

Potential Disasters as a Basis for Policy Making to Build a Public Health Center

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Abstract.

Besides being surrounded by two volcanoes, Banyuwangi Regency also has a coastal, lowland, and highland topology. In order to minimize the number of victims in the event of a disaster, cooperation between the PHC and the community is needed, in this case the relevant parties must be empowered to become a community that cares about the environment and is responsive to disasters that may arise in its territory. This research shows that Banyuwangi Regency has four potential natural disasters, namely tsunamis, landslides, floods and volcanic eruptions. As many as 67% of PHC at the District Level in Banyuwangi Regency have the potential for flooding, 42% of PHC have potential tsunamis, 22% of PHC have potential landslides and 7% of PHC have potential for volcanic eruptions. The conclusions of this study are predictions about the potential disasters that may occur in the work area of each PHC can be used as a basis for consideration to encourage innovative programs in efforts to develop health center services that support more effective planning of regional activities and budgets. and efficient in accordance with the conditions and problems of each region.

Keywords. *Disaster, early warning development, public health center (PHC) services.*

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1. Introduction

Geographical Location Banyuwangi Regency is located on the eastern tip of Java. Its territory consists of a plateau of the mountains is a product-producing areas and lowland plantations have the potential range of agricultural products and has a coastline that stretches from north to south. Geographically district Banyuwangi located in the island east java. Which is divided into a plateau of mountainous regions, is a producer plantation various production. Flat land with a variety of potential in the form of crop production, and

the area around the outline of a coast longitudinal from the north southward that is producer various marine biota.

Based on the line of coordinate, position Banyuwangi district is between 7 43 ' - 8 46 ' south latitude and 113 53 ' - 114 38 ' east longitude . In its north borders district Situbondo , east of the strait Bali, southern ocean Indonesia and the west borders district Jember and district Bondowoso.

Districts that have Banyuwangi topology coastal, low plains, and uplands, in addition

has two a dormant volcano. Disasters that occurred in Banyuwangi began years 2013-2015 among other waterspout, landslides, flood, and mount erupted. Some 45 health center at sub-district level in the district Banyuwangi serving citizens should examine the potential disaster in the area as a precaution to minimize casualties if disasters. The purpose of this research analytics disaster potential in health center at sub-district level in the district Banyuwangi.

1. Methodology

This research was a descriptive analytic research. Types of data were secondary data. The secondary data was obtained by the study of documents. An analysis of data using descriptive analysis.

2. The Analysis Result and Discussion

District Banyuwangi located in the east end of the east java and had 24 (twenty four) district. Each area has different ha areas, as seen in figure 1.



Figure 1. Map of the Administrative District. Banyuwangi (Source: RTRW Kab. Banyuwangi 2011 – 2031)

The prone area natural disasters is the area in which is indicated as an area which often of disasters. The prone area disaster areas banyuwangi grouped the disaster prone landslides, tides and tsunami, flood and

forest fires and strong winds and the whirlwind. To anticipate the impact of disasters need to efforts between other early detection disaster, preserve conservation areas and disaster management.

Disaster area the volcano in district banyuwangi could see from figure 2 below.

Figure 2. Maps disaster prone volcanoes distric Banyuwangi (source: BPBD District Banyuwangi)

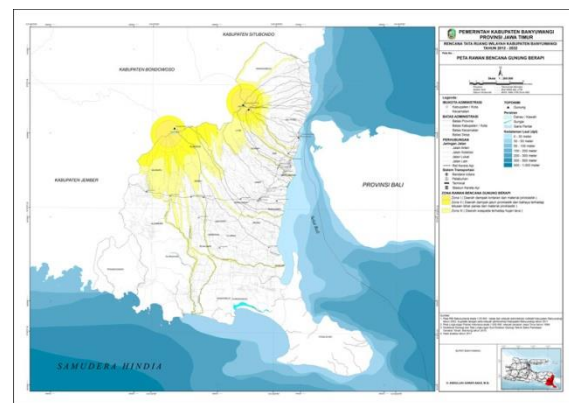


Figure 2. Maps disaster prone volcanoes distric Banyuwangi (source: BPBD District Banyuwangi)

In figure 2 above there are two of a volcano that is in district Banyuwangi the mountain Ijen and the mountains Raung. The two mountain have the potential disaster for the area in district Banyuwangi. A volcano Ijen who are in the work area of health center at sub-district level slippery and the potential vulnerability disaster get the working areas of health center at sub-district level Paspan. A volcano Raung who potential vulnerability to disaster is in Songgon area.

Banyuwangi areas that is in parts of the coast can have the potential tsunami this can be seen in figure 3 below.

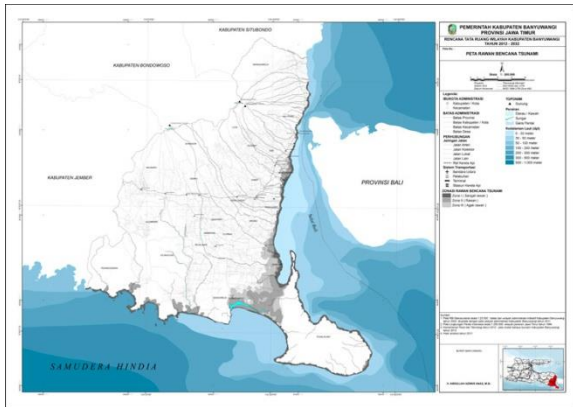


Figure 3. Maps prone to tsunami banyuwangi district(source: BPBD District Banyuwangi)

In Figure 3 are areas that have the potential of Tsunami natural disasters in Banyuwangi Regency. The potential of the tsunami is spread in the work areas of Siliragung, Grajagan, Kedungwungu, Tembokrejo, Tapanrejo, Tampo, Central Java, Wonosobo, Gladag, Badean, Sobo, Kedungrejo, Sambirejo and Kebondalem.

Data on the potential disaster areas health center at sub-district level in the district banyuwangi on 2016 presented in table 1 below.

Table 1. table potential disaster areas health center at sub-district level in the district banyuwangi in 2016.

Health center at sub-district level	Potential Disaster
Sumberagung	Tsunamis, landslides and floods
Siliragung	Tsunamis, and landslides
Grajagan	Tsunamis, landslides and floods
Kedungwungu	Tsunamis
Tembokrejo	Tsunamis
Tapanrejo	Tsunamis

Tampo	Tsunamis, and floods
Jajag	Floods
Yosomulyo	Floods
Tulungrejo	Floods
Gentengkulon	Floods
Kebaman	Floods
Parijatahkulon	Tsunamis
Wonosobo	Tsunamis
Gladag	Tsunamis
Kabat	Floods
Badean	Tsunamis
Karangsari	Floods
Kembiritan	Floods
Gendoh	Floods
Songgon	Volcanic eruptions
Paspan	Landslides, floods and volcanic eruptions
Sobo	Tsunamis, and floods
Kertosari	Floods
Singotrunan	Floods
Mojopanggung	Floods
Kelir	Landslides and floods
Klatak	Floods
Gitik	Floods
Wongsorejo	Landslides and floods
Benculuk	Floods
Pesanggaran	Tsunami
Purwoharjo	Tsunami
Singojuruh	Floods

Kedungrejo	Tsunami
Kalibaru kulon	Landslides and floods
Sambirejo	Tsunamis, and floods
Kebondalem	Tsunamis
Sumberberas	Tsunamis
Sepanjang	Landslides and floods
Sempu	Landslides
Licin	Landslides, floods and volcanic eruptions
Bajulmati	Floods
Tegaldlimo	Tsunamis, and floods
Tegalsari	Floods

In table 1 on suggests that potential disaster health center at sub-district level in the district banyuwangi have the potential to the disaster volcanic eruptions, earthquakes, tsunami, flood, landslides. The area is in coastal areas have the potential tsunami. Health center at sub-district level the area on the slopes volcano disaster potential volcanic eruptions and landslides. There are potential disaster 4 of the potential tsunami, potential landslides, flood potential, and potensi volcano erupted. 67% health center at sub-district level in district banyuwangi have the potential to flood. 42 % health center at sub-district level in the district

banyuwangi has the potential tsunami. 22 % health center at sub-district level in the district banyuwangi has the potential landslides. 7 % health center at sub-district level in kabupaten banyuwangi have the potential to the volcano.

A disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community. A disaster is a sudden, calamitous event that causes serious disruption of the functioning of a community or a society causing widespread human, material, economic and/or environmental losses which exceed the ability of the affected community or society to cope using its own level of resources (UN/ISDR 2004). The potential disasters that are located in district banyuwangi that are categorized as hydro-meteorological disaster in the form of flood, typhoon, flash floods, drought and landslides. The potential disasters that are located in district banyuwangi that are categorized as geophysical disaster in the form of the quake, tsunami, and volcanic activity.

3.1. Recommendations for the development of public health center services based on geographical conditions and potential disasters

Based on geographical conditions and the potential for disasters that can occur in Banyuwangi Regency, the following is a recommendation for developing PHC services in Banyuwangi district.

Table 2. Recommendations service PHC in the district Banyuwangi.

PHC	THE STATUS OF SERVICE	TYPE	RECOMMENDATION TYPES OF SERVICES SEED
Sumberagung	Outpatient	PHC rural	Tourism
Siliragung	For inpatient or outpatient treatment	PHC rural	Tourism
Grajagan	Outpatient	PHC rural	Tourism
Kedungwungu	Outpatient	PHC rural	Environmental Health
Tembokrejo	Outpatient	PHC rural	UGD

Tapanrejo	Outpatient	PHC rural	UGD
Tenpo	Outpatient	PHC rural	UGD
Jajag	Outpatient	PHC urban	<i>Home Care</i>
Yosomulyo	Outpatient	PHC rural	UGD
Tulungrejo	Outpatient	PHC urban	<i>Home Care</i>
Genteng kulon	Outpatient	PHC urban	<i>Home Care</i>
Kebaman	Outpatient	PHC rural	UGD
Parijatah kulon	Outpatient	PHC rural	UGD
Wonosobo	Outpatient	PHC rural	UGD
Gladag	Outpatient	PHC rural	UGD
Kabat	Outpatient	PHC urban	<i>Home Care</i>
Badean	Outpatient	PHC rural	UGD
Karangsari	Outpatient	PHC rural	UGD
Kembiritan	Outpatient	PHC urban	<i>Home Care</i>
Gendoh	Outpatient	PHC rural	PONED
Songgon	Outpatient	PHC rural	PONED
Paspan	Outpatient	PHC rural	UGD
Sobo	Outpatient	PHC urban	Tourism and Home care
Kertosari	Outpatient	PHC urban	Tourism and Home care
Singotrunan	Outpatient	PHC urban	<i>Home Care</i>
Mojopanggung	Outpatient	PHC urban	<i>Home Care</i>
Kelir	Outpatient	PHC rural	UGD
Klatak	Outpatient	PHC urban	Tourism and K3
Gitik	For inpatient or outpatient treatment	PHC urban	UGD
Wongsorejo	For inpatient or outpatient treatment	PHC rural	Inpatient and PONED
Benciluk	For inpatient or outpatient treatment	PHC urban	PONED
Pesanggaran	For inpatient or outpatient treatment	PHC rural	PONED
Purwoharjo	For inpatient or outpatient treatment	PHC rural	PONED
Singojuruh	For inpatient or outpatient treatment	PHC rural	PONED
Kedungrejo	For inpatient or outpatient treatment	PHC urban	PONED
Kalibaru kulon	For inpatient or outpatient treatment	PHC rural	PONED and Tourism
Sambirejo	For inpatient or outpatient treatment	PHC rural	PONED
Kebondalem	For inpatient or outpatient treatment	PHC rural	PONED
Sumberberas	For inpatient or outpatient treatment	PHC urban	Inpatient dan K3
Sepanjang	For inpatient or outpatient treatment	PHC rural	PONED

Sempu	treatment For inpatient or outpatient treatment	PHC rural	PONED
Licin	For inpatient or outpatient treatment	PHC rural	Sanitary and Tourism
Bajulmati	For inpatient or outpatient treatment	PHC rural	PONED
Tegaldlimo	For inpatient or outpatient treatment	PHC rural	Tourism
Tegalsari	For inpatient or outpatient treatment	PHC rural	PONED

Based on the regional conditions of coastal areas prone to tsunamis and by considering various other potential natural disasters, the Banyuwangi District Government encourages disaster management and prevention involving all local government officials and related communities through the issuance of documents in the form of Procedures Disaster Mitigation in Banyuwangi Regency [1]. Community health centers at the sub-district level, as health care facilities that carry out public health efforts prioritize promotion and prevention efforts. In disaster management, the role of the PHC is about its main tasks and functions, namely as a center (1) driving public health development, (2) community empowerment and (3) first-level health services [2].

In line with research by [3] on efforts to prevention disasters there are 5 (five) parameters used in the PHC resilience framework in the face of disasters, such as physical conditions, institutional roles, human resources, external relations and exposure to disasters. This parameter can be applied as a form of escape program modification. Where the escape program is an evaluation system for Accessibility Calculation and Evacuation Planning to

provide information and guidance on the fastest route and direction of evacuation to the placeevacuation [4]. The modification of the escape program with adjustments to the conditions in the working area of the Banyuwangi District Health Center is intended to prevent more casualties and losses due to disasters as well as to improve the preparedness of health workers in the PHC.

So that by considering the natural conditions and various things supporting the disaster management program at the PHC, early warning efforts can be carried out as the development of health services in the field of disaster. Therefore early warning about the potential for disasters plays an important role in efforts to develop public health services at the sub-district level in Banyuwangi Regency based on the potential for disaster vulnerability in the operational area. The potential for disasters that may occur in the work area of each PHC can be used as a basis for consideration to encourage innovative programs in developing health center services that support more effective planning of regional activities and budgetsalso efficient in accordance with the conditions and problems of each region.

2. Conclusions

All PHC in Banyuwangi district has had Effort Essential Public Health and Health Services Individual corresponding Decree No. 75 Year 2014. Each health center also has a Public Health Efforts different development priorities based on local health problems.

Recommendations the development of PHC services based are categorized be potential health care tour, neonatal obstetric care and essential basic (PONED), mental health, occupational health and safety (K3), of environmental health, home care and the emergency room .

An overview of potential disasters can be used as a basis for PHC managers to innovate appropriate and targeted promotive and preventive services.

Development of PHC services based on geographical conditions and potential disasters that are likely to occur, if supported by the active role of the local community, it is able to encourage local governments to

prepare innovative programs for the development of PHC services that support more effective regional planning and budgeting activities and efficient in accordance with the conditions and problems of each area.

References

- [1] Sunarto and Marvai, Muh Aris 2012 Potensi Bencana Tsunami dan Kesiapsiagaan Masyarakat Menghadapi Bencana Studi Kasus Desa Sumberagung Banyuwangi Jawa Timur (Fakultas Geografi, Universitas Gadjah Mada Yogyakarta)
- [2] Widayatun and Fatoni, Zainal 2013 Permasalahan Kesehatan dalam Kondisi Bencana: Peran Petugas Kesehatan dan Partisipasi Masyarakat Indonesia Jurnal Kependudukan Indonesia 8, 1 37-52
- [3] Oktari, RS and Kurniawan, H 2016 Framework Ketahanan Puskesmas Dalam Menghadapi Bencana Banda Aceh Jurnal Kedokteran Syiah Kuala 16, 1 44-52
- [4] RIMES 2009 Escape User Manual Thailand: Regional Integrated Multi-Hazard Early Warning System