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Collaborative Governance in Natural Disaster Mitigation Management in The Pangandaran Beach

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Abstract

Pangandaran is the 16th district out of 514 districts/cities in Indonesia, with a high potential for disasters. In its management, there are still different views regarding disaster mitigation by stakeholders, namely the Government, Private, and Community sectors. This study looks at the existing conditions of disaster mitigation carried out in Pangandaran and collaborative Governance in disaster mitigation management at Pangandaran Beach. This study uses a qualitative approach by determining the participants from primary stakeholders interested in tourism and natural disasters. Structural and non-structural disaster mitigation has been carried out in Pangandaran using the tsunami risk management master plan manual (BNPB 2012). 11 indicators need to be added related to disaster evacuation orientation maps, and early warning system tools are crucial when a disaster occurs. The result of Collaborative Governance adopted by the theory of DeSeve (2007) still needs to be done optimally because tourism management and disaster mitigation have yet to be integrated and are still running from each party, namely the Government, the private sector and public funds. From eight indicators, only part of the commitment to a common purpose began to form because they realized that the seriousness of the disaster issue in Pangandaran could impact all parties.

Keywords: Natural Disasters, Tourism, Disaster Mitigation, Collaborative Governance, Stakeholders

A. INTRODUCTION

Pangandaran Regency, the KSPN of West Java, as stated in the 2010-2025 National Tourism Development Master Plan (PP Republik Indonesia No. 50 Tahun 2011, n.d.), has a promising potential for tourism destinations, starting from natural, cultural and artificial tourist attractions. Pangandaran continues to increase every year. The number of tourist visits to Kab. Pangandaran in 2018 reached 4 million visitors, with Pangandaran Beach as the most favourite destination (Jabar.bps.go.id, 2016). This level of tourist visits is expected to provide PAD that can prosper the local community of Pangandaran as a provider of tourism services.

However, in line with the level of economic growth by the development of the tourism sector in Pangandaran, natural disaster factors can disrupt stability, significantly impacting the tourism ecosystem in Pangandaran. In 2006 Pangandaran had a history of earthquakes and tsunamis that took many victims materially, mentally and psychologically(Ammon et al., 2006). Pangandaran occupies the 16th position out of 514 regencies in Indonesia which are prone to natural disasters. Based on BMKG information with GPS data, it is revealed that there is a seismic gap in the south of Java Island which allows the potential for a megathrust earthquake to be followed by a massive tsunami with an estimate of up to 20 magnitude, especially for West Java and East Java area (Widiyantoro et al., 2020).

The Government is aware of Pangandaran's vulnerability to natural disasters, and they already have Regional Regulations (Perda No. 21 Tahun 2016, n.d.) related to implementing natural disaster management. However, in the pre-disaster plan, especially disaster mitigation, several things need to be maximized, such as the role of stakeholders other than the Government as a regulator and contingency

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plans that still need to be implemented. Formed and the standardization of earthquake-resistant buildings has yet to be realized. The Ministry of Tourism also issued a Tourism Crisis Management which is still focused on the post-disaster stage related to reconstruction efforts after a disaster (Sakti, 2018). However, the focus of the tourism sector in disaster mitigation is remain scarce.

There are different views of local Government and private and community stakeholders on disaster mitigation in the Pangandaran Beach tourist area with adaptive management and top-down impression. Based on preliminary research from a survey of 197 visitors, there are 76% of visitors are aware that behind tourism activities, there is a risk of disaster that can happen at any time, but 46.2% of visitors still do not believe in government efforts in disaster mitigation, 26.4% and 27. 4% still have doubts and believe in the efforts made by the Government (Fahmi Muhammad, 2020). The Government as a regulator, seeks to mitigate structurally and non-structurally. However, they understand that they still have obstacles when doing partial disaster mitigation, such as the lack of high-rise buildings that can be used as temporary evacuation sites. The private sector, in this case, the hotel industry, which has high-rise buildings on Pangandaran Beach which has the potential to be used as a temporary evacuation site which is quite ideal (Nguyen et al., 2017), still thinks that the Government is less proactive in making approaches while they need this, some hotels even have independent mitigation measures that should be confirmed by local Government but has not yet been achieved. Even local people think that structural mitigation and information about disasters should be carried out fairly because it can cause worry for tourists visiting Pangandaran Beach. Based on the background above, the researchers try to determine how the forms of mitigation are carried out at Pangandaran Beach and how stakeholders collaborate in mitigation in the Pangandaran Beach tourist area.

B. RESEARCH METHOD

In this study, the author uses a qualitative method approach with research that relies heavily on subject/participant information in a broad sense, general questions, data collection consisting mainly of words/text from participants, explanation and word analysis, and subjective performance studies (Creswell, 2012) In this study, the authors determine the main stakeholders from the Government, namely BPBD and Disparbud, private hotels that have specifications on three floors and the community is assisted by community groups and HPI in Pangandaran as participants and main informants. Primary data was collected through direct observation of Pangandaran Beach, in-depth interviews with informants, and in-depth secondary data by looking at the source documents that support comprehensive research. Then the collected data was analyzed using the interactive model proposed by Miles & Huberman (Sugiyono, 2016) with the stages of collecting, reducing, presenting, and drawing conclusions. Then triangulation of data is carried out as a validation step in the form of triangulation of sources by confirming every information from informants, triangulation of techniques and triangulation of time.

C. RESULTS AND ANALYSIS

According to the guidebook for the 2012 Tsunami Disaster Risk Management Master Plan, there are two types of disaster mitigation: structural and non-structural. Then analyzed using the tsunami risk management guidebook (BNPB, 2012; Fraser, 2012; Kodijat, 2012; Tsunami Working Group Signage Committee, 2007).

1. Structural Mitigation

Temporary Evacuation Site (TES)

Temporary Evacuation Places have high buildings or topography around disaster-prone areas. With the following specifications: Has a minimum height of 3 floors or about 7-10 meters, has a strong building structure, has emergency stairs, is located along the tsunami evacuation route, the building can

be used, is located in a strategic location, there are symbols or signs for tsunami evacuation and accessible to persons with disabilities (BNPB, 2014) (Mark Darienzo, 2003). BPBD, namely, owns 3 TES:

1). TES Pasar Wisata, 400m from the beach, is a 5-storey building with an area of 50m x 50m that can accommodate 6,000 people and is projected as the leading vertical evacuation site. From table 1, it can be seen that of the seven ideal indicators for temporary evacuation sites, four indicators do not meet the ideal standard of a building for temporary evacuation and can still be maximized, namely the TES building, which has only 1 unit, then the use of the building for daily activities, the existence of a symbol as a temporary evacuation place and there are no stairs that can adequately accommodate persons with disabilities.

Table 1. Temporary Evacuation Site Analysis Tourist Market

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Temporary Evacuation Site	Pangandaran Tourism Market Tsunami Shelter.	Minimum Height 3 Floor (7- 10m) Sturdy Structure withstand earthquake	V		The local Government owns the building. SNI standard building structure. Building area 60x50m. Capacity 6000 people
		Be equipped Emergency Stairs	V		2 Access stairs to the top floor, at the end of the building.
		Located along tsunami evacuation route		V	There is only one building which is 1 km from the coast.
		The building can be used for daily activities.		V	The building is empty, and there has yet to be practical use. Poorly maintained condition.
		Located in a strategic location.	V		Located in the Pangandaran Tourism Market Center, which is quite strategically close to reaching from the West Coast.
		There is a symbol related place tsunami evacuation		V	There is no symbol/sign as a temporary evacuation place.
		There is access for the disabled.		V	There are no stairs that can accommodate people with disabilities.

Source: Researcher observation

2). TES Pananjung Nature Reserve is a nature reserve tourist spot on Pangandaran Beach, with an altitude of 70-100m above sea level. However, it is also projected to be an evacuation place if a natural disaster occurs. From the data presented in table 2, the seven indicators as a temporary evacuation place, the Pananjung Nature Reserve is considered quite good because there are only two indicators that are still not optimal, namely the information symbol as a disaster evacuation place and stairs that have not been appropriately accessed by people with disabilities and the condition of the nature reserve is not well maintained.

3). The Great Mosque of Al-Istiqamah is the largest mosque on Pangandaran Beach, which has two floors and can accommodate about 200 people. The indicators that have not been met are related to the size of the stairs for access to the upper floors, which are quite minimal, only one mosque building is high in the Pangandaran beach area, and there are no stairs that can accommodate people with disabilities (table 3).

Table 2. Temporary Evacuation Site Analysis Pananjung Nature Reserve

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Temporary Evacuation Site	Cagar Alam Pananjung	Minimum Height 3 Floor (7-10m) Earthquake-Resistant Sturdy Structure	V		Nature Tourism Park with hilly contours managed by Perhutani. The average altitude is 75-100 meters above sea level.
		Equipped with Emergency Stairs	V		Access through the main stairs at the entrance, and continue with the paved path
		Located along the tsunami evacuation route.		V	Located at the end of the road between the West Coast and the East Coast.
		The building can be used for daily activities	V		The primary function of the Pananjung Nature Reserve is as a Nature Park that tourists can visit
		Located in a strategic location	V		Located at the confluence of the west and east coasts
		There is a symbol related place tsunami evacuation		V	There is no symbol/sign as a temporary evacuation place
		There is access for the disabled.		V	There are no stairs that can accommodate people with disabilities

Sources: Researcher observation

Table 3. Temporary Evacuation Site Analysis Al-Istiqamah Great Mosque

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Temporary Evacuation Site	Masjid Agung Al Istiqamah	Minimum Height 3 Floor (7-10m) Earthquake-Resistant Sturdy Structure	V		The 2-storey building, but the height of the mosque is above 7 meters. Estimated to accommodate more than 200 people
		Equipped with Emergency Stairs		V	There are two main access stairs to the 2nd floor with a size that is not too wide
		Located along the tsunami evacuation route		V	Only one building is in the city center
		The building can be used for daily activities	V		The main function of the Al Istiqamah Grand Mosque is as a center of worship for Muslims
		Located in a strategic location	V		Located in the city center at 1 km from the beach.
		There is a symbol related place tsunami evacuation	V		There is a symbol/sign as a temporary evacuation place, with SNI standards
		There is access for the disabled.		V	There are no stairs that can accommodate people with disabilities.

Sources: Researcher observation

4). Temporary Evacuation Places next are tall buildings around the coast identified as hotel buildings with a height of more than three floors. The average hotel described above has a height indicator above three floors. The hotel building is used for daily activities in terms of visitor accommodation. For people with disabilities, it is necessary to be a shared focus because most hotels still use lifts as access for disabilities. However, when there is a disaster, the lift cannot be used, and the access chosen is only the emergency stairs. There are still some things that could be improved when

conducting observations. Firstly, the uneven location of hotels dominated the west coast area. Only one hotel is projected to be a temporary evacuation place on the East Coast; secondly, there are no symbols or signs regarding temporary evacuation sites. There are nine hotel units on the west coast and 1 unit on the east coast of Pangandaran.

Table 4. Temporary Evacuation Site Analysis Hotel projected as TES

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Temporary Evacuation Site	8 Hotels with structures above three floors.	Minimum Height 3 Floor (7-10m) Earthquake-Resistant Sturdy Structure	V		Eight hotels that were observed already had buildings on three floors. There needs to be complete information regarding the strength of the building structure.
		Equipped with Emergency Stairs	V		There is stair access, which is not only used in an emergency.
		Located along the tsunami evacuation route	V		7 Hotels are located in the West Coast Area. Moreover, only one hotel, Pantai Indah Resort, is located on the East Coast.
		The building can be used for daily activities	V		The primary function of the hotel is accommodation for tourists visiting Pangandaran.
		Located in a strategic location	V		The hotel's location is very strategic because it is along the coast of Pangandaran Beach.
		There is a symbol related place tsunami evacuation		V	There is no symbol/sign as a temporary evacuation place
		There is access for the disabled.		V	There are no stairs that can accommodate people with disabilities.

Sources: Researcher observation

Evacuation Route

In the concept of tourist destinations, there is accessibility which is important as a link from one area to another, one of which is road conditions. Disaster mitigation is crucial because it will be projected as an evacuation route. The Pangandaran BPBD has formed evacuation routes by creating divisional clusters in anticipation of the tsunami disaster, with four main roads as primary evacuation routes to reach 3 TES managed by the Government, namely, Jalan Raya Pangandaran, Jalan Pamugaran Bulak Laut, Jalan Kidang Pananjung, Jalan Parapat and Jalan East Coast. The evacuation route looks good with flat contours and not too many hollows, with an even width and road paving and can be used for motorized vehicles.

There are five primary/main evacuation routes: Jalan Raya Pangandaran, Jalan Bulak Laut, Jalan Parapat, Jalan Pantai Timur, and Jalan Pamugaran (table 5). The road has met the requirements with a width of 9 meters. Then it is supported by a secondary evacuation route which should have a minimum width of 7 m and become a liaison between the primary routes. The condition of village roads can also accommodate pedestrians, and the road conditions are mostly flat. They have been paved, of course, because this is a tourist area crowded with visitors, and the streets have been given adequate lighting. There is one drawback, namely the evacuation route that is devoted to ambulances.

Evacuation Sign

There are already directional signs for evacuating, but the condition of the signs is quite old, and this is known based on the explanation of the Head of Tourism Destinations that the signs have been

around for a long time before carrying out the expansion, as well as other InformatInformatione Head of Balawista that many of these signs are missing and lacking. Maintained, most evacuation signs cannot identify the evacuation waypoint. Evacuation signs are located on four main roads 1). Jalan Parapat has two evacuation signs. 2). Jalan Kidang Pananjung has three evacuation signs. 3). On East Coast Road, there are two evacuation signs. 4). Jalan Bulak Laut has 15 signs (table 6).

Table 5. Evacuation Path Analysis

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Evacuation Route	Primary Evacuation Route	Minimum width 9 meters	V		There are 5 Primary Evacuation Routes: Jalan Raya Pangandaran, Jalan Bulak Laut, Jalan Parapat, Jalan Pantai Timur, Jalan Pamugaran. The road has met the requirements with a width of 9 meters.
	Secondary Evacuation Route	Minimum width 7.5 meters	V		As a link to the primary road, the secondary evacuation road has a width ranging from 6-7 meters.
	Environmental Evacuation Route	Able to accommodate pedestrians	V		Village roads that can accommodate pedestrian
		Flat road conditions with hardening and not slippery	V		The condition of the roads in Pangandaran is excellent, with a variety of hardening.
		Complete with street lighting	V		Street Lighting for Primary and Secondary Roads is very qualified.
		Ambulance Special Evacuation Route		V	There is no particular route for emergency evacuation ambulance

Source: Researcher observation

Table 6. Evacuation Sign Analysis

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Evacuation Sign	Evacuation Signs for pedestrians and vehicle users	Description Name of Evacuation Place		V	There is no information on the name of the evacuation place.
		Mileage		V	There needs to be more information on the distance travelled to reach the evacuation point.
		The end of the sign must be sharp, pointing to the evacuation site	V		The shape is already tapered, indicating the direction of evacuation.
		Maximum Size 600x1200 mm	V		The size is by the standard recommended
		Orange Colour	V		Orange Colour
	Sign Tsunami safe place	Description (Temporary Evacuation Place) in Bahasa and English		V	There is no multi-language in the tsunami safe place signs.

		Symbols in the form of buildings or hills		V	There is no symbol in the form of a building for TES place.
		Max Size 600x1800mm in blue		V	There is no sign of a tsunami-safe place
	Information Sign Tsunami Incident	It is a place for tourists to learn about the history of the tsunami.		V	There is no information sign yet the occurrence of a tsunami
	Provision Pole and Sign Material	Metal, Aluminum or non-metallic materials with a thickness of 0.3- 3.0 mm	V		The materials used have met the recommended standards.
		Resistant to rust, weather, moisture, weathering and strong bending strength	V		The material has met the recommended requirements.
		Metal and concrete for poles	V		The material has met the recommended requirements

Source: Researcher observation

From 13 indicators of the ideal condition of evacuation signs, there are six indicators of the form of evacuation signs that have not been met, such as the absence of details on the name and place of evacuation and no distance that must be travelled to the recommended evacuation place. Evacuation signs do not use multi-language, there is no information for stated that the place was safe, there were no signs indicating the location of temporary evacuation sites, and there was no information that the Pangandaran area was disaster-prone.

Warning board

There are two warning boards for tsunami-prone areas, namely 1. In the East Coast area, 2. In the West Coast area. Of the two warning boards, only one is permanent, while the others are only made of bamboo and banner materials. There are no specific signs or warning boards to inform tourists that they have entered an area safe from the tsunami disaster.

Table 7. Warning Board Analysis

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Warning Board	Tsunami Zone Danger Signs	Description (Tsunami Hazard Zone) in Bahasa and English		V	There are two warning boards for tsunami-prone areas. However, the InformatInformation in Indonesian.
		Description (if there is an earthquake, run to higher ground)	V		Already equipped with an appeal to run to a higher place.
		With a maximum size of 600x750mm in blue	V		The size meets the requirements.
		The location must be easy to see at a high position in all directions.		V	The location is difficult to see even though it is crowded.
		The number of tsunami-prone zones and proportional to the area and length of the coast of each zone, with an interval of every 1 km		V	There are only two warning boards. With the lousy condition of the warning board

	Signs leave the tsunami hazard zone.	Description (you left the tsunami hazard zone) in English and Bahasa	V	There is no sign of your writing leaving the tsunami hazard zone.
		Description of area name	V	Not yet available
		Maximum size 1600x4000mm with blue colour	V	Not yet available

Source: Researcher observation

Based on the findings and analysis of the table above, of the eight indicators, 6 of them still need to be met. The written description (tsunami hazard zone) still needs to be multi-language. However, calls for running to a safer place are available, and the standardization of appropriate sizes and warning boards still needs to be seen from various directions. Regarding the shape, the standard size of SNI still needs to be fulfilled with a size of 1,600x4,000 mm, and there needs to be more information on the name of the area affected by the hazard.

Evacuation Orientation Map

Tsunami Evacuation Route Map (PJET) is a map that contains InformatInformationuation routes drawn at a scale of 1:25,000, and the scale is adjusted to the size of the city (BNPB 2014). In this case, the Pangandaran government already has a map of the evacuation route published on the Pangandaran BPBD website, especially for Pangandaran Beach.

Table 8. Evacuation Orientation Map Analysis

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Tsunami Evacuation Orientation Map	Primary Evacuation Route	Area Map with road network details, soaking height, Location of the evacuation site Evacuation Route and SNI standard		V	The Orientation Map only contains directions for directions, evacuation routes and evacuation sites. However, there needs to be more InformatInformationsoaking height.
		Placed in an area that is a concentration of activities community (Guest Places, schools, markets, terminals)		V	There has yet to be an Evacuation Orientation Map placed in areas where the community is concentrated.
		Orientation map sign can be added at the crossroads significant between lanes of primary evacuation, between primary and secondary evacuation routes		V	Still, primary, secondary, and environmental need to be available at the point of the evacuation route.

Source: Researcher observation

Based on the findings and analysis of the table above, the evacuation orientation map needs to be appropriately implemented. The detailed evacuation orientation map should contain details of the road network, the potential for immersion in the area, the location of the evacuation site, and the evacuation route that has yet to be maximized. Then no evacuation orientation map is placed at points that become the centre of concentration of crowds, such as schools, tourist attractions, markets, and terminals.

Furthermore, no orientation map contains a network of evacuation routes, including primary and secondary roads.

Greenbelt area

The Greenbelt area is a green belt which is a building-free zone; in this case, it functions as a form of mitigation in disaster risk reduction by utilizing tree or plant structures on the coast at Pangandaran Beach. Related to nature conservation and the Pamugaran area.

Table 9. Greenbelt Area Analysis

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Greenbelt Area		Greenbelts are effective in tsunami mitigation if the structural stability of trees is maintained.	V		Pananjung Nature Reserve is a greenbelt area that the Regional Government and a greenbelt area in the Pamugaran area preserve.

Source: Researcher observation

The Greenbelt area is a green belt which is a building-free zone; in this case, it functions as a form of mitigation in disaster risk reduction by utilizing tree or plant structures on the coast at Pangandaran Beach. Related to nature conservation and the Pamugaran area.

EWS Early Detection Tool

Based on InformatInformationd, along the 91 km length of Pangandaran Beach, there are 14 Early Warning System (EWS) units, but only two units are currently functioning and still using manual technology; these two units are grants from the central BMKG.

Table 10. Early Warning System

Types of Structural Mitigation	TES Object	Indicator	Result		Description
			Yes	No	
Early Warning System	Tsunami Early Warning System	Availability of active tools		V	EWS Tools are available, although there are only two units out of a total of 14 units owned by Pangandaran
		Human Resources Capacity	V		The division of labour between BPBD and the community has increased Human Resources' capacity to manage EWS.

Source: Researcher observation

Based on the findings and analysis of the table above, Pangandaran Regency already has an EWS Tsunami tool. However, of 14 units owned with a beach length of 91km, only two units are currently estimated to be still functioning. The condition is unfortunate because the cost of repairing the EWS is prohibitive, based on an interview with the BPBD. The capacity of human resources' capacity to manage the EWS has begun to increase but in traditional ways, such as using kentongan in villages and sirens on the coast, but not integrated with the EWS equipment in the middle of the sea.

2. Non-structural Mitigation

Community Programs, Training and simulation, Disaster industry

Currently, there are several community programs related to disaster mitigation initiated by the Pangandaran BPBD, such as; WEB GTS (Goes To School Disaster Education Tour), which is held every Wednesday for elementary school students, SIEMBEB (Empathy Gathering for Sharing Disaster Education) for junior high and high school students, BBM (Mother of Mitigation Learning) for PKK members, Tagana (Disaster Preparedness Youth), Destana (Disaster Resilient Village), Hotana (Disaster Resilient Hotel and Restaurant). Media can now access information facilities related to disaster mitigation; the most used is social media favoured by the community.

The development of the disaster industry is good potential to be developed because Indonesia is a country that is vulnerable to disasters. However, the industry still needs to develop related to disasters at the centre and the regions. According to InformatInformationed by BPBD, the central party is trying to shape the idea.

Table 11. Non-structural Mitigation Analysis

Types of Non-Structural Mitigation	Indicator	Result		Description
		Yes	No	
Community Program	Programs that are structured to understand disaster-related	V		A community program initiated by BPBD has been carried out. WEB GTS, SIEMBEB, BBM, Tagana, Destana, Hotana
Training and simulation	Training targets, volunteers	V		Training targets will already be carried out to strengthen disaster preparedness capacity in disaster mitigation products.
	Implementation time of training and simulation	V		Annual, monthly and weekly training time
Disaster industry	Development of earthquake and tsunami detection technology		V	There are no local industries that are projected to develop disaster-detection tools.

Source: Researcher observation

The program. Based on the data findings and analysis of the table above, the programs that have been prepared related to the understanding of disaster have started to be carried out with the initiation of the BPBD. However, the execution of the program still needs to be improved to touch the private sector as a whole because there is still a need for awareness, and InformatInformationchers see that BPBD, as the primary government stakeholder, is impressed by providing an understanding of mitigation that only focuses on local communities. In the collaboration process carried out by the Government, Private and Community sectors are analyzed through the theory proposed by Morse et al. (2007).

1. Networked Structure

The type of networked structure implemented by the Government, Private and Community Pangandaran is a self-governance approach with the roles of the three stakeholders still running respectively. From the conditions of the initial collaboration, this type of network can accommodate various related inputs from both parties. However, it is still top-down, actively initiated by the Government and still running respectively.

2. Commitment to a Common Purpose

In understanding the commitment to be implemented, the main reason for collaborating must be identified first because of the attention and commitment to achieving common goals. Based on the InformatInformationakeholders, they have realized how serious the disaster issues in Pangandaran are

and can significantly affect the tourism ecosystem. There is already a common understanding of the importance of both structural and non-structural disaster mitigation to be carried out. However, several factors still need to be improved, such as coordination, the commitment of each Stakeholder and consistency in implementing disaster mitigation.

3. Trust Among Participants

Trust and respect are essential keys if collaboration is to be successful and enjoyable, where communication and trust are paramount. Trust among the groups involved is a critical success factor (Vangen & Huxam, 2003). Communication, trust and respect for each Stakeholder are an integral part of running an ideal collaboration, putting aside sectoral egos for the common good. The private sector and the Government have different opinions regarding the ideal initiation that should be carried out. Meanwhile, the community fully believes in the efforts made by the Government but hopes to be actively involved if there is a disaster program.

4. Governance

Governance is program management that involves Boundary and exclusivity, Rules, Self Determination, namely the freedom to determine how the collaboration network will be run and who is allowed to run it. Network management is related to management in collaborating in resolving conflicts of interest, resource allocation, quality control, and organizational maintenance. Currently, the program management is still partially running in no administrative form for disaster mitigation management. Programs related to disaster mitigation are still concentrated on BPBD, and the role of other stakeholders is the part that participates and coordinates related to disaster mitigation.

5. Access to Authority

Standards (measures) provisions of some clear procedures are expected to be widely accepted by members. For most networks, members must give the impression and a sense of trust in one of the network members to be responsible for implementing joint decisions or carrying out their work. Based on the data studied, each Stakeholder's authority is still limited to each agency, and no holistic SOP can be implemented with specific accountability and division of authority in disaster mitigation.

6. DistributiveAccountability/Responsibility

The division of accountability and responsibility is part of the division and management of collective management between stakeholders, and decision-making is carried out by all participants involved. Thus, the assigned responsibilities are carried out simultaneously. A structured division of responsibilities related to disaster mitigation has yet to be attempted. BPBD, as the primary Stakeholder, takes the initiative first as a chain of disaster mitigation management in Pangandaran.

7. Sharing Informat

Information InformatInformation considered carefully, among others, the ease of accessing InformatInformationh members, protection of privacy, and restrictions on access for those who are not members. Information sharing has been done quite well by various parties. Of course, the desired output is that tourists feel safe when travelling in Pangandaran. However, it takes special media, easy to observe and integrated with disaster tourism and other InformatInformationform applications on a smartphone to facilitate the distribution of InformatInformationists.

8. Access to Resources

Access to resources includes the availability of financial resources, human resources and technical resources. There is no integration of access to every resource from every Stakeholder; if a particular administration is formed, then the limitations in resources will undoubtedly be met.

D. CONCLUSION

Structural disaster mitigation, in general, has been carried out quite well. It can be seen from 10 indicators in the management of structural mitigation, 8 of which have been implemented quite well. However, two critical indicators are related to the disaster evacuation orientation map that still needs to be created and the maintenance of the EWS disaster detection tool (Early Warning System); only 2 of the 14 units are owned. Non-structural mitigation, in general, is good enough with training, understanding, and simulation programs that have been designed, but it can still be maximized by establishing an integrated disaster industry.

Collaborative Governance is still not done optimally because tourism management and disaster mitigation have not been integrated and are still running from each party, namely the Government, the private sector and public funds, of the eight indicators only part of the commitment to a common purpose which began to form because they realized that the seriousness of the disaster issue that in Pangandaran can have an impact on all parties. It is necessary to form a particular administrative entity that can channel the interests of the relevant stakeholders.

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