart from that, the incomplete housing development process is also an obstacle.

Victims of natural disasters in Palu City want a permanent residential location as their first priority because it guarantees their sense of security. Although some people were initially reluctant to relocate, as time went by, many began to feel the benefits. However, the availability of huntap is still limited, and many have not been completed.

The implementation of housing development is a joint responsibility of the central and regional governments. In the context of policies that outline the degree of change that is expected, it is important to provide shelter quickly and on target in accordance with the expectations of communities affected by natural disasters. On the other hand, factors such as planning that is not yet optimal, understanding the line of command that has not been fully mastered, and budget problems can hamper the process.

Position of Policy Maker

Grindle's theory of policy content suggests that one of the indicators that must be considered in policy implementation is the position of the policymaker. This means that when a leader or decision-maker makes policy, they need to consider geographical and administrative aspects. Decision-making in a policy context has an important role in implementing a policy, namely whether the location of the program is in accordance with the decisions that have been made. The position of the policy maker is also related to whether a policy has achieved its targets well, both in terms of location and the accuracy of the policy itself.

The post-natural disaster management policy in Palu City, in essence, has taken good policies by considering several geographical aspects, and the location of the policies that have been made can meet the needs of victims affected by the disaster. This is supported by the informant's opinion. The government has created policies with the aim of ensuring that affected communities can fulfill their basic needs, such as having earthquake-resistant houses, by paying attention to safe locations, namely locations that are included in the green zone that has been determined by the local government. In this way, it is hoped that social security for affected victims can be fulfilled.

The government has an obligation to build permanent housing that is earthquake-resistant, and the selection of permanent residential locations must carefully consider green or earthquake-prone zones. However, on July 31, 2022, flooding occurred at the Tondo I permanent

residential complex due to heavy rainfall, which caused significant damage to 40 permanent residential houses that were worst affected. Informants stated that the policies implemented by the government did not fully meet long-term needs.

In response to natural disasters, local governments have provided various forms of assistance to disaster victims. The local government provides stimulant funds to those who do not want to be relocated in the Huntap area and who want to build their own houses, provided they have land rights. However, problems arose when incoming data still showed that around 398 people had not received permanent housing, and this number continued to increase.

Regarding the distribution of Huntap, several informants felt that this distribution had not achieved the right target. Several factors, such as the presence of several families in one house or living in rented houses, are factors that need to be better considered in policies. One opinion stated that assistance for permanent housing recipients should be given to private homes and not rented ones. However, there are differing opinions about this policy, as some feel that it gives everyone the opportunity to vote and lacks oversight from local governments.

Who is the Program Implementer

In Grindle's theory, the fifth factor highlights the role of program implementers, reflecting direct interactions between staff implementing policies. In the context of natural disaster management in Palu City, post-disaster policy implementation involves many individuals and institutions. The informants interviewed presented various perspectives regarding this dimension.

According to the informant from the Head of the Rehabilitation and Reconstruction Division of BPBD Palu City, the implementation of the disaster mitigation program involves various parties, including the regional government and the Ministry of ATR/BPN, which is responsible for providing land for permanent housing, as well as the Ministry of PUPR, which leads the construction of houses in accordance with presidential instructions. BPBD has the task of collecting data on victims of natural disasters, allocating stimulus fund budgets, and distributing permanent housing to affected residents, all in accordance with applicable regulations.

In the context of program implementation, informants confirmed that their task was to ensure land was available for the construction of permanent housing. BPN's role includes determining locations and red zones affected by natural disasters. Meanwhile, a number of activities in residential development are still supported by consultants and facilitators who take care of project planning, construction, and supervision. Supervision continues to be carried out on development carried out by the community.

Ultimately, program implementation is a joint responsibility of the central government and regional governments. Informants emphasized that the role of affected residents is to take care of documents to obtain permanent housing. However, they also expressed uncertainty regarding the ownership of the land where they live. Although program implementation is the duty and responsibility of the government and regional governments, community aspirations include involvement in the political process and the establishment of democratic and transparent legislation. Until now, there has been a gap in community participation in providing input on laws and regulations. However, transparency and accountability in program implementation are quite good, involving various levels of society down to the sub-district level.

Resources Deployed

In this dimension, we present data related to indicators of resource needs for policy implementation. We realize that the success of policy implementation is highly dependent on the availability of resource support, including financial aspects. In addition, we underscore the importance of taking into account the resources of local communities, the private sector, and political elites that support rehabilitation and reconstruction efforts after natural disasters in Palu City.

One of the informants, a head of the rehabilitation and reconstruction division of the Palu City BPBD, explained that the source of funding for housing rehabilitation and reconstruction activities came from central government grants through the World Bank. Apart from that, the private sector also contributed by donating a number of permanent residential units at the Tondo I location, such as the Huntap Terbangun Foundation, which donated 1500 units, the AHA Center, which donated 100 units, and Apeksi, which donated 11 units.

There are significant differences between permanent residential developments involving the private sector and those managed by the government itself. Development involving the private sector is almost on schedule, even exceeding the set targets several times. On the other hand, the development carried out by the government itself is far from expectations and planned targets. This highlights the importance of cooperation between the various parties involved, including the private sector, in the construction of permanent housing. The complexity of the problems faced by the government, both in terms of human resources and financial resources, shows the need for the concept of "collaborative governance."

Sources of funding for residential construction still come from the World Bank and the Asian Development Bank through central government loans to regional governments, which are managed by the APBN. These funds are allocated in stages, not all at once, which is one of the causes of delays. The limited supply of materials needed for the construction of permanent housing in Palu City also influences this delay, requiring orders for materials in advance.

In the context of implementation, there are delays due to various influencing factors. Another informant highlighted problems related to land provision by the regional government and Palu City/Provincial BPN as one of the main causes of delays. Land claims by around 859 individuals who consider the land to be their ancestral property have become an obstacle to providing permanent housing. The lack of clarity from local governments regarding land claims also slows down the process of providing permanent housing.

The resources involved in this research, especially in the context of this indicator, received significant support from private parties such as the Buddhist Tsu Chi Foundation, AHA Center, and Apeksi. Their contribution to permanent residential development is much faster than development managed by the government, such as the PUPR Ministry. This should be a good example for the central and regional governments to ensure the availability of permanent housing for victims of natural disasters in Palu City. The government is expected to be more responsive in meeting the needs of residents who are still in refugee camps and temporary shelters, because fulfilling the right to housing is a basic right from a human rights perspective.

Conclusion

Overall, the implementation of post-natural disaster management policies in Palu City reflects various impacts on society. This policy has complex social and economic implications, where some feel they have been negatively impacted and others feel they have benefited. The main challenges in implementing the policy include land acquisition constraints, budget constraints, and barriers to the distribution of permanent housing. Public perception is also influenced by

the alignment between policies and their implementation, which is sometimes disrupted by political factors and assessments of beneficiaries.

Although this policy has shortcomings, including a suboptimal context and inadequate support, it has provided positive impacts such as safe and adequate housing for affected communities. Policy targets include positive changes in the provision of permanent housing, clean water, and the safety of new locations. However, obstacles such as land status issues and delays in material supply are still obstacles.

The position of policymakers requires serious consideration of the participation of three main actors: the government, the private sector, and society. Collaboration and involvement by these actors are key to achieving common goals and ensuring policies are in line with the needs of affected communities. It is important to consider geographical and administrative aspects and ensure high transparency and accountability in policy implementation.

Therefore, resources have a crucial role in implementing post-disaster management policies in Palu City. Financial support, community participation, private sector contributions, and the involvement of political elites are the main drivers of the success of this policy. Despite facing several obstacles, cooperation, effective coordination, and better community involvement are expected to help ensure the success and positive impact of disaster management policies in Palu City.

References

Allokendek, M. L., & Ellisa, E. (2022). Reconditioning the resilience of Palu City within the natural disaster stories. *IOP Conference Series: Earth and Environmental Science*, *1082*(1), 12020.

Alvi, M. (2016). *A manual for selecting sampling techniques in research*.

Arruada, J. P. de, & Buainain, A. M. (2013). Coordinación Organizacional en Políticas Públicas Implementación- Dimensiones prácticas y elementos conceptuales. *Central European Journal of Public Policy*, *7*(December).

Barrett, D., & Twycross, A. (2018). Data collection in qualitative research. In *Evidence-based nursing* (Vol. 21, Issue 3, pp. 63–64). Royal College of Nursing.

Darma, Y., & Sulistyantara, B. (2020). Analysis of landscape impact on post-earthquake, tsunami, and liquefaction disasters in Palu City, Central Sulawesi. *IOP Conference Series: Earth and Environmental Science*, *501*(1), 12003.

DeCarlo, M. (2018). 10.2 Sampling in qualitative research. *Scientific Inquiry in Social Work*.

Dye, T. (2021). *Qualitative data analysis: Step-by-step guide (Manual vs. automatic). Thematic*.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4.

Flick, U. (2004). Triangulation in qualitative research. *A Companion to Qualitative Research*, *3*, 178–183.

Friedman, D. A. (2011). How to collect and analyze qualitative data. *Research Methods in Second Language Acquisition: A Practical Guide*, 180–200.

Gilchrist, V. J. (1992). *Key informant interviews*.

Graue, C. (2015). Qualitative data analysis. *International Journal of Sales, Retailing &*

Marketing, *4*(9), 5–14.

Hoppler, S. S., Segerer, R., & Nikitin, J. (2022). The six components of social interactions: actor, partner, relation, activities, context, and evaluation. *Frontiers in Psychology*, *12*, 743074.

Hox, J. J., & Boeije, H. R. (2005). *Data collection, primary versus secondary*.

Ismeti, I., Palipadang, L., Tavip, M., & Weri, A. (2023). Regional Government Responsibility Related to Disaster Mitigation through Human Rights-Based Spatial Policies in Palu City. *International Journal of Disaster Management*, *5*(3), 213–226.

Johnston, M. P. (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries*, *3*(3), 619–626.

Kadri, F., Birregah, B., & Châtelet, E. (2014). The impact of natural disasters on critical infrastructures: A domino effect-based study. *Journal of Homeland Security and Emergency Management*, *11*(2), 217–241.

Kautsary, J. (2022). Infrastructure design and multi disasters-based land use as the main key to Palu resilience city. *IOP Conference Series: Earth and Environmental Science*, *955*(1), 12017.

Kumar, K. (1989). *Conducting key informant interviews in developing countries*. Agency for International Development Washington DC.

Marshall, M. (2017). Ethics in Public Policy. *Juniper Online Journal of Public Health*, *2*(2), 1–2. https://doi.org/10.19080/jojph.2017.02.555584

Mayer, I. (2015). Qualitative research with a focus on qualitative data analysis. *International Journal of Sales, Retailing & Marketing*, *4*(9), 53–67.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. sage.

Moatty, A., Gaillard, J.-C., & Vinet, F. (2017). From disaster to development: Challenges and Opportunities of the Post-Disaster Recovery. *Annales de Geographie*, *714*(2), 169–194.

Mubarok, S., Zauhar, S., Setyowati, E., & Suryadi, S. (2020). Policy Implementation Analysis: Exploration of George Edward III, Marilee S Grindle, and Mazmanian and Sabatier Theories in the Policy Analysis Triangle Framework. *Journal of Public Administration Studies*, *005*(01), 33–38. https://doi.org/10.21776/ub.jpas.2020.005.01.7

Noble, H., & Heale, R. (2019). Triangulation in research, with examples. In *Evidence-based nursing* (Vol. 22, Issue 3, pp. 67–68). Royal College of Nursing.

Onwuegbuzie, A. J., Leech, N. L., & Collins, K. M. T. (2012). Qualitative analysis techniques for the review of the literature. *Qualitative Report*, *17*, 56.

Paulik, R., Gusman, A., Williams, J. H., Pratama, G. M., Lin, S., Prawirabhakti, A., Sulendra, K., Zachari, M. Y., Fortuna, Z. E. D., & Layuk, N. B. P. (2019). Tsunami hazard and built environment damage observations from Palu City after the September 28 2018 Sulawesi earthquake and tsunami. *Pure and Applied Geophysics*, *176*, 3305–3321.

Peters, B. G. (2018). The challenge of policy coordination. *Policy Design and Practice*, *1*(1), 1–11. https://doi.org/10.1080/25741292.2018.1437946

Poggenpoel, M., & Myburgh, C. (2003). The researcher as research instrument in educational

research: A possible threat to trustworthiness?(A: research_instrument). *Education*, *124*(2), 418–423.

Salvesen, D., Evenson, K. R., Rodriguez, D. A., & Brown, A. (2008). Factors influencing implementation of local policies to promote physical activity: A case study of Montgomery County, Maryland. *Journal of Public Health Management and Practice*, *14*(3), 280–288. https://doi.org/10.1097/01.PHH.0000316487.57512.f6

Surbakti, E., Sulaeman, A., Alamsyah, N., & Kartini, D. S. (2021). Implementation on financial assistance policy of political parties in 2015-2018. *Utopía y Praxis Latinoamericana*, *26*(2), 313–322.

Surjono, A. Y., Muluk, M. R. K., & Wardhani, D. K. (2020). Formulation of Framework for Settlement Preference and Community Resilience of Post Great Disaster in Palu City, Indonesia. *Int. J. Adv. Sci. Technol*, *29*(3), 12396–12405.

Vehovar, V., Toepoel, V., & Steinmetz, S. (2016). *Non-probability sampling* (Vol. 1). The Sage handbook of survey methods.

Wagh, S. (2021). Public health research guide: Primary & secondary data definitions. *Benedictine Univerity 6p*.

Wicaksono, A. (2021). Grindle Policy Implementation Theory in Analysis of Forestry Conflict In Pelalawan District, Riau Province. *Jurnal Kajian Pemerintah: Journal of Government, Social and Politics*, *7*(2), 31–44.

Wilkinson, D., & Birmingham, P. (2003). *Using research instruments: A guide for researchers*. Psychology Press.

Yulianto, E., Yusanta, D. A., Utari, P., & Satyawan, I. A. (2021). Community adaptation and action during the emergency response phase: Case study of natural disasters in Palu, Indonesia. *International Journal of Disaster Risk Reduction*, *65*, 102557