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Effectiveness To Complete Disaster Information System In Bali Province

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Abstract: *The digitalization process in the field of disaster management is very important to be carried out to minimize the occurrence of a disaster. This study aims to find out how the digitalization process is being carried out in the OPD of the Bali Province Regional Management Agency in disaster management. The sampling technique in this study used purposive sampling, namely the respondents in the field of Pusdalops BPBD Bali Province, their leaders and staff who served in the data center and operations regarding disaster as many as 26 people. Data collection techniques using interviews, observation, documentation and literature review. The results of this study indicate that the digitalization process is very important in providing information to the public to reduce the risk of a disaster occurring. This research has implications for local governments to follow the digitization process more so that information can be conveyed properly to the wider community*
Keywords: *Information system, BPBD, Bali Province*

Introduction

Disasters are one of the natural phenomena that threaten human survival. The negative impacts can be in the form of material or non-material losses. These disasters can be exemplified such as floods, landslides, earthquakes, there are also non-natural disasters such as fires, failed technology, failed modernization, social conflicts between groups and terror. Disaster is a phenomenon of human life that cannot be known with certainty when it occurs. Humans are only able to recognize early symptoms and predict their occurrence. The sophistication of technology created by humans is sometimes only able to explain these early symptoms, so that the details of the disaster are only in human predictions.

However, with the ability to recognize the early symptoms of a disaster, humans can prepare themselves for disaster. The preparation includes preparation before a disaster occurs, when a disaster occurs, and after a disaster occurs. That is, the readiness carried out by humans can be done when they can recognize the initial symptoms, the level of risk and so on.

Regional Disaster Management Agency (BPBD) is a non-departmental government agency that carries out disaster management tasks in both Provinces and Regencies/Cities by referring to the policies set by the National Disaster Management Agency. BPBD was established based on Presidential Regulation Number 8 of 2008.

The task of BPBD is to provide guidance and direction for disaster management efforts which include disaster prevention, emergency response management, rehabilitation and reconstruction in an equitable and equal manner, establish standardization and needs and implement disaster

management based on laws and regulations. invitation.

The functions of BPBDs include: Coordination function is the coordination of BPBD with agencies / agencies / agencies horizontally at the pre-disaster stage, during emergency response and post-disaster; Coordination of disaster management can be carried out in collaboration with institutions/ organizations and other related parties in accordance with applicable regulations; Cooperation involves the participation of other countries, international institutions and foreign non-governmental organizations. Command function, in a state of emergency, the Governor appoints a disaster management commander at the suggestion of the Head of BPBD. The disaster emergency management commander controls the operational activities of disaster management and has the authority to activate and upgrade the Operations Control Center to become a Command Post. The commander's authority to order agencies/institutions includes: (a) rescue, (b) deployment of human resources, (c) deployment of equipment and logistics. Control function is to control the use of technology which suddenly / gradually becomes a source of threat of disaster hazards, control and management of natural resources that are potentially dangerous, depletion of natural resources that exceed their carrying capacity which causes danger threats, planning and enforcement of regional spatial planning related to disaster management and controlling the collection and distribution of aid in the form of money and/or goods and other services intended for disaster management. Information regarding disasters is very important, therefore of course the Bali Provincial Government establishes a Disaster Management Operations Control Center hereinafter abbreviated as PUSDALOPS PB is a technical implementing element at the provincial level in charge of preparing support for operational control facilities as well as organizing information systems, coordination, integration and synchronization in disaster management. disaster management.

PUSDALOPS PB is an organization as a control center that functions to operate disaster management in a coordinated, integrated and integrated manner so that the response can be carried out quickly, precisely and accurately. The role of PUSDALOPS PB covers all stages in disaster management, namely the stages before the disaster, during the disaster and after the disaster. Meanwhile, its function is to manage disaster information; disaster emergency response services; implementation of an early warning system and emergency services.

Through the current digitization process, the Bali Provincial Government, especially the Bali Provincial BPBD OPD, has a Disaster Application called SIK (Disaster Information System). SIK is an application that functions to access disaster data, including disaster location, time, victims, losses, damage, etc. With this SIK, it is easier to report to the leadership.

Method

This research is qualitative and classified as fundamental research when viewed from the research objectives. Based on the characteristics of the problem, this research is categorized as descriptive and causal comparative research. This study uses primary data collected through interviews in the form of questionnaires, observations, documentation and literature reviews. The sample selection method in this research is purposive sampling method, namely the use of certain criteria in sample selection.

Questionnaire was made in printed form which was then distributed to employees in the field of Pusdalops BPBD

Bali Province. The variables used in this study are the Effectiveness of the Bali Province BPBD Performance (Prevention and Mitigation, Preparedness, Emergency Response, Recovery, Effectiveness of Disaster Information Systems (SIK), Data Collection, Reporting, Capacity) and Disaster Management in Pre-Disaster and Post-Disaster in the form of Lack of Disaster Information System (SIK) application.

Result and Discussion

The Regional Technical Implementation Unit within the Regional Disaster Management Agency or the Disaster Management Operations Control Center (Pusdalops PB) is a technical unit that has a strategic and very technical role in disaster management, including in the Province of Bali. One of its functions is as a center for Disaster Data and Information; The function of the Disaster Information and Data Center is as a recipient, processor, and distribution of information.

Disaster data refers to Law Number 24 of 2007 which contains the following definition of disaster:

Event or series of events caused, either by natural factors and/or non-natural factors as well as human factors

Threatening and disturbing people's lives and livelihoods 3. Resulting in the incidence of human casualties, environmental damage, property losses, and psychological impacts.

Examples of disaster data are floods, landslides, earthquakes (which occurred around the island of Bali), hydrometeorological disasters (extreme weather, storms, cyclones/hurricanes) that located in the disaster category in the application.

In order to operationalize the statutory provisions, the recording of disaster events needs to be recorded according to the characteristics of each disaster event whose data is needed to establish relationships between variables in developing time series statistics, such as, long-term trends of the impact of disasters. The impact of the disaster that is compiled into the database is the impact of casualties and nominal property losses. To accommodate this, a WEB-based Disaster Information System was created that can be accessed by all districts/cities throughout Bali and the Bali Pusdalops picket operator.

The island of Bali is 153 km long and 112 km wide, about 3.2% from the island of Java. The total area of Bali Province is 5,636.66 ha with a beach length of 529 km. The relief of the island of Bali is a chain of mountains and hills that extends from west to east. Among the mountains there are still active volcanoes, namely Mount Agung (3,142 m) and Mount Batur (1,717 m). Several other dormant mountains reach elevations of between 1,000 - 2,000m. This mountain chain causes the Bali region to be geographically divided into 2 (two) unequal parts, namely North Bali with a narrow and less sloping lowland and South Bali with a broad and gently sloping lowland. The slope of Bali Island consists of flat land (0-2%) covering an area of 122,652 ha, undulating land (2-15%) covering an area of 118,339 ha, steep land (15-40%) covering an area of 190,486 ha, and very steep land (>40%).) covering an area of 132,189 ha.

Judging from the climate pattern, Bali is an area with a non-sunal rain pattern that has There is a clear difference between the rainy season and the dry season. Areas with non-sunal rain patterns have one peak in the period. The existence of the ZOM pattern in Bali resulted in regional division which have different lengths of dry and rainy seasons.

Bali Province is an area that is prone to earthquakes. This matter This is because the Bali area is flanked by 2 (two) earthquake-causing zones, namely the southern region and the southern region is a meeting area of two earth's plates

(subduction zone) namely the Eurasian and Indo-Australian plates and in the northern region there is a back arc thrust fault. (PGR III BMKG)From the description above, the Bali region is not only a disaster-prone area Earthquake is also a densely populated area.

This condition is threatening to safety of life and property of residents in the Bali area.

Factors that affect the effectiveness of prevention and mitigation

Efforts or activities in the context of prevention and mitigation are carried out, aiming to avoid disasters and reduce risks caused by disasters. Mitigation actions in terms of their nature can be classified into 2 (two) parts; Passive mitigation, among others;

a. making disaster-prone maps and mapping problems

b. making brochures/leaflets/posters

c. research/assessment of disaster characteristics

d. disaster risk assessment/analysis

e. establishment of an organization or unit of an active mitigation disaster group, among others;

1. manufacture and stipulate warning signs, hazards, disaster-prone areas
2. supervision over the implementation of various spatial planning regulations related to disaster prevention
3. basic disaster training for officials and the community
4. counseling and awareness raising for community officials

Preparedness

Preparedness is carried out to anticipate possible the occurrence of disasters in order to avoid the loss of life, loss of property and changes in the life of the community. Preparedness efforts are carried out when a disaster begins to be identified, activities carried out include other activities; inventory of emergency resources, preparation of support and mobility of resources/logistics, preparation of fast and integrated information and communication systems to support disaster tasks.

Emergency

Response Emergency response is the action or mobilization of aid to help communities affected by disasters, in order to avoid additional casualties. Disaster management during emergency response includes; Quick and accurate assessment of location, damage, loss, and resources, determination of emergency status, rescue and evacuation of disaster-affected communities, fulfillment of basic needs, protection of vulnerable groups, immediate restoration of vital infrastructure and facilities.

Recovery

Phase of recovery includes rehabilitation phase and reconstruction. Efforts made in rehabilitation are to control the condition of the disaster-affected area which is completely uncertain to a better normal condition, so that people's lives and livelihoods can run again, the activities carried out include; repair of disaster areas, improvement of public infrastructure and facilities, provision of assistance to repair community houses, psychological recovery, health services, reconciliation and conflict resolution, social, economic and cultural recovery, restoration of security and order.

Effectiveness of Disaster Information System (SIK) Disaster

Management Operations Control Center PUSDALOP is a technical unit that has a strategic and very technical role in disaster management. In this case, PUSDALOP has developed a disaster information system that facilitates disaster management that has been

running for 5 (five) years in the province of Bali.

Other fields in the Bali Province Regional Disaster Management Agency are also synergizing with the application of this disaster information system that we found, namely; field 1 (one) pre-disaster requires data to make regulations related to disaster mitigation that need to be improved through events that occur, field 2, namely disaster response, requires data on equipment/logistics resources for evacuation planning, requires data from volunteers as supporting staff during events, Furthermore, field 3, which is post-disaster, requires data to review the location of the incident and the data results are also needed as damage and loss data in the disaster information system, the input loss data is also needed for reporting stimulus funds for disaster-affected communities.

The element of coordination between fields will play a very important role in the smooth development of information systems, because the system that is built will connect various related fields, while these fields have their respective mandates, needs, and goals.

Data Collection

In the application of the disaster information system there is a contact menu, namely for contacts - the disaster network contacts consist of 3 (three) namely, agency, personal, looking for personal data. We can see which agencies can coordinate and can also add more agencies if there are any in the future.

Furthermore, the disaster data menu contains the recording of disaster events in the disaster information system, namely input of incident data, incident data, search for incident data. In this menu are the results of daily report data analysis that has been processed into an infirmation.

Reporting

The convenience obtained through this application is that things that have been recorded on a daily basis by the watchdog can be used as a report without having to make a separate report format again so that the relationship between the guard picket and the leader is very well maintained. This also minimizes miss communication between the leadership and the picket guard as recipients of data and information from the scene.

In the application of the Disaster Information system, the report menu is to record daily report events such as picket reports, look for daily event data in picket reports, picket report calendars, event recaps, and other event recaps. We can see day by day or per month what kind of disasters occur or other events such as accidents or fallen trees due to extreme weather in the province of Bali.

In addition, each district/city will report to their respective leaders in the form of an annual report that can be input into the disaster information system. There are two reporting systems

a. Reports are made to superiors, namely the email of the head of the Bali Provincial BPBD executive, the Head of the Bali provincial disaster control UPTD, and the person in charge of picket

b. BNPB, namely if there is a disaster, it is reported to the center via email bnpb.pusdalop@gmail.com and related parties.

The Capacity

The Disaster Information System which contains the capacity of the Province of Bali in disaster management is contained in the master data, namely; type of agency, type of disaster, user/user, operator, list of team members, type of coordination, type of operator, and also online use. Furthermore, the resource menu contains facilities and infrastructure owned by Regency/Municipal BPBDs or networks and vital facilities that support

disaster management activities. In this case, it consists of types of resources such as volunteers and tools/logistics as well as resource data, how many are there in each district/city.

Disadvantages of the application of the Disaster Information System (SIK)

We can see again above that the effectiveness factor for disaster management is still not fulfilled, namely in disaster response, the fulfillment of protection for vulnerable groups, in our opinion, requires data for vulnerable groups so that the information is valid and clear against the data. which can be found in the Disaster Information System application.

Furthermore, in terms of recovery, in our opinion, data on the achievement of restoration of disaster areas, facilities, and also reconciliation need to be input into the application of the disaster information system so that it is directed towards achieving the welfare of the people affected by the disaster.

Conclusion

Information regarding disasters is very important, therefore of course the Bali Provincial Government establishes a Disaster Management Operations Control Center hereinafter abbreviated as PUSDALOPS PB is a technical implementing element at the provincial level in charge of preparing support for operational control facilities as well as organizing information systems, coordination, integration and synchronization. in disaster management so that the digitalization process is very important in providing information to the public to reduce the risk of a disaster occurring. This research has implications for local governments to follow the digitalization process more so that information can be conveyed properly

Mitigation measures should be carried out by making disaster-prone maps and mapping problems making brochures/leaflets/poster research/study of disaster characteristics assessment/analysis of disaster risk organizational formation or disaster mitigation unit. Making and determining warning signs, dangers, disaster-prone areas, supervision of implementing various spatial planning regulations related to disaster prevention, basic disaster training for officers and the public, counseling and increasing awareness are delivered digitally considering that most people have access to information digitally.

In addition, district/city BPBDs should routinely and periodically report to their respective leaders in the form of monthly and annual reports that can be input into the disaster information system. Reports are made to superiors, namely the email of the head of the Bali Provincial BPBD, the Head of the Bali Province Regional Disaster Management Unit, and the person in charge of the BNPB picket, that is, if there is a disaster, it is reported to the center via email to bnpb.pusdalop@gmail.com and related parties.

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