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### CONTRIBUTION ASPECTS IN THE POLICY OF NATURAL DISASTER MANAGEMENT IN INDONESIA

By

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#### ABSTRACT

Disasters also related to the extent of the impacts, whether they can be limited and only on a certain area or a certain group of people, or the to whole of public services and resulted in even damage of public facilities these also have the ability to cause a certain degree of damage (severe, moderate or mild) and type of damage (human injury or property damage). The characteristics of such a disaster often affect the citizens or communities. Related to the background of the problems above, this paper can be formulated as follows: How does the characteristics of Indonesia's nature related to natural disasters? How is the quality of the disasters in Indonesia? What is the attitude of the Indonesian people to the disasters? What are the responsibilities and authority of the government? How is the institutional involvement and supervision in a disaster? Disaster risk management is the systematic utilization of management policies, procedures and practices with the intention of reducing the impact of disasters. It is the decision maker that is logical and practical; this paper concludes that natural disasters occur in Indonesia are strongly associated with the characteristics of Indonesia's nature. With such characteristics, the quality of natural disasters in Indonesia is very powerful and has wide and big scale. The nature characteristics and natural disasters in Indonesia are still addressed by Indonesian society as something sudden and they have no readiness. This situation results to the responsibility and authority of both central and regional government to respond based on disaster management policy. There is already disaster management in place conducted by existing government institutions and non-governmental parties, along with monitoring and reporting.

Keywords: contribution aspects, policy, disaster management and natural disasters.

A. Background situations with necessary policies and implementation related to natural disasters. People who live in developing countries, for the reasons that their science and technology are not yet advanced, more likely to choose to avoid or even compromise with the forces of nature. One of the countries is Indonesia which is still left behind in terms of handling natural disaster. Indonesia, due to its geographical location, may experience natural disasters. In Indonesia is a developing country, the citizens still do not have adequate skills and knowledge about natural disasters, so often large number of victims can not be avoided. This should not happen if the government responds these

These are the duties of the country and government to protect its citizens in accordance with the mandate of the Constitution and Pancasila as well as UUD 1945. This is for the sake of the principle of Humanity, Justice and the equality of rights, and equal standing before the law, all citizens should be entitled to the protection from disasters.

What kind of policy that can or able to holistically minimize casualties in the disaster-affected communities, it would require another action before formulating the policy. There

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Disasters also related to the extent of the impacts, whether they can be limited and only on a certain area or a certain group of people, or the to whole of public services and resulted in even damage of public facilities; these also have the ability to cause a certain degree of damage (severe, moderate or mild) and type of damage (human injury or property damage). The characteristics of such a disaster often affect the citizens or communities. Related to the background of the problems above, this paper can be formulated as follows: How does the characteristics of Indonesia's nature related to natural disasters? How is the quality of the disasters in Indonesia? What is the attitude of the Indonesian people to the disasters? What are the responsibilities and authority of the government? How is the institutional involvement and supervision in a disaster? Disaster risk management is the systematic utilization of management policies, procedures and practices with the intention of reducing the impact of disasters. It is the decision maker that is logical and practical; this paper concludes that natural disasters occur in Indonesia are strongly associated with the characteristics of Indonesia's nature. With such characteristics, the quality of natural disasters in Indonesia is very powerful and has wide and big scale. The nature characteristics and natural disasters in Indonesia are still addressed by Indonesian society as something sudden and they have no readiness. This situation results to the responsibility and authority of both central and regional government to respond based on disaster management policy. There is already disaster management in place conducted by existing government institutions and non-governmental parties, along with monitoring and reporting.

Keywords: contribution aspects, policy, disaster management and natural disasters.

#### A. Background

People who live in developing countries, for the reasons that their science and technology are not yet advanced, more likely to choose to avoid or even compromise with the forces of nature. One of the countries is Indonesia which is still left behind in terms of handling natural disaster. Indonesia, due to its geographical location, may experience natural disasters. Indonesia is a developing country, the citizens still do not have adequate skills and knowledge about natural disasters, so often large number of victims can not be avoided. This should not happen if the government responds these

situations with necessary policies and implementation related to natural disasters. These are the duties of the country and government to protect its citizens in accordance with the mandate of the Constitution and Pancasila as well as UUD 1945. This is for the sake of the principle of Humanity, Justice and the equality of rights, and equal standing before the law, all citizens should be entitled to the protection from disasters.

What kind of policy that can or able to holistically minimize casualties in the disaster-affected communities; it would require another action before formulating the policy. There

should be an initial study of Indonesia's nature characteristics in relation to natural disasters.

#### B. Problem Formulation

Related to the background of the problems above, this paper can be formulated as follows: How do the characteristics of Indonesia's nature related to natural disaster? How is the quality of the disaster in Indonesia? What is the attitude of the people of Indonesia to the disasters? What are the responsibilities and authority of the government? How is institutional involvement and supervision in a disaster?

### DISCUSSION

#### a. Indonesia Natural Characteristics in Relation to Disasters

##### Geographical factors

Indonesia on its land has different landscape or the shape of the earth's surface. There are highland, lowland, and coastal region. These areas can certainly be seen from the location of a region, including the following: the position of the area to the other areas, the life of the people in the area, the historical background and the influences that ever existed or will exist in the region.

##### Geomorphological factors

Geomorphological location is the location of a region based on the high and low point of the sea level or of the shape of the earth's surface. The geomorphological location of the region in Indonesia is varied. These differences have many influences, for example: the existence of different temperatures which greatly affect the types of plants; determining whether the minerals contained in the rocks of the region; determining population density, for example, regions with the morphological location on a steep hill will have small population. In relation to non-natural disasters it is necessary to take into account the

geomorphological situation of the area before constructing buildings, bridges and roads.

##### Astronomical Factors

Indonesia's astronomical location is between 6° of North Latitude, 11° of South Latitude and between 95° of East Longitude and 141° of East Longitude. When viewed from its astronomical position, Indonesia is located in a tropical region on eastern side of the earth. Indonesia is in the tropics, this makes Indonesia is always exposed to the sun throughout the year. Indonesia has only two seasons, dry and rainy seasons. Countries that have tropical climate are generally endowed extraordinary nature. High rainfall will make the soil fertile. The flora and fauna is also very diverse. While the location viewed from longitude, Indonesia has three time zones, they are East Indonesia Zone (WIT), Central Indonesia Zone (WITA) and West Indonesia Zone (WIB).

##### Geological Factors

Geological location is the location of a region viewed by its geological situation. Based on geological situation, Indonesian archipelago can be categorized into three areas, namely: 1. Sunda Shelf region; 2. Sahu! Shelf region; 3. the region between Sunda Shelf and Sahu) Shelf. The western part of Indonesian archipelago is part of the continent of Asia; the eastern Indonesia is part of the Australian continent, while the central part of Indonesia is called the transition region of Wallace. In terms of the existing mountain path, Indonesian archipelago is located between two young mountain ranges. Mountains in western Indonesia are part of the Circum-Mediterranean mountain range, while the mountainous eastern Indonesia is part of the Circum-Pacific Mountains. As the result of Indonesian geological location are: 1. Indonesian archipelago has many active

volcanoes. 2. Indonesian sea in the West and East parts of Indonesia are shallow, in central Indonesia are deep. 3. Indonesia has many kinds of minerals. 4. The areas of Indonesia are unstable and experience frequent volcanic and tectonic earthquakes. 5. Mountains in Indonesia are a series of young mountains of Circum Mediterranean and Circum-Pacific.

#### Hydrological Factors

The hydrological condition of Indonesia is very good compared to other countries; it has many rivers, lakes, ground water and swamps. This is due to the influence of the tropical ocean monsoon precipitations in many parts of Indonesia. The activities of the people in agriculture, breeding, fisheries and forestry can not be separated from the positive influence of climate and hydrological condition. The hydrological condition in Indonesia is supported by the rivers. The flow of fresh water through channels to the seas, lakes, or other large rivers can be derived from glaciers, lakes overflow, or mountain springs. The flow of the river has three activities, conducting erosion, transporting, and sedimentation. The water can erode the soil in its flow, bringing to the outfall of the river the sedimentation. Largest river erosion occurs in the upper part of the headwaters (mountainous regions). Steep slopes in mountainous areas resulted in relatively heavy flow so it causes greater vertical erosion. Therefore, it can be observed that in the mountainous area of the river valley formed the letter V. There are rivers in almost every large and small island in Indonesia, depending on the rainfall on the island. Major islands in Indonesia generally have many rivers. The islands that do not have rivers are in the province of East Nusa Tenggara because of low rainfall. Rivers can be started directly from the rainfall. The valleys that are anywhere near the peak of the mountain is

usually filled with water when there is rain. The problems most frequently encountered in the watershed are narrowing, erosion, sedimentation, causing narrowing of river body. Heavy rain can cause the overflow water in the rivers. Due to the high volume of water that could not be accommodated by the rivers, there will be flood. River floods generally occur in scales. The overflowing rivers can occur due to heavy rains or by the melting ice or snow in the uplands. River flooding occurred in Indonesia during the rainy season which led to the increased volume of water in the rivers. Many things can cause problems related to the rivers, but there are other factors that can also contribute to flooding: 1) deforestation in the upper area of watershed so there is no land cover that can withstand the flow of water. 2) Changes in watershed land which is conducted carelessly. 3) The blockage flow of the river, either by rubbish and sedimentation. 4) Construction of ineffective waterways or waste water system.

Swamp is a low land that is inundated by water because there is no release of water (drainage). Therefore, swamp has acidic water. Due to poor salinity then the water will remain stagnant. In Indonesia there are many swamps in the East coasts of the island of Sumatra, Borneo beaches, and the beaches on the island of Papua. Based on the properties of water, swamps can be divided into saltwater, freshwater, and brackish water swamps. Saltwater swamp is located in coastal areas. Brackish water swamp located around the outfall of the river near the sea. Freshwater swamp is located around major rivers. Swamp beach has its benefit as breeding grounds for fishes, birds and mangrove. The swamp is also useful as an antidote to abrasion as the ocean waves hindered by the mangrove.



a. The Quality of Natural Disasters in Indonesia

b. Natural Disasters

Natural disasters in Indonesia have many variants, such as: 1) Earthquake, a catastrophic event (natural disaster) which is a result of tectonic plates shifting, volcanic eruptions or activity, or rock fall in a particular area. 2) Volcanic eruption. Natural disasters caused by eruption from volcanic activity. 3) Tsunami (Great Waves). Natural disasters caused by a shift in the tectonic plates under the sea. This shift is causing earthquakes and resulted in a very large ocean waves. 4) Landslide, an event of natural disaster that is resulting from the leading down movement of soil mass or rocks in the hills or mountains. Ironically landslides can also be caused by deforestation by humans. 5) Flood, catastrophic event which is a result of the increased volume of water. The flood can also be caused by human littering and making waterways clogged. 6) Drought. A natural disaster caused by the length of the dry season, or the limited availability of water in an area. 7) Fires. Catastrophic events caused by a fire that hit a particular area such as residential, building, or other public places. 8) Forest fires, natural disaster that occurred as a result of the burning of forest areas by fire. This will cause severe damage to forests and disrupt natural ecosystems. Another side effect is the appearance of smog disaster. 9) Tornado. A natural disaster caused by the wind moving like a spiral rotating at a high speed of about 40-50 km/hour, touched land quickly and will disappear only within 3-5 minutes but the impact on the area are huge and causing severe damage on its path. 10) High tides, natural disaster where the ocean waves are very high due to tropical cyclones. Tidal waves will result in high sea waves, strong winds, and heavy rain. 11) Abrasion, the events of destruction of nature

on beaches that cause damages to ecosystems and coastal erosion on the shoreline and their vicinity. The reason could be due to natural causes or human damage on coastal areas. 12) Natural disasters of extra-terrestrial, the natural disasters that occur in space, for example: blows/meteor impacts. If the blow of celestial objects touches the Earth's surface, it will cause devastating natural disaster for the inhabitants of the Earth.

In Indonesia, there are many variants of natural disasters, but to all of the most significant are the 7 major natural disasters that have occurred in Indonesia, causing big damages or casualties. On December 26, 2004 was tsunami in Nanggroe Aceh Darussalam, Nias, South Asia, Southeast Asia and Africa. Total victims of 200,000 people (150,000 people in Aceh and Nias). The height of the tsunami reaching 35 meters due to tectonic earthquake measuring 8.5 magnitude centered in the Indian Ocean (2.9 North Latitude and 95.6 West Longitude at a depth of 20 km (in the sea is about 149 miles South of the town of Meulaboh, Aceh). The earthquake was accompanied by a wave of high tide (tsunami) which swept some offshore areas in Indonesia (Aceh and North Sumatra), Sri Lanka, India, Bangladesh, Malaysia, the Maldives and Thailand. According to the United Nations Emergency Relief, the death toll from the tsunami in 6 countries was reaching 127,672 people. The number of deaths in the provinces of Aceh and North Sumatra, according to the Ministry of Social Affairs (1.11.2005) is 105,262 people. While the total injured as many as 124,057 people, which estimated 100,000 Acehese and North Sumatran people. Mount Tambora (or Tomboro) in the Regency of Dompu, Nusa Tenggara Barat (NTB) erupted in 1815 with 11 times more than 92,000 people. In 1812, Mount Tambora became more active, with a peak of eruption occurred in April 1815. The

magnitude of the eruption reached 7 in VEI scale (International Index of Eruption), the number of the eruption was 1.6 x 10<sup>11</sup> cubic meters. This third eruption affected global climate in a long time. The activity of Tambora after the eruption stopped on July 15, 1815. As a result of the eruption of Tambora among other was major tsunami strike the coast of a few islands in Indonesia on 10 April 1815 with the height of 4 meter and more. High smoke eruption reached a height of more than 43 km. Due to the light gravitational in the sky, the ash and dust of Tambora drifted and spread around the world. Tambora dust settled in the troposphere for several years and down through the wind and rain back to Earth. The eruption of Mount Tambora affected the world remarkably, such as crop failure in China, Europe, and Ireland. It rained non-stop for eight weeks caused typhus epidemics that killed 65,000 people in the UK and Europe. The famine in England. Darkness enveloped the Earth. Tambora was also one of the triggers causing riots in France as there was lack of food. That also changed the history when Napoleon lost due to the prolonged winter and famine in 1815 in Waterloo. Tsunami of Krakatau (located in the Sunda Strait between Java and Sumatra) erupted on August 26, 1883 with total victims 36,417 people. Imagine what happened 129 years ago, when Mount Krakatau erupted precisely on August 26, 1883. The eruption power was estimated to be 30,000 times stronger than atomic bombs in Nagasaki and Hiroshima in Japan. The sound of the eruption heard to Australia (Alice Springs) and even Africa (Rogrigues Island) as far as 4,651 miles. And the death toll reached more than 36,000 people. This explosion unleashed a wave of 40 meters, the earthquake and resulting tsunamis to reach Hawaii, destroying 195 villages along Merak to Karawang, Ujung Kulon to southern Sumatra. The atmosphere was filled with volcanic ash. The world was in

darkness for two days. The sun faded over the following year. Global climate change is happening. A 6.2 magnitude tectonic earthquake happened in Yogyakarta, May 27, 2006 with victims of 6,234 people. Yogyakarta earthquake shook at 5:55 pm for 57 seconds. The earthquake was measuring 5.9 on the Richter scale. In general, the position of the quake was about 25 miles South-Southwest of Yogyakarta. In terms of casualties, the earthquake that morning "woke up" the people of Yogyakarta and surrounding areas, killing more than 5,700 people, injured tens of thousands of people and destroyed hundreds of thousands of homes. Because it was still relatively early days, this earthquake made many children trapped in the houses, especially children and the elderly. No wonder the majority of victims are elderly people and children who may not have time to escape when the quake lasts. Based on the latest data information received from Yogyakarta Media Center on June 7, 2006, the death toll reached 5,716 people and 37,927 injured. West Sumatra earthquake in 2009, the earthquake with the magnitude of 7.6 SR happened off the coast of West Sumatra at 17:16:10 West Indonesia Time Zone on 30 September 2009. This earthquake occurred off the coast of Sumatra, about 50 miles northwest of Padang. The earthquake caused severe damage in several areas in Sumatra Barat. According to data from Satkorlak PB, the number of people killed by the earthquake reached 6234. The spread in three cities and four regencies in West Sumatra, reaching 1,214 severely injured people, 1,688 minor injuries, one person reported lost. Meanwhile, 135,448 homes badly damaged, 65,380 homes with medium damage, and 78,604 homes with minor damage. Mount Kelud (Kediri, East Java) erupted on May 19, 1919 with victims of 5,115 people. The eruption in 1919 was the greatest disaster Kelud had produced by its volcanic activity

in the 20th century, which resulted in approximately 5160 people died. The eruption occurred at midnight between 19 and 20 May 1919 which was characterized by a very loud thumping noise even heard even in Borneo. The rain of ash spread due to wind, especially to the east. In Bali ashfall occurred on May 21, 1919. From the calculation of ash deposition can be estimated that about 284 million m<sup>3</sup> of ash are spreading, this amount is equivalent to about 100 million m<sup>3</sup> of andesite. Overall an estimated 190 million m<sup>3</sup> have been out of the belly of Kelud. There was an earthquake in Flores with victims of 2.100 people. The 7.8 magnitude earthquake occurred off the coast in the North eastern part of Flores Island, Indonesia, at 05:29 GMT (13:29 local time) on December 12, 1992. This shake was also felt on the island of Bali, 700 km to the West. This earthquake also triggered a series of tsunamis, which reached the coast of Flores just two minutes after the first quake, and reached any part of the North coast within five minutes. The epicenter was located about 35 miles northwest of Maumere, which is the largest city on the island of Flores. The fault caused by the earthquake epicenter lies between near Tanjung Batumanuk and Tanjung Bunga, at the northeast end of the island. The length of the fault is about 110 km, and the width is about 35 km. More than 1,000 aftershocks were recorded by the field survey team from Japan for a week long period of December 30 to January 5.

#### Non-natural Disasters

The causes of the disasters are technological failures, such as: fire, failure/plant safety design errors, errors plant operating procedures, damage to components, nuclear reactor meltdowns, transportation accidents (land, sea, and air), sabotage or arson in the riots, and the multiplier impacts of natural disasters

(earthquakes, floods, landslides, and so on).

The epidemic is the frequency and distribution (spread) and determinants of health problems in a group of people/society as well as the determinants (factors that affecting), starting from the onset, the spread and the prevention of contagious diseases. But in its development nowadays, people not only deal with contagious diseases, but also non-contagious ones, degenerative diseases, cancer, mental illness, traffic accidents, and so forth.

Here are 10 non-natural disasters caused by transportation accidents in Indonesia with more than 100 people died:

- 1) Tampomas ship on 2 January 1981 - caught fire and sank in the Java Sea, 580 people died.
- 2) Cahaya Bahari ship on June 29, 2000 - drowned in Sulawesi, 550 people died.
- 3) The MY Senopati Nusantara on December 29, 2006 - sank near Mandalika Island, over 461 people died.
- 4) Bismas Raya 2 on October 1999 - drowned in Merauke, Papua, 361 people died.
- 5) Gurita ship: January 1996 - drowned in Sabang Aceh, 338 people died.
- 6) Garuda Indonesia GA 152: 26 September 1997 - fell in Sibolangit, Medan, 222 people and 12 airplane crew died. The fall of Garuda is the worst airplane disaster in the history of Indonesia.
- 7) KMP Digul ship: July 8, 2005 - drowned in Merauke, Papua, 200 people died.
- 8) Adam Air Flight 574: January 1, 2007 - from Jakarta via Surabaya to Manado fell in the Makassar Strait at a depth of 2000 meters, total 102 people including crew died and buried in the seabed with the plane.
- 9) Train Bintaro Jaya: October 31, 1987 - collided in Jakarta, 102 people were killed.
- 10) Mandala Airlines Boeing 737-200 RI-091: September 5, 2005 - failed to take off from Polonia Airport (Medan to Jakarta) and crashed into a residential area, 100 passengers and crew were killed and 41 residential people killed.



c. Social Disasters

Social conflict or social riot is a mass movement that is destructive to social order and there is jealousy fueled by social, cultural and economic usually go packaged as a conflict between ethnic, religions, races (SARA). Terrorism is the action performed by any person who intentionally using violence or the threat of violence and causing an atmosphere of terror or fear of the widespread nature or cause mass casualties, by seizing freedom resulting in loss of life and property, resulting in damage or destruction to vital and strategic objects or environment or international public facilities. Sabotage is the actions taken to weaken the enemy through subversion, inhibition, disruption and/or destruction. In war, the term is used to describe the activities of individuals or groups that are not associated with the military, but with espionage. Sabotage can be carried out on several important structures, such as infrastructure, economic structure, and others.

The conflict between Indonesia and Malaysia which then heats up between the citizens of the Republic of Indonesia and Malaysia, this conflict can be perceived as a trigger of the cold war made to Indonesia, all originating from Malaysia. Starting from seizure of Ambalat with Malaysia, then claiming Reog Ponorogo as the original art of Malaysia then also incorporating Pendet dance in Malaysian tourism advertising, assaulting and murdering of migrant workers, Manohara case, and theft of natural resources both on islands and ocean are the causes of conflict between the two countries. The deterrence of Department of Marine has created heat in the relationship between these two countries, as well as the accident of throwing human waste into the building of the Malaysian Embassy in Indonesia.

The other one was a conflict of 5 churches that were burnt by 10.000 people

in Situbondo which was caused by misunderstanding between religions. Conflicts also occurred in the form of a clash in the campus of Sekolah Tinggi Theologi Injil Arastamar (SETIA) with the local community simply because of a misunderstanding due to the suspicion of the local community against a student of SETIA accused of stealing, and when the police investigated, there was no evidence whatsoever. Plus there was provocateur who pelted the mosque and into the girls' dormitory campus. And predictably, eventually extended towards religion, ultimately forcing the anarchically closure of the campus by the local community.

Dissent conflict between Islamic groups such as the FPI (Front Pembela Islam) and Muhammadiyah. Conflict of the difference in determining Eid date, due to differences in the perspective of each group. Poso conflict, violence movement led by Christians began in early November 1998 in Ketapang, Central Jakarta and in mid-November 1998 in Kupang, Nusa Tenggara Timur, followed by the attack by Christians to Muslims in Wailete Ambon on December 13, 1998.

Conflict between students and schools occur because of revenge for the defeat of the other schools. This usually happens when there is a football match among schools, where one team win over the other schools. This leads to a sense of disappointment and unfortunately they usually went frustrated and getting another school to fight. This is certainly a reflection that those students are not being sportive in facing and handling defeat. Revenge and deprivation as a result of bullying, a student of a high school is forced to give money or his property, he will report to the frontman at his school. Then frontman will collect students from school, the students to approach the enemy in places where they usually wait for the bus or vehicles to go home.

Election Political Conflict and Political Liberalization. One implementation of Law No. 32 of 2004 on Regional Government is the implementation of direct local elections. The concept of regional autonomy in Indonesia now has the possibility for each region to implement the local elections and determine their government individually and independently. On one side, Pilkada is a political liberalization aims to efficiencies and effectiveness of regional governance that needs to be improved with paying more attention to the aspects of relationship between government levels and between regional government, the potencies and diversity of the region, the opportunities and challenges of global competition by giving broadest powers to the regions, along with their rights and obligations to run regional autonomy in unitary system of governance management. But on the other hand, this election would lead to complex polemics and conflicts due to the unpreparedness of the people of Indonesia in facing the political liberalization given the Indonesian people nature which are generally still primordial and feudalistic. Furthermore, the lack of clarity on the legislation that became the basis of this election that leads to law uncertainty. Many conflicts have occurred in this country, namely South Sulawesi dan Maluku election conflicts. It is a certainty that in every political battle, especially in the election, there will be many interests involved in it, starting from international and national bourgeoisie interests to the interests

of the people (workers). Therefore conflicts are no longer something taboo to be found. This paper will not discuss what, who and how do those interests interfere the Pilkada politics that leads to the conflicts. But it will be discussed on how to manage the conflict issues to become a political lesson for the people to face the arena of free fight in Pilkada elections.

#### d. Disaster Risks and Risk Management

There are four basic management for emergency and disasters, each requiring management programs (strategies) including prevention and mitigation, regulatory and physical requirements to prevent a disaster or to reduce their impacts. Preparation, planning and programs, systems and procedures, training and education to ensure that if a disaster occurs, resources and personnel can be quickly mobilized and empowered with the best results. These are including the development of warning system and awareness, organizational planning, training and testing of personnel, equipment, planning and procedures, as well as public education. Responses are activities taken before or immediately after a disaster to minimize the impacts and effects, and to provide immediate relief, restoring and supporting the community. These are including rescue, relief and support to victims, public information, food supplies, clothes and shelters. There are also recovery and long-term improvements on the affected communities where this is a complicated and long process.

The effective disaster management requires active cooperation between various stakeholders. This means that all organizations with their respective duties, working together in disaster management. Cooperation is very important.

#### e. Status and Condition

Disasters can cause damage to the people and resources are highly needed to address it. Disasters require long term recovery and repair, and it could exceed the capacity of the community and the resources or facilities. Disaster caused death, injuries and disabilities.

b. Indonesian people attitude towards disasters

f. Demographic Factors

Filter area. The area located near the damage area where relief begins immediately and spontaneously. This is the area where the aid is organized; the area from where more official helps are given selectively. This area may be expanded to include public assistance, regional, national and international. High susceptibility and low resilience means high level of vulnerability. High exposure to risk and limited ability to sustain loss means high vulnerability. Low susceptibility and high resilience means low degree of vulnerability. Ability to sustain loss and low degree of exposure means low vulnerability.

It is clear that the officers should be familiar with community groups, services and structures that are easily threatened, to be able to make it resistant to damage due to emergency.

g. Experience Factors

Think of that society and its environment are threatened by disasters and how the ability of each to fight as a result of damage by the disaster. The risks: The possibilities of loss that can occur as a result of adverse events which create urgency and threat. The danger (hazard): The potential occurrence of natural or man-made events with negative consequences. The vulnerability: The effects that arise in which the structure of society and environmental services are often damaged or destroyed by the impact of the emergency. It is a combination of being easily affected (susceptibility) and the power to survive (resilience). Resilience is how people are able to withstand the loss, and susceptibility is the degree of being easily affected by risks. In other words, when determining level of threat on a community as the impact of emergency, it

is important to ensure the ability of people and their environment to anticipate, cope with, and recover from disasters. So one is said to be very threatened when only having limited ability in facing the loss and damage, and vice versa, when one is less experienced in dealing with the impact of danger but able to face loss and damage, it is said that one is not too threatened to disasters and emergencies.

h. Value Inheritance Factors

A ready society is a society which each of its individual is aware of the dangers and knows how to protect himself, his family and his home from the impact of hazards. When each of us can take action and protection against impact of hazards, it will reduce level of threat to disasters and emergencies.

Prevention/mitigation, preparation, response and recovery need to be done: Prevention and mitigation, building standards and the ability of PMK, disease immunization, sanitation design, garbage/waste disposal, public education programs, media information, warning for society.

Preparation, Response and Recovery: Planning, systems and procedures, training of personnel, test planning, personnel and equipment. Response: Activation of incidence management system, activation and resource information management system, supporting mechanisms for staff. Recovery: The process of debriefing, assessing and changing the plans and procedures, identification and utilization of knowledge.

i. Knowledge Factors

In the world, the loss due to the disasters continued to raise even though technically a very large investment in prevention measures has been done. Political and economic barriers cause the traditional approach to gain a sense of security against hazards need to be



reassessed. It is not the time to say that the prevention of malicious processes is generally regarded as the best or most desirable way to face the risks. Prevention and increasing the resilience of objects that are potentially affected are two other important examples of how the damage caused by dangerous conditions can be reduced.

The alternative concept to tackle the danger is using discretion based on risks. Although it is directed to the danger, which also includes the risks, described as a function of four factors: frequency of occurrence of hazard, damage intensity of targeted object which is potential to the risks with distribution/special groups. The threat to targeted objects will be affected by the damage. Target exposure to hazards.

The frequency and damage indicate the severity of the danger, level of threat and subject exposure to the risks. This is why there is a difference between a simple definition of risk as a result of the possibility, and the expansion of damage which more indicates the viewpoint of the operators or the managing officers. However, narrower viewpoints will be quickly pointing out that the frequency and exposure is proportional to the possibilities, where the intensity and level of threat will interpret the damage.

The use of risk management will be successful if the following information is available: Characteristics of hazards in particular. Collecting and classifying threatened objects within reach of harmful process. The views of damage, which may occur to the object during the incident. Currently, the general risks-based principle of risk assessment and policy is widely used cross-disciplinary and cross-border.

The key risk-based approach in facing danger is accepted in the form of an adequate level of security and is economically safe. Both the definition of an adequate level of security and economic quantification can not be made only by

experts. Values and social responses may be a more important factor in shaping the sense of security.

j. Skills Factors

Based on the response levels, disasters are classified into three levels (ACEP): Level 1: Response of management system to a local disaster that is able to react effectively and can cover damage or suffers. Level 2: In addition to local responses where support given by regional sources or community or surrounding countries. Level 3: Beyond the capabilities of local or regional and international assistance is required.

Process Planning Against Disaster (Risk Assessment/Risk Assessment): Determine what will be planned, Set planning committee, Perform risk assessment, planning objectives, Define accountability, resource analysis, Develop systems and procedures, Write a plan, Train workers, Test plans, personnel and procedures, review plans, remodel plans.

Things will be planned: Things that will be planned to face the emergencies should be identified. Planning committee: Hospitals, public health system, including public and mental health, external emergency services like ambulances, PMK and the police.

Perform analysis of disaster risks: including hazard and threat analysis. All analyzes will help determine the goals of disaster planning committee and planning priorities. Sustainable disaster risk assessment throughout the planning process: Danger changes, threat levels changes, all to be monitored and assessed regularly.

Determine the purpose of planning: Based on the results of risk analysis and the introduction of disaster management strategy approved by the committee. Define accountability: Selecting accountability of all parties involved: the hospital, officers, and other public health implementers.



Resource analysis: Committee must know what will be required; rather than just seeing what they have. If what is needed is less than what is available, the committee must identify the source of available power and tools that can be called immediately if needed. Plans for cooperation with regional or national health facilities.

Create systems and procedures: The committee should identify strategies for prevention and mitigation, preparation, response and recovery from disasters and major severity. These include Gadar RS command system, communication systems, public information, information management systems and resources.

Write the plan: A written document should be distributed to all who will use it. Documents should be simple and direct to targets; otherwise people can not read or understand it.

Train personnel, test planning, personnel and procedures: Personnel training and testing of planning, systems and procedures is a vital part of the preparation for emergencies or disaster management. Disaster response activities require personnel to work outside of their daily or normal activities and responsibilities, and perform tasks that are less familiar. To make this becomes more difficult, give not only many unfamiliar tasks, but they should get a very stressful environment, which is even necessary to test the system and the personnel who are experienced.

It is understandable why the personnel must be trained and tested on a regular basis in the task of disaster management.

Personnel also need the opportunity to practice the duties and responsibilities of disaster management. In addition, the plans that are not tested and reassessed may be worse than no plan at all. This builds a sense of false security to the workers in terms of the level of preparation.

Review and change planning: Planning should be reassessed and revised

periodically, and should be stated in the planning itself. At any time, the planning or part of the planning is enabled to practice or in actual disasters. Debriefing should be done to recognize the need for improved planning, systems and procedures and to train personnel.

c. Government Responsibilities and Authorities

k. Central Government Responsibilities and Authorities

Central government on the issue of National Disaster Management Agency has a duty to provide guidance and direction on disaster management effort that includes fair and equal disaster prevention, emergency responses, rehabilitation and reconstruction. Central government establishes standardization and the need for disaster management operations based on legislation. Central government conveys activities information to the community. The national disaster management center reports to the President once a month under normal conditions and at all times in a state of disaster or emergency. Central government uses and account for national and international relations/aid. Central government is accountable for the use of the budget received from the budget revenue and expenditure. The central government has other obligations in accordance with the legislation and to develop guidelines for the establishment of regional disaster management agencies.

l. Regional Government Responsibilities and Authorities

Local government has the authority in disaster management which is set as follows: 1. The Governor/Regent/Mayor: a. formulates and establishes disaster management policy in accordance with the level of authority and the characteristics of the territory. b. determines the status and

level of emergency response in accordance with the applicable legislation. c. all the potential/existing resources in the region in support of disaster management. d. cooperates with other regions or other parties for supporting the implementation of disaster management. e. regulates and supervises the use of technology as a potential source of risk, catastrophic threats. f. prevents and controls the use and utilization of natural resources exceeds the ability of nature to the jurisdiction. g. appoints a commander of emergency/disaster management as proposed by the Head of BPBD. h. controls over the

collection and distribution of aid in the form of money and/or goods and other services (eg. volunteers) who is destined for disaster management in the region, including the granting of collecting donations in the region. i. planning guidelines and procedures relating to the implementation of disaster management in the region. 2. Governor/Regent/Mayor with DPRD prepares and establishes regulations in the area of disaster management.

d, Institutional, Involvement and Supervision

In terms of BPBD reporting, compiling reports disaster management in the region. Reports of disaster management operations consist of a. Disaster situation report, b. monthly report on disasters, c. Comprehensive report of the implementation of disaster management. Catastrophic incident situation reports prepared at the time of the emergency response that is including: a. time and location of the disaster; b. disasters cause, c. coverage of the impact of disasters; d. the cause of catastrophic events; e. the impact of disasters (the number of casualties and damage/loss as well as socio-economic impacts caused); f. way in which it is done; g. help needed; h. obstacles encountered. The monthly report is a

recapitulation of the disaster occurrence of events, the impact of disasters presented in the tabulation. The report includes the implementation of disaster management activities performed on pre-disasters, emergency responses and post-disasters are made every month and every year. Receiving reports and the provision of benefits derived from public donations. Accountability report on disaster contingency funds, ready funds and social aid grants from BNPB.

CLOSING

a. Conclusion

Disaster risk management is the systematic utilization of management policies, procedures and practices with the intention of reducing the impact of disasters. It is the tool to take logical and practical decision, in this paper it can be concluded that natural disasters occur in Indonesia is strongly associated with the characteristics of the nature of Indonesia. With such characteristics, the quality of the natural disasters in Indonesia is very powerful and has high scale. The characteristics of Indonesia's nature and natural disasters are still addressed by society as something sudden and they have no readiness. This situation is the responsibility and authority of central and local government to respond to disaster management policy. Disaster management by government is already in place and involving non-governmental parties, along with monitoring and reporting.

b. Recommendation

The problems that have not been clear until now in handling disasters is the result of the gap between the disciplines of administration and technics that create public opinion in the decision-making process. This occurs because the distance between the social sciences in which there

are public management and public evaluation process and administrative sciences or technics which are responsible for most of the real risks. It is recommended to attempt to bridge this gap by developing a model that is as accurate as possible to show public perception and evaluation of the expected risks so that the decision makers can use it. It is recommended that public perceptions about risk evaluation to be more normative instead of empiric-descriptive which could improve the decisions made in the management of disasters.

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