

# The Role of Pentahelix in Post-Tsunami Recovery in Pandeglang District

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**Abstract:** The tsunami disaster which had an adverse impact that claimed many lives and bodies as well as the natural environment both on land is a threat to the development of future generations. One of the threats from the tsunami disaster was damage to facilities and infrastructure, damage to the natural environment, and the difficulty of returning to normal life again. This impact will result in disruption of public security and human security. The huge adverse effects of the tsunami, such as the large number of victims and extensive environmental damage, always have a negative impact on the economy. The wheel of the economy is not running well, it will disrupt people's lives, such as not being able to carry out activities to find the necessities of life. The next impact is that it will disrupt human security, public security and state security, which in the end will endanger national security. The role of Pentaheliks is very large in disaster management, namely the TNI, Regional Government, Media, Academics, and the business world.

**Keywords:** Pentahelix, Tsunami, Pandeglang.

## 1. Introduction

The Teluk Lada Coastal Area, Pandeglang Regency, which is located in the western part of Java Island, is directly adjacent to the Sunda Strait to the west and the Indian Ocean to the south.

Pandeglang Regency is located adjacent to the Sunda Strait where the transition area between the Sumatran segment and the Java segment of the Sunda Arc is a very active area in terms of volcanic activity, seismicity and vertical tectonic movement of its segment which is often said to be the Megathrust segment of the Sunda Strait, a subduction zone between the Indo-Australia and the Eurasian Plate. This collision zone will cause earthquakes and earthquakes that occur have the potential to cause a tsunami (BNPB, 2012).

The collision zone of the earth's plate under the Sunda Strait is like a sleeping giant because at any time it could shake the Banten Province area, especially in the Pandelang Regency area with a magnetude of mm (Mw) 9. According to tsunami researchers at the Center for the Study of Coastal Dynamics at the Center for Research and Development Application of Technology (BPPT). The potential for giant earthquakes in the subduction zone (collision of plates) in the Sunda Strait was inferred from the existence of a 350-550 km seismic gap, this potential for giant earthquakes is caused by the friction of two earth plates that are still stored. Besides that, the Sunda Strait

Coastal area is geographically directly adjacent to the Java Sea. This position causes the coast of the Sunda Strait as a whole to be at great risk if at any time a bigger tsunami occurs.

After the tsunami disaster was over, of course, now we are thinking about how to immediately carry out post-disaster recovery activities. Post-tsunami recovery is more in the direction of post-disaster recovery, both in terms of physical (rebuilding of buildings that have been destroyed) for victims of the disaster. Therefore, to speed up post-tsunami recovery, it must be accelerated. The pentahelix synergy has actually been carried out by the Regional Government of Pandeglang Regency, but the results are still not as expected. An example of this form of collaboration is planting mangrove trees which are still limited on the coast of Panimbang. The installation of seawater wave barriers is still limited to the edge of the Panimbang beach and has not yet reached the well district where the tsunami waves were the most severe.

## 2. Research Methodology

This research uses a qualitative method with a descriptive design, which is expected to be able to provide answers to a problem and/or obtain more in-depth and broader information about a phenomenon so as to get meaning from a number of individuals or groups that are occurring as a result of social or humanitarian problems. Based on the problems that occurred, the researcher used descriptive qualitative to describe and analyze how far the implementation of pentahelic synergy in tsunami disaster recovery has affected community resilience in Pandeglang Regency, Banten Province.

Qualitative research procedures do not have a standard pattern. Qualitative research collects and records data in detail from various problems related to the object of research. The implementation of data collection was directly carried out by the researchers themselves by making observations and directly participating actively in the process.

## 3. Result and Discussion

Pandeglang Regency is one of 8 regencies/cities in Banten Province which is at the western tip of Java Island. Geographically it is located between 6°21'-7°10' South Latitude and 104°48'- 106°11' East Longitude. Administratively it is

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divided into 339 Villages/Kelurahan dan 35 Kecamatan.

The Pandeglang Regency area has natural resource potential that supports the development of agriculture, forestry, mining, fisheries and maritime affairs as well as tourism. So, it is no exaggeration that Pandeglang Regency in the 2011-2016 medium-term development plan stipulates the vision of "Pandeglang Regency as an independent region in the field of agribusiness and tourism based on rural development". The economic structure of Pandeglang Regency is dominated by the agricultural sector. This is proportional to the large area of land used for agriculture. The land area of Pandeglang Regency is 274,689 ha in area, of which around 219,950 ha (80.07%) is used for agricultural businesses such as rice fields, fields, gardens, ponds/batch/ponds, ponds, large plantations, land for community forest plantations and state forests. While the rest is used for yard/land for buildings.



Fig. 1. The red color represents the tsunami affected area  
Source: BNPB and BPBD Pandeglang Regency (2022)

The surrounding yard, meadows, land that is temporarily not cultivated and so on the climate in Pandeglang Regency is influenced by monsoon winds and La Nina waves, the rainy season occurs between November and March, the weather is dominated by westerly winds. While the dry season usually occurs between June and August where the weather is dominated by east winds. In general, the air temperature ranges from 180C-320C. While rainfall ranges from 2000-4000 mm per year with an average rainfall of 3,274 mm per year. There are 152 rainy days per year with an average air pressure of 1,010 millibars. Pandeglang Regency has 14 rivers that are medium to large in size. These rivers are Cidano, Cibungur, Cisanggona, Ciliman, Cihonje, Cipunagara, Cisumur, Ciseureuhan, Cijaralang, Cikadongdong, Ciseukeut, Cimara, Cibaliung, and Cicanta. The 14 rivers are divided into 6 (six) Watersheds (DAS), namely: Ciujung, Cidano, Cibungur, Ciliman, Cimandiri, and Cikeruh. The climate in Pandeglang Regency is influenced by monsoon winds and La Nina waves, the rainy season occurs between November and March, the weather is dominated by westerly winds. While the dry season usually

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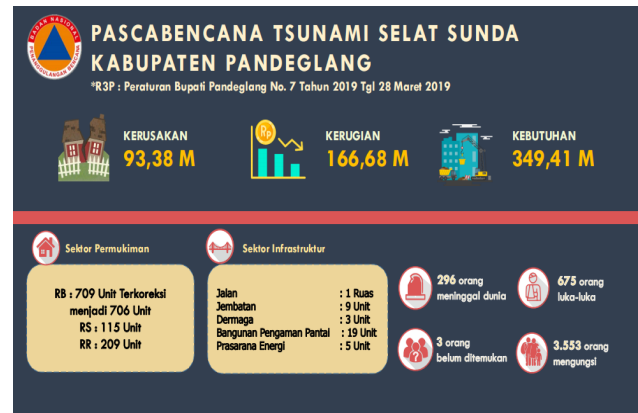


Fig. 2. The loss impact of the sunda strait tsunami that hit 4 districts in Pandeglang regency  
Source: BPBD Pandeglang Regency (2022)

The implementation of post-tsunami recovery in Pandeglang Regency has carried out a pentahelic synergy or there are 5 parties involved. If you look at it starting at the time of the disaster, there was cooperation between the five parties. BPBD has made efforts so that all parties involved in providing assistance to tsunami victims in 4 sub-districts can coordinate with BPBD before providing direct assistance to the community. The pentahelix synergy that has been carried out after the disaster recovery to improve the standard of living of the affected people in permanent housing on Carita beach, Labuan beach and Panimbang beach and Sumur beach. The role of pentahelix in Pandeglang tsunami disaster management is very large in building back better, saver and healthier.

#### 4. Conclusion

From the results of this study, the role of the pentahelix after the Pandeglang tsunami disaster in the rehabilitation and reconstruction phase is as follows:

The resilience of the economic aspect is still lacking or not as expected because it is less than the minimum wage.

In the social field, the role of pentahelix is in rebuilding houses, economic facilities and social facilities. The high sense of solidarity in occupying huntap can be seen in their daily activities. Community life is very thick, such as in youth organizations, women's social gatherings and worship activities at the prayer room/mosque.

In the construction of community settlements, there are still

obstacles in collecting data on affected communities and the status of the land that will be occupied later.

The development of public facilities and infrastructure has been accommodated such as public and social services, places of worship, children's playgrounds, RW offices.

Cross-sectoral developments, such as the construction of roads, telephone networks, electricity networks, and clean water have been running smoothly.

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