

Pentahelix Approach in The Implementation of Disaster Resilient Village (Destana) Sumber Village Magelang Regency

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Abstract

This study aims to analyse the implementation of the Disaster Resilient Village (Destana) program in Sumber Village, Magelang Regency, and the role of the actors involved in the pentahelix collaboration concept in the implementation process. This research is qualitative descriptive research. The research location was in Magelang Regency, especially in Sumber Village. Data collection techniques using observation, documentation, and in-depth interviews with informants using purposive sampling. The research found that five actors in the Pentahelix concept, namely academics, business, community, government, and media, have roles in implementing the Destana program. Government, community, and academics are actors who have a significant role in implementing Destana. the business and media sectors are less visible because they are only seen when a disaster has occurred. The synergy in Destana in Sumber Village was seen when implementing the Inclusion-Based Disaster Simulation, where academics, government, community, and media actors participated. The Destana Sumber Village program still has not seen synergy from five actors due to the lack of roles of business actors in disaster risk reduction activities. The recommendation is to include Corporate Social Responsibility (CSR) in the implementation of Destana.

Keywords: collaborative governance, community-based disaster management, destana, pentahelix approach

Abstrak

Penelitian ini bertujuan untuk menganalisis implementasi program Desa Tangguh Bencana (Destana) di Desa Sumber, Kabupaten Magelang, dan peran aktor yang terlibat dalam konsep kolaborasi pentahelix dalam proses implementasi. Penelitian ini merupakan penelitian deskriptif kualitatif. Lokasi penelitian berada di Kabupaten Magelang, khususnya di Desa Sumber. Teknik pengumpulan data menggunakan observasi, dokumentasi, dan wawancara mendalam dengan informan menggunakan purposive sampling. Penelitian menemukan bahwa lima aktor dalam konsep Pentahelix, yaitu akademisi, bisnis, komunitas, pemerintah, dan media, memiliki peran masing-masing dalam mengimplementasikan program. Pemerintah, masyarakat, dan akademisi merupakan aktor yang memiliki peran signifikan dalam pelaksanaan Destana. Sektor bisnis dan media kurang terlihat karena hanya terlihat ketika bencana telah terjadi. Sinergi Destana di Desa Sumber dapat dilihat saat pelaksanaan Simulasi Bencana Berbasis Inklusi, dimana akademisi, pemerintah, komunitas, dan pelaku media turut ambil bagian dalam kegiatan tersebut. Program Destana Desa Sumber masih belum memperlihatkan sinergi dari lima pelaku karena minimnya peran pelaku bisnis dalam kegiatan pengurangan risiko bencana. Rekomendasinya adalah untuk mengikutsertakan Corporate Social Responsibility (CSR) dalam pelaksanaan Destana.

Kata kunci: destana, manajemen bencana berbasis masyarakat, pendekatan pentahelix, tata kelola kolaboratif

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INTRODUCTION

This study aims to analyze the implementation of the Disaster Resilient Village (Destana) program in Sumber Village, Magelang Regency, and analyze the actors' role in the pentahelix collaboration concept in implementing Destana. As a country in the ring of fire, Indonesia is prone to natural disasters, especially volcanic eruptions (Margono et al., 2019). The National Disaster Management Agency (BNPB), as the authority in disaster management, established the Disaster Resilient Village Program (Destana) as an effort to reduce community-based disaster risk aimed at villages that fall into the category of disaster-prone villages (Qoidah & Widowati, 2020). Potential disasters that threaten Indonesia include floods, earthquakes, tsunamis, volcanic eruptions, strong winds, landslides, and others (Margono et al., 2019). Disaster Resilient Village (Destana) is a program launched by the government through BNPB aimed at building the preparedness and resilience of rural communities to the occurrence of all kinds of disasters (Koesuma et al., 2020). This program is stated in the Regulation of the Head of BNPB Number 1 of 2012 concerning General Guidelines for Disaster Resilient

Villages, where indicators need to be achieved to become Destana (Balqis et al., 2021). The existence of Destana is intended so that the village can have resilience and independence in disaster management.

The government is no longer dominant in implementing its public policies (Sandi, 2022). Other actors in the community also participate in the implementation of these public policies. Collaborative Governance is a new paradigm of thinking in governance. This concept is also interdisciplinary, so it is in political science and other sciences. Collaborative governance is a form in which one or more public institutions intersect directly with actors outside the government institution (Arsandi, 2022; Surjadi et al., 2021). Ansell and Gash (2018) define various stakeholders' involvement in a formal, consensus-oriented, and deliberative collective decision-making process in which participating actors produce goals and strategies together and share responsibilities and resources. Emerson et al. (2012) believe that collaborative governance is not limited to the relationship between government and non-governmental actors in formulating and making policies. However, it also involves all forms of actors, regardless of the level of government, public

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institutions, private parties, and other civil parties, to carry out the policy's objectives collectively.

The participation of these various actors aims to foster trust in the government, solve social problems, ensure welfare and economic development, and reform institutions that cannot be implemented by one party alone (Surjadi et al., 2021). The key to this collaboration is the need for communication and transparency of information from these actors so that they can generate trust (Subhan, 2016; Xing & Xing, 2021). Therefore, it is necessary to cooperate with various parties to produce a policy's success as a common goal (Pholsim & Inaba, 2022).

From this perspective, it can be said that collaborative governance involves various actors who are not bound to certain boundaries in formulating, making, and managing public policies. In which all actors are responsible and have confidence in each other in achieving common goals. Previous research on collaborative governance has been carried out by many researchers who discuss the synergy between actors, especially the government, and the private sector in implementing public policies. In their research, Akbar et al. (2022) found that the collaboration between actors starts

from *face-to-face dialogue* between existing actors. Furthermore, every collaboration has other factors, namely *starting conditions, institutional design, and facilitative leadership*, which can be a supporting factor and even become the dominant factor in implementing *collaborative governance*. In Indonesia, *collaborative governance* is often used in developing tourist destinations because it concerns the lives of various important actors, namely the government, the business sector, and the community in the tourist destination area (Rasyid & Darumurti, 2022). Corporate social responsibility programs from companies become one of the implementations of collaborative governance (Furqoni & Rosyadi, 2019). CSR can be implemented by collaborating between the government and business actors to develop the city or the citizen. the other example is the government's collaboration in handling the Covid-19 pandemic. The government itself cannot handle it alone so they need collaboration between many sectors, especially the citizen, academics, and business sector, In accelerating the handling of the pandemic (Amin et al., 2021).

In its implementation, collaborative governance has an approach called pentahelix (Kismartini

et al., 2022; Purnomo et al., 2021). The pentahelix approach is a form of development of triplehelix and quadruplehelix, which have often been used in seeing the relationship between government and non-government actors (Setya Yunas, 2019). The triplehelix elements, namely Academics, Business /private, and Government, are considered to be still lacking in implementation, which is then added to the Community, and the Media becomes ABCGM, later known as pentahelix (Subagyo, 2021). Pentahelix itself is a form of renewal of the previous model because it can map and find solutions to a problem through synergy and trust between actors that give rise to cooperation, as shown in Figure 1 (Purnomo et al., 2021). The pentahelix model was later adopted by political, social, environmental, and other thinkers because this concept was more able to answer the problems that arose. This model provides cooperation and five-sector partnerships that will determine the success or failure of the policies to be implemented, involving academics (lecturers, researchers, analysts, students) and the private sector (business actors, companies, entrepreneurs). The other actor is communities (communities, community leaders, youth organizations, mass

organizations, NGOs), governments (ministries, state institutions, local governments, bureaucrats, armed forces), and the media (journalists, media agencies, reporters, social media platforms) (Subagyo, 2021). In its application to this study, this pentahelix model can strengthen implementing the disaster-resilient village program that BNPB is intensifying to increase community capacity in disaster management in Indonesia. The pentahelix approach model has begun to be widely applied by many researchers to see the phenomenon or implementation of a public policy because it can see the roles performed by various actors in achieving the desired goals. Purnomo et al. (2021) see that the synergies between the five actors in pentahelix have an essential role in the recovery of the tourism sector in Bali, which is affected by the Covid-19 pandemic. The implementation of public policy in the current era cannot necessarily only be through one party because the effects of a policy will be felt by various parties (Setya Yunas, 2019). Therefore, it is necessary to integrate and synergy five actors who have an essential role in implementing a policy's success (Berliandaldo & Fasa, 2022).

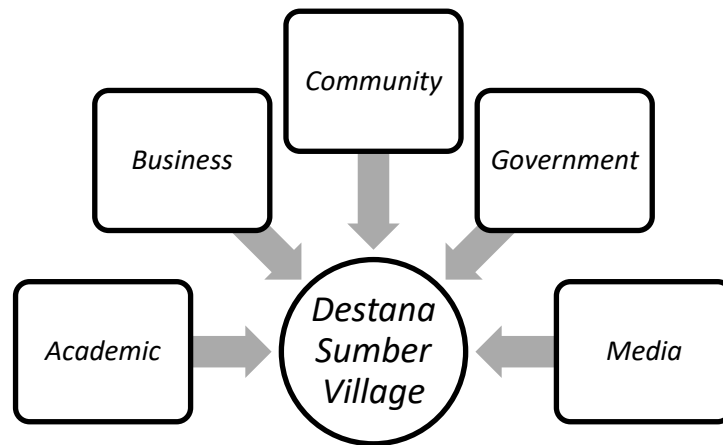


Figure 1.
The Concept of Pentahelix Synergy
Source: Hidayat et al. (2021)

Research on Disaster Resilient Villages has also been carried out by several researchers, most of whom discuss villages in areas prone to volcanic eruptions. Ratnasari & Wildawati (2022) examined the low number of Destana in South Lampung Regency and alternative funding sources. The results of his research found that the lack of Destana was due to the limited ability of the District Budget, the lack of utilization of village funds and CSR, and the lack of optimal integration between stakeholders. Other research conducted by Suryana & Sriyono (2021) reviewed the implementation process, the level of participation and obstacles in implementing the Destana program in Sambungrejo Village, Magelang Regency. The results of his research show that the implementation of

Destana is still not optimal. The level of community participation is also still low. The obstacles that arise are low community capacity, lack of socialization, lack of carrying capacity of village governments, and limited budgets.

Sumber Village, Dukun District, Magelang Regency is one of the villages located in the disaster-prone area of Merapi most vulnerable because it is close to the slopes of Merapi or categorized as a Disaster Prone Areas III (KRB III) (BPBD Kabupaten Magelang, 2016). Because it is located in the KRB III area, the Sumber Village area is included as a village that is very prone to the eruption of Mount Merapi. The Regional Disaster Management Agency (BPBD) of Magelang Regency, as an extension of BNPB, issued the Disaster Resilient Village program to

villages with disaster insecurity. Before the Destana program, the Magelang Regency government had a program called Sister Village for community-based disaster management efforts. The concept of sister village itself is almost the same as Destana, so villages that have carried out sister village programs according to BPBD Magelang Regency are called Destana Plus.

In implementing the Destana program, the Sumber Village government opened up as much cooperation as possible to all sectors to make the Destana program a success. Sumber Village, the title of Destana, is developing tourism potential through educational tours about disaster management in the form of live-in in Sumber Village. The Magelang Regency BPDB and the Sumber Village Government, as the main actors in the implementation of Destana, cannot stand alone. Educational institutions close to Sumber Village, namely Universitas Tidar, Universitas Muhammadiyah Magelang, and even several well-known universities from Yogyakarta, also play a role in implementing the Destana program. Even foreign Non-Governmental Organizations (NGOs) called ASB (Arbeiter-Samariter Bund) are also interested in Sumber Village being

included in their program in disability capacity building in natural disaster management efforts. Communication networks through various media, especially social media, are also used by the Sumber Village Government to disseminate activities and information. The business sector is still not visible because Sumber Village is trying to develop its tourism potential. According to BPBD, the private sector's participation significantly occurs during a disaster. Therefore, Destana implemented by Sumber Village can be seen through the pentahelix approach to find out the roles of various actors in the success of the Destana program.

METHOD

This research uses the qualitative descriptive method. According to Denzin and Lincoln in Moleong (2007), Qualitative research uses natural settings that seek to interpret phenomena that occur and involve various existing methods. This study seeks to explain the situation in Sumber Village located in Magelang Regency, related to the implementation of its Destana. Sumber Village was chosen because BPBD recommended it. After all, Sumber Village was ranked first in Destana's assessment. The data type is primary data derived from various

suitable informants obtained through interviews, observations, and documentation. The secondary data is used in literature, documents, and reports from institutions such as BPBD Magelang Regency and the Sumber Village Government, as well as various other sources. The data collection technique uses observation by looking at the Sumber Village area, documentation by searching for relevant literature, and in-depth interviews with informants and stakeholders in this study, namely the Head of Disaster and Logistics Division of BPBD Magelang Regency, PUSDALOPS BPBD Officer of Magelang Regency, and the Secretary of Sumber Village. The stages of data analysis use the model Miles dan Huberman: data collecting, data reduction, data presentation, and explaining conclusions. The validity of the data is confirmed through triangulation techniques, where the collected information will be aligned with the same source but using a different approach (Riodini et al., 2022).

RESULTS AND DISCUSSION

Magelang Regency Disaster Resilient Village Program

Magelang Regency is included as an area that is vulnerable to disasters

(Pangaribuan et al., 2019). The eruption of Mount Merapi in 2010 became the starting point for the Magelang Regency Government to think about risk reduction and disaster mitigation efforts for villages in the Merapi Disaster Prone Area (Qoidah & Widowati, 2020). Magelang Regency Government finally adopted Sister Village's concept as a community-based disaster management effort (Malawani et al., 2021). This concept applies the relationship between villages prone to eruption disasters with buffer villages, where residents can evacuate quickly to buffer villages (Margono et al., 2021).

The Sister Village program is similar to the Disaster Resilient Village program initiated by BNPB. Until 2022, according to data owned by BPBD Magelang Regency, the local government has designated as many as 85 villages as Destana, 53 of which are villages that were previously included in the Sister Village program, which BPBD Magelang Regency later classified as Destana plus (BPBD Kabupaten Magelang, 2021).

The majority of threats the disaster faced by the village are the Merapi activity disaster and landslides.

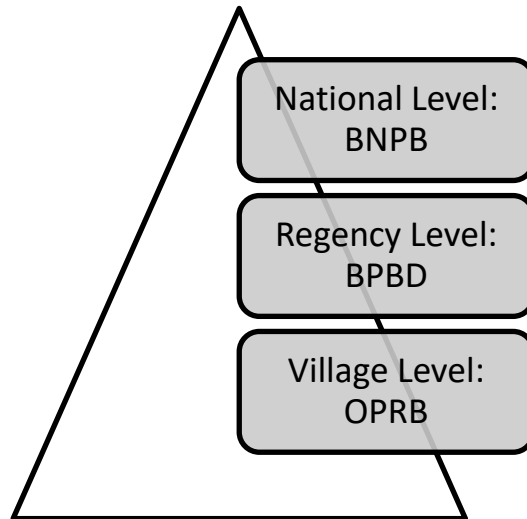


Figure 2.
Disaster Management Level Hierarchy
Source: Iqbal (2021)

Sumber Village, located in the Dukun District of Magelang Regency, is included in the village that implements the Sister Village program. Sumber Village was designated in the Sister Village program in 2014. According to the Secretary of Sumber Village, Eko Kalisno, S.Sos, Sister Village, now called Paseduluran Deso (Paseso), the implementation by Sumber Village has gone well. Sumber Village establishes Paseso with Pucungrejo Village and Ngawen Village in Muntilan District. The main threat Sumber Village faces is Mount Merapi's eruption because it is included in KRB III. 3,959 people are living in Sumber Village (Diskominfo Kabupaten Magelang, 2021).

Sumber Village established a Disaster Risk Management Organization (OPRB) as a condition in the Sister Village and Destana policies implemented by the Magelang Regency Regional Government. OPRB is the leading institution at the village level in carrying out disaster management activities. BNPB, as a management organization at the national level, has a duty as a regulator who then delegates the implementation of disaster management to BPBD as a disaster management institution at the regional level. In implementing the Destana policy, OPRB is assigned to be the first institution to act when a disaster occurs under the coordination of BPBD.

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Pentahelix in the Implementation of Destana Sumber Village

The concept of pentahelix is a collaboration of societal components (Hidayat et al., 2021). Each of these components is expected to contribute to the implementation of Destana in Sumber Village with the same goal of making its implementation successful and identifying the potential possessed by the Sumber Village. The synergy of these components will support the success and sustainability of the Destana Sumber Village program.

Academics became the first actors to play a role in the pentahelix approach. Academics function as parties who can academically conduct research and mapping related to potential hazards that threaten the Sumber Village, education related to knowledge about disasters, and capacity building from the community. The participation of academics will have a positive impact on Sumber Village. In addition to conducting research related to disasters, academics can participate in building villages with the Real Work Lecture program implemented by students. According to a statement from the Secretary of Sumber Village, Sumber Village has collaborated with several universities in the vicinity, such

as Universitas Gajah Mada, Universitas Pembangunan Nasional Veteran Yogyakarta, Universitas Muhammadiyah Yogyakarta, Universitas Muhammadiyah Magelang dan Universitas Tidar. Universitas Muhammadiyah Yogyakarta, through the Communication Science study program in collaboration with the Sumber Village Government, succeeded in producing filmmakers' work in the form of films that have the essence of disaster (Eko Kalisno, 2022a).

It is difficult for business actors to find their role in disaster management. The disaster resilient village program focuses more on strengthening the capacity of the community's ability to overcome disasters. According to a statement from MHD Muzamil as Head of Emergency and Logistics Division of BPBD Magelang Regency, the involvement of the business sector in disaster management efforts is still only when a disaster occurs. The business sector assists in the form of logistics or budget funds as a form of participation. This was also confirmed by the Head of Sumber Village Services, Purwanto, who said there was still no concrete role of the business sector in the Destana program. According to him, the business sector can participate in funding the Destana program by

providing Corporate Social Responsibility (CSR) funds, not only in the development of tourist villages, as happened in villages around Borobudur Temple. If this can happen, the funding problem that is often the problem of implementing Destana will be resolved.

The people of Sumber Village, with a total population of 3,959 people, will be the main actors who maintain and implement the Destana program. The essence of Destana, who wants the village to be resilient in facing disasters, is a reflection of the capacity and ability of the community residents of Sumber Village to face disasters. All community elements, such as the Youth Organization, PKK, and other community networks, are obliged to participate in the development and implementation of Destana. In addition to the community's capabilities, the involvement of Non-Governmental Institutions such as NGOs can also increase synergy in this pentahelix concept. Pioneer (Partner for Inclusion Localising Inclusive Humanitarian Response), a project carried out by various institutions, namely Arbeit-Samariter Bund, Yayasan Habitat Indonesia, Magelang Regency Disability Inclusion Forum (FIDAKAMA), and LKLSU Ibu Zainab is a partnership program, locality

inclusion for disaster risk reduction (Eko Kalisno, 2022b). Kasihan, the FIDAKAMA coordinator, said his party strengthened three main principles: partnerships, capacity building, and meaningful participation (Eko Priyono, 2022). Sumber Village became one of the villages that collaborated on the project and successfully held an inclusive Disaster Village-based disaster management simulation. Inclusion here refers more to the participation of vulnerable groups, especially people with disabilities, in disaster management activities from planning to evaluation.

Stakeholders related to the Destana program must continue to play an active role and form regulations that positively impact the Destana program's implementation. BNPB, as an institution authorized to issue regulations related to disasters, sets rules on how to assess the level of resilience of villages that the Indonesian National Standard has standardized (SNI) Number 8357: 2017 concerning Disaster Resilient Villages (Sakya et al., 2022). This assessment tool looks at five components of disaster resilience, namely: (1) Quality and Accesibility; (2) Disaster System Planning; (3) Disaster Risk Management; (4) Emergency Preparedness; and (5) Recovery

Preparedness (BNPB, n.d.). The Head of Emergency and Logistics, MHD Muzamil, said that Sumber Village had fulfilled all the elements assessed and obtained the best score. This shows that the Sumber Village Government and the Sumber Village Disaster Risk Reduction Organization (OPRB) have good disaster management capacity. Disaster simulation has been carried out to strengthen capacity and preparedness in implementing public kitchens involving the Sumber, Ngawen, and Pucungrejo Villages as part of Paseduluran Deso (Sister Village). In addition, the Sumber Village Government also initiated educational tourism activities in the form of live-ins aimed at introducing village life and inserting disaster materials into its activities.

The last actor in synergy is the role of the media in disseminating information related to disasters and activities carried out in Sumber Village. Good information management will make people curious and try to find the source of information. When a disaster occurs, communication networks certainly play an essential role in efforts to reduce disaster risk (Rijanta et al., 2018). Sumber Village, which has the main threat, is the eruption of Mount Merapi. When there is an increase in

volcanic activity, the Ngawen, and Pucungrejo Village Governments, as Paseso villages, immediately make contact related to evacuation efforts and mitigation readiness if needed. The volunteer communication network also participates in disaster management efforts in Sumber Village. The head of the Sumber Village Service Section, Purwanto, said that the Sumber Village OPRB established communication with several volunteers such as PATMO, PAGER MERAPI, and GURUH MERAPI. Communication media tools, such as WhatsApp groups between villages in Dukun District and PUSDALOPS BPBD Magelang Regency, were used. The Sumber Village Government also owns and manages an official website that can be accessed, namely www.desa-sumber.magelangkab.go.id, and a *Facebook* social media page under the name *Sumber Village Tourism*. The two media are used as a medium for publishing activities in Sumber Village and promoting tourism in Sumber Village.

The pentahelix in the Sumber Village should be able to run well because every actor who plays a role in the Destana program has the same capacity and purpose. Every actor has the same status, and no one is more

important than another. Therefore, it is hoped that there can be synergy between actors in implementing the Destana program and building other potentials that positively impact Sumber Village.

Does the Pentahelix Synergy Occur in the Implementation of Sumber Village Destana?

The concept of Pentahelix is a concept that is often used by policymakers to solve a problem that occurs in society (Kismartini et al., 2022). The government is not always responsible for every problem that occurs in society. Other components of society also have a hand in solving the problems that occur. Therefore, it is necessary to contribute equally between actors collaboratively to resolve problems with shared responsibility.

The Disaster Resilient Village Program is a program that is an alternative solution to disaster management efforts in the local area. As a government program, fundamental problems such as lack of budget funds remain in its implementation (Herlina et al., 2021). Using the Pentahelix concept, the problem of lack of budget funds can be closed using alternative financing with CSR funds from the

business sector (Ratnasari & Wildawati, 2022).

Sumber Village is one of the villages designated as a Disaster Resilient Village. In its implementation, seen from the perspective of Pentahelix, there is still a lack of roles from certain actors. Actors who are still invisible in their roles are actors from the business sector. Destana is a government program that focuses on increasing community capacity, in contrast to developing tourist villages with a profit-oriented orientation so that the business sector's role will be seen only when a natural disaster occurs. In addition, the business sector's role will be felt if the village Destana becomes a tourist destination. However, his vulnerability to disaster threats can impact these tourist destinations, such as Kahyangan Toll Road Wonolelo Village and Nepal Van Java Butuh Village (BPBD Kabupaten Magelang, 2021). The business sector can actively participate in disaster programs, especially Destana, by providing CSR funds through budgets or training. As an alternative, the business sector can establish partnerships with village governments in disaster management and other potentials that can result in village development, such as constructing new tourist destinations.

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Academics have had a significant role in implementing the Sumber Village Destana. According to Sekdes Eko, Sumber Village residents with a student background also often participate in disaster management. For example, when conducting disaster mitigation simulations, they organize the community so that there is no panic and evacuation can run smoothly. In addition, the KKN program carried out by university students not only focuses on thematic substance but also needs contributions regarding disaster education between residents and students. Moreover, academics must often conduct research or studies on disasters so that their knowledge can be distributed to government stakeholders, even to village governments, which can be used as reference material in disaster management.

Disaster simulation is vital in disaster management. Frequent disaster simulations will strengthen and increase the capacity and capability of the community to face disasters. In addition, training related to disasters must also be carried out regularly. According to sources from the Sumber Village Government, these two activities are still not on the routine agenda. Training activities from BPBD also do not have a definite schedule, and

disaster management simulations are carried out from the NGO program supported by ASB from Germany and FIDAKAMA. Simulation of natural disasters also needs to be conducted in educational institutions such as elementary schools so that children know evacuating when the Merapi eruption disaster occurs.

Related to the infrastructure supporting the disaster management process, the Sumber Village Government has been given the readiness tools of field kitchens and refugee camps centralized in Ngawen and Pucungrejo Villages. The Sumber Government lamented the damage to the evacuation route due to the traffic of sand transport trucks. Sand mining is also a problem that must be solved together because truck transportation that routinely passes through village roads will damage asphalt roads. Therefore, there is a need for efforts from the Local Government through the Public Works Office to concretize damaged roads because, according to the Secretary of State, the road is the authority of the local government.

Magelang Regency Government must be proactive in implementing disaster risk management. BPBD Magelang Regency itself said that of the 367 villages in Magelang Regency, the

number of villages running the Destana program, as many as 85 villages are considered to be still lacking because the threat of disasters in the Magelang Regency area is still many and varied. The Obstacles occur due to the limited budget of the APBD for the Destana program. The existing solution is to optimize the CSR funds from the business sector to be used as Destana's budget. In addition, using village funds can also be another alternative when the budget funds from the APBD cannot be sufficient.

The synergy between actors in the Destana program in Sumber Village is reflected when an Inclusion-based Disaster Simulation is carried out on 28 July 2022 (Borobudurnews, 2022). Various actors carried out the activity. From the government, there was the Magelang Regency BPBD, the Sumber Village Government, and related officials. Furthermore, the community actors who participated in the activity were from ASB, FIDAKAMA, Yayasan Habitat Indonesia, and LKLSU Ibu Zainab. Then actors from academics there is a role from the Kine Club of Communication Science Study Program Universitas Muhammadiyah Yogyakarta mentoring village youth in documenting activities. In addition, the simulation activity was published in the

news by a news site from the Magelang Regency Government, *beritamagelang.id*, then cited by local news portals *borobudurnews.com* and *suarabaru.id* as a form of the role of media actors in the simulation activity. This simulation activity led to the collaboration and synergy of only four actors because actors from the business sector still lack a role in disaster risk reduction activities.

Based on the findings, it can be said that the synergy of collaboration between actors in implementing the Sumber Village Disaster Resilient Village is seen when a disaster occurs. However, some actors have less significant roles in their collaboration when in disaster risk reduction programs or when disasters have not yet occurred. Business actors become actors whose roles are still less visible. Furthermore, media actors have seen their role in reporting disaster simulation activities and will also see a significant role when a disaster occurs in the area. The other three actors have shown their role in the Destana program, such as academics who work with the village government, community institutions or NGOs participating in capacity building for people with disabilities, and stakeholders of the Magelang Regency

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Government who remain committed to disaster issues.

Disaster management is no longer the business of the government alone but the entire element of society. All existing elements can be stranded from a disaster. Therefore, every societal element must synergize to participate in disaster management. The pentahelix concept is a concept that needs to be implemented in disaster management in order to achieve the goal of reducing risk in disaster management.

CONCLUSION

Collaborative governance is a new paradigm the government uses to address existing societal problems and present cooperation with various actors in implementing public policies. The pentahelix approach is one of the collaborative governance approaches often used in seeing collaboration and synergy between five actors consisting of Academics, Business, Community, Government, and Media in achieving common goals. The pentahelix approach is considered a tool to find solutions to a problem that arises in society.

Desa Tangguh Bencana (Destana) is a program from the Disaster Management Agency aimed at building the preparedness and resilience of

village communities to the occurrence of all kinds of disasters. This program aims to increase the capacity of the community to face a disaster so that they can overcome the threat of the disaster independently. The Magelang Regency Government had run a community-based disaster risk management program even before the Destana program was launched with the Sister Village program. After Destana, the villages with sister villages became called Destana Plus because the indicators of the sister village were almost the same as Destana.

Sumber Village, Dukun District, Magelang Regency, is one of the villages with the title Destana plus considering its geographical location is in the Disaster-Prone Area III, which is considered the most vulnerable to the Mount Merapi eruption disaster. In order to support the implementation of the Destana program, the Sumber Village Government collaborates with various institutions from the academic sector, NGOs, and others. Viewed with the concept of Pentahelix, academic actors have a role in analyzing the impact of disasters, cooperation in disaster education, and the Real Work Lecture program. The business sector assists when a natural disaster occurs due to the eruption of Merapi. The

communities that play a role in disaster activities in Sumber Village are ASB, Yayasan Habitat Indonesia, Fidakama, and LKLSU Ibu Zainab through the PIONEER program, which aims to participate and increase the capacity of vulnerable groups in disaster management activities. The Magelang Regency Government, through BPBD, continues to contribute to budgeting and bridges all cooperation carried out by the Sumber Village Government with various institutions. The role of media actors has been seen in the publication of news related to disaster risk reduction activities and the need to establish communication networks to disseminate information when a disaster occurs. The Sumber Village Government, through OPRB, established a communication network with several volunteer communities around the Merapi area. In addition, the Sumber village government is also active in providing information through the village's official website and Facebook social media page.

The collaboration between actors that occurred in the implementation of the Destana program in Sumber Village still did not occur significant synergy. Only government actors, academics, and communities play a significant role. Several actors, such as the business

sector and new media, have seen a significant role when a disaster occurs in the Sumber Village area. This happens because the Destana program is a disaster management program in contrast to the tourism village program, which economically impacts the business sector. However, it is undeniable that the business sector can play an active role in the Destana program by distributing CSR funds. Local governments can use this CSR fund as alternative funding for villages that implement Destana because many Destana has problems in terms of funding.

The Destana program has the essence of human development in the form of increasing the community's capacity to face and reduce disaster risk. People in the field of disaster are indeed based on voluntary and humanitarian nature. Disaster risk management cannot be underestimated considering that natural and non-natural disasters cannot be predicted, so humans need preparedness to face disasters anywhere and anytime. This study limitation is take only one village as a sample. For further research, it can compare with other villages or pentahelix at a higher level, such as the regency and even provincial levels, in this Destana program and disaster management.

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REFERENCES

- Abbas, M. H. I., Sumanto, A., & Priambodo, M. P. (2023). Penta Helix Participation in Developing Rural Tourism: A Case Study in Bringin, Malang. *Proceedings of the 5th International Research Conference on Economics and Business (IRCEB 2021)*, 6, pp. 10–20.
<https://doi.org/10.1201/9781003303336-2>
- Amin, R. M., Febrina, R., & Wicaksono, B. (2021). Handling COVID-19 from a Collaborative Governance Perspective in Pekanbaru City. *Jurnal Bina Praja*, 13, pp. 1–13.
<https://doi.org/10.21787/jbp.13.2021.1-13>
- Ansell, C., & Gash, A. (2018). Collaborative Platforms as a Governance Strategy. *Journal of Public Administration Research and Theory*, 28(1), pp. 16–32.
<https://doi.org/10.1093/jopart/mux030>
- Arsandi, S. (2022). Collaborative Governance in the Optimization of Tax Revenue: Case Study in Yogyakarta. *Jurnal Bina Praja*, 14(1), pp. 17–29.
<https://doi.org/10.21787/jbp.14.2022.17-29>
- Balqis, G. E., Rifai, M., & Santoso, M. P. T. (2021). Efektivitas Program Destana Oleh BPBD Provinsi DKI Jakarta di Kelurahan Cililitan. *NUSANTARA: Jurnal Ilmu Pengetahuan Sosial*, 8(5), pp. 1120–1128.
<https://doi.org/http://dx.doi.org/10.31604/jips.v8i5.2021.1120-1128>
- Berliandaldo, M., & Fasa, A. W. H. (2022). Pengelolaan Geowisata Berkelanjutan Dalam Mendukung Pelestarian Warisan Geologi: Perspektif Collaborative Governance. *Inovasi*, 19(1), pp. 79–97.
<https://doi.org/10.33626/inovasi.v19i1.529>
- BNPB. (n.d.). *Penilaian Ketangguhan Desa*. Retrieved January 12, 2023, from <https://siaga.bnpb.go.id/destana/desa>
- Borobudurnews. (2022). *Warga Lereng Merapi Magelang Lakukan Simulasi PRB Berbasis Inklusi-BorobudurNews*.
<https://borobudurnews.com/warga-lereng-merapi-magelang-lakukan-simulasi-prb-berbasis-inklusi/>
- BPBD Kabupaten Magelang. (2016). *Kunjungan UNDP ke Desa Sumber Dukun*.
<https://bpbpd.magelangkab.go.id/home/detail/kunjungan-undp-ke-desa-sumber-dukun/177>
- BPBD Kabupaten Magelang. (2021). *Database Pembentukan Desa Tangguh Bencana (Destana) BPBD Kabupaten Magelang Sampai Dengan Tahun 2021*.
- Diskominfo Kabupaten Magelang. (2021). *Data Sektoral-penduduk-Data Jumlah Penduduk Kab. Magelang*.
<https://pusaka.magelangkab.go.id/penduduk/penduduk/kelamin>

- Eko Kalisno. (2022a, October 3). *Dibantu MM KINE Klub UMY, Ndeso Film Festival Kembali Hadir*. https://desa-sumber.magelangkab.go.id/First/detail_artikel/dibantu-mm-kine-klub-umy-ndeso-film-festival-kembali-hadir
- Eko Kalisno. (2022b, October 25). *Desa Sumber Selenggarakan Simulasi Bencana Merapi secara Inklusi*. https://desa-sumber.magelangkab.go.id/First/detail_artikel/desa-sumber-selenggarakan-simulasi-bencana-merapi-secara-inklusi
- Eko Priyono. (2022, July 30). *Mengurangi Risiko Bencana, Warga Sumber Lakukan Simulasi Pengungsian-SuaraBaru.id*. <https://suarabarui.id/2022/07/30/mengurangi-risiko-bencana-warga-sumber-lakukan-simulasi-pengungsian>
- Emerson, K., Nabatchi, T., & Balogh, S. (2012). An integrative Framework for Collaborative Governance. *Journal of Public Administration Research and Theory*, 22(1), pp. 1–29. <https://doi.org/10.1093/jopart/mur011>
- Furqoni, I., & Rosyadi, S. (2019). Collaborative Governance in Corporate Social Responsibility Forum in Banyumas Regency. *Jurnal Bina Praja*, 21, pp. 209–217. <https://doi.org/10.21787/jbp.11.2019.209-217>
- Herlina, M., Sipahutar, H., Wardani, D., Sulistyono, D., & Pribadi, M. (2021). Regional Government Service Innovation Model in Disaster Mitigation. *Jurnal Bina Praja*, 13(3), pp. 383–394. <https://doi.org/10.21787/jbp.13.2021.383-394>
- Hidayat, M., Rozak, R. W. A., Kembara, M. D., & Baihaki, E. (2021). Pentahelix Synergy in Realizing Ecovillage Values in The Cijalingan Village Community of Cicantayan Sukabumi district. *IOP Conference Series: Earth and Environmental Science*, 683(1). <https://doi.org/10.1088/1755-1315/683/1/012135>
- Iqbal, M. (2021). Disaster Management in Indonesia: A Lesson from The 2010 Eruption of Mount Merapi. *Unisia*, 39(1). <https://doi.org/10.20885/unisia.vol39.iss1.art1>
- Kismartini, K., Widowati, N., Syaharani, S. P., & Pramudita, A. G. (2022). Penta Helix Collaboration dalam Pemberantasan Korupsi Untuk Mewujudkan Good Governance di Indonesia. *Jurnal Ilmu Administrasi Negara (ASIAN)*, 10(2), pp. 401–415. <https://doi.org/10.474828/jianaasian.v10i2.116>
- Koesuma, S., Lelono, S., Muryani, C., & Legowo, B. (2020). Efforts of Establishing Disaster Resilient Villages through Kuliah Kerja Nyata Tematik at Disaster Risk Reduction in Purbalingga District. *MITRA: Jurnal Pemberdayaan Masyarakat*, 4(1), pp. 42–51. <https://doi.org/https://doi.org/10.25170/mitra.v4i1.1063>
- Malawani, M. N., Lavigne, F., Gomez, C., Mutaqin, B. W., & Hadmoko, D. S. (2021). Review of Local and Global Impacts of Volcanic Eruptions and Disaster Management Practices: The Indonesian Example. *Geosciences (Switzerland)*, 11(3), pp. 1–18. <https://doi.org/10.3390/geosciences11030109>

- Margono, M., Priyo, P., & Haq, A. L. A. (2021). The Sister Village Program: Evaluation of Refugee Camp in Deyangan Village, Magelang District in Merapi Preparedness. *Proceedings of the 2nd Borobudur International Symposium on Humanities and Social Sciences, BIS-HSS 2020, 18 November 2020, Magelang, Central Java, Indonesia*. <https://doi.org/10.4108/eai.18-11-2020.2311720>
- Margono, Mashar, R., & Khoirul, A. (2019). Upaya Peningkatan Kapasitas Organisasi Pengurangan Resiko Bencana (OPRB) Desa Sambungrejo Kecamatan Grabag Kabupaten Magelang. *Jurnal ABM Mengabdi*, 6(2). <http://journal.stiemce.ac.id/index.php/jam/article/view/488>
- Moleong, L. J. (2007). *Metode Penelitian Kualitatif*. Bandung: Remaja Rosdakarya.
- Pangaribuan, J., Sabri, L. M., & Amarrohman, F. J. (2019). Analisis daerah Rawan Bencana Tanah Longsor di Kabupaten Magelang Menggunakan Sistem Informasi Geografis dengan Metode Standar Nasional Indonesia dan Analytical Hierarchy Process. *Jurnal Geodesi Undip*, 8(1), pp. 288–297. <https://ejournal3.undip.ac.id/index.php/geodesi/article/view/22582>
- Pholsim, S., & Inaba, Y. (2022). Roles of Policy Brokers in Collaborative Governance: Evidence from Khon Kaen and Bueng Kan Cities in Thailand. *Asian Politics and Policy*, 14(3), pp. 374–387. <https://doi.org/10.1111/aspp.12651>
- Purnomo, E. P., Aditya, F., Fathani, A. T., Salsabila, L., & Rachmawatie, D. (2021). Penta-Helix Approach as a Strategy to Recovery Tourism in Bali Due to Covid-19 Pandemic. *ACM International Conference Proceeding Series, October*, pp. 122–127. <https://doi.org/10.1145/3484399.3484417>
- Qoidah, N., & Widowati, E. (2020). Manajemen Bencana Gunung Merapi Berbasis Masyarakat. *Higeia Journal of Public Health Research and Development*, 4(Special 1), pp. 203–214. <https://doi.org/https://doi.org/10.15294/higeia.v4iSpecial%201.39351>
- Rasyid, K., & Darumurti, A. (2022). Collaborative Governance dalam Pengelolaan Obyek Wisata Bahari Wilayah Kawasan Ekonomi Khusus Mandalika di Kabupaten Lombok Tengah Tahun 2020-2021. *Jurnal Pemerintahan dan Kebijakan (JPK)*, 3(2), pp. 75–91. <https://doi.org/10.18196/jpk.v3i2.13476>
- Ratnasari, Z., & Wildawati. (2022). Sumber-Sumber Pendanaan Pembentukan Desa Tangguh Bencana (Destana) dalam rangka Peningkatan Kapasitas Masyarakat Menghadapi Bencana di Kabupaten Lampung Selatan. *Bappenas Working Papers*, 5(3), pp. 308–333. <https://doi.org/https://doi.org/10.47266/bwp.v5i3.110>
- Rijanta, R., Hizbaron, D. R., & Baiquni, M. (2018). *Modal Sosial dalam Manajemen Bencana*. Yogyakarta: UGM PRESS.
- Riodini, I., Payangan, O. R., Yusuf, R. M., & Munizu, M. (2022). Collaborative Governance Pada Industri Perbankan. *YUME: Journal of Management*, 5(2), pp. 202–210. <https://doi.org/https://doi.org/10.2568/yum.v5i2.1869>
- Sakya, A. E., Frederik, M. C. G., Anantasari, E., Gunawan, E., Anugrah, S. D., Rahatinigtyas, N. S., Hanifa, N. R., & Jumantini, N. N. E. (2022). Sow the Seeds of

- Tsunami Ready Community in Indonesia: Lesson Learned from Tanjung Bena, Bali. *SSRN*. <https://doi.org/10.2139/ssrn.4245621>
- Sandi, J. R. A. (2022). Membangun Relasi Hubungan Pemerintah-Swasta-Masyarakat Civil dalam Paradigma Governance Untuk Kalteng Lebih Berkah dan Bermartabat. *Journal Ilmu Sosial, Politik Dan Pemerintahan*, 11(1), pp. 37–45. <https://doi.org/https://doi.org/10.37304/jispar.v11i1.4201>
- Setya Yunas, N. (2019). Implementasi Konsep Penta Helix dalam Pengembangan Potensi Desa melalui Model Lumbung Ekonomi Desa di Provinsi Jawa Timur. *Matra Pembaruan*, 3(1), pp. 37–46. <https://doi.org/10.21787/mp.3.1.2019.37-46>
- Subagyo, A. (2021). Collaborative Governance Dalam Pengembangan Usaha Mikro di Kota Tasikmalaya. *Cogent Social Sciences*, 7(1). <https://doi.org/10.1080/23311886.2021.1964720>
- Subhan, A. (2016). Multidirectional Networks of Government Transparency: A Preliminary Model. *Jurnal Bina Praja*, 8(2), pp. 209–219. <https://doi.org/10.21787/jbp.08.2016.209-219>
- Surjadi, H. W., Herwati, A. R., Saputra, J., & Bon, A. T. (2021). Collaborative Governance on Slum Upgrading in Cultural Heritage Area: A Case Study of Pulau Penyengat, Indonesia. *Proceedings of the International Conference on Industrial Engineering and Operations Management Monterrey, Mexico, November 3-5, 2021*, pp. 3723–3731.
- Suryana, M. N., & Sriyono. (2021). Evaluasi Pelaksanaan Program Desa Tangguh Bencana Desa Sambungrejo Kecamatan Grabag Kabupaten Magelang Tahun 2019. *Edu Geography*, 9(1), pp. 18–29. <https://journal.unnes.ac.id/sju/index.php/edugeo/article/view/47231>
- Xing, H., & Xing, L. (2021). Key Factors and Coupling Relationships of Collaborative Governance for Disaster Prevention in China's Coastal Cities. *Risk Analysis*, 41(6), pp. 895–910. <https://doi.org/10.1111/risa.13586>