

Law, philosophy and disasters: earthquake-handling case in Yogyakarta, Indonesia

Law and
disasters

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Abstract

Purpose – This paper aims to synchronize the various constitutional regulations that regulate the natural disaster management in Indonesia, especially those which apply in the Yogyakarta Special Territory after disaster through a legal interpretation and construction method to find a community empowerment-based disaster management model, which suits the Indonesian ideals of law.

Design/methodology/approach – This research is carried out in the Yogyakarta Special Territory province; this research uses the juridical normative method or the method with the doctrinal or the juridical normative approach. The approaches used in this research are the conceptual approach, statute approach and the sociological approach.

Findings – The numerous constitutional regulations that are formed and implemented to regulate the disaster management in Yogyakarta Special Territory cannot yet run its function as an integrating mechanism efficiently. This is mainly because the handling of disasters is usually responsive, without clear planning.

Research limitations/implications – In numerous constitutional regulations, there is a synchronization between the regulations on the society's rights and responsibilities in disaster management. The point of these regulations is that they state that every citizen has the right to obtain social protection and a sense of safety. They have the right to obtain education, trainings and skills in the establishment of disaster management. Also, they have the right to participate in policies, in accessing information on disaster prevention policies.

Practical implications – Efforts of response toward a disaster should be neither exclusive nor partial. A condition of disaster is a complex condition, which usually asks for a holistic response from various perspectives and experiences. It needs effective teamwork between various institutional groups. Basically, it will not be effective if it is run by a single agency exclusively. Indonesia needs a clear disaster management and needs to synchronize the law for disaster mitigation for minimize the natural disaster impact.

Social implications – Various constitutional regulations made and applied to regulate disaster management in the Yogyakarta cannot yet run its function as an efficient integrating mechanism, as the law cannot yet undergo the rearrangement of the productive process in the society optimally. The goals determined in the execution of the disaster management are often not legitimized by the society, and they do not yet give a full sense of justice to them. Recovery after Yogyakarta earthquake is a slow process.

Originality/value – This is a relatively new research, as other researches focused on the disastrous impacts of the Yogyakarta earthquake. The disaster management system must consider and must be responsive toward diversity, differences and competition, which may arise due to social, economic, political,

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community and even religious factors. These differences often create a dynamic and complex relation. A wrong manner in handling this may cause horizontal conflicts.

Keywords Disaster management, Public administration, Law management, Public policy, Social responsibility, Yogyakarta earthquake, Indonesia

Paper type Research paper

Introduction

Indonesia is one of the most disaster-prone countries in the world. Even, in the period between 2001 and 2010, Indonesia was ranked the fifth country in the world with the highest number of natural disasters. This may be seen in [Figures 1 and 2](#).

The potential disasters in Indonesia may be categorized into two main groups, which are main hazard and collateral hazard. The potentials of the main hazard may be seen in the earthquake disaster-prone map in Indonesia. It shows that Indonesia is an area with earthquake hazard zones. Indonesia also contains land slide hazard, volcanic eruption hazard, tsunami hazard, flood hazard, etc.

The understanding of the disaster is contained in the explanation of Law No. 24 of 2007 concerning disaster management, stating that disasters are events or a series of events which threaten and disrupt people's lives and livelihoods caused by natural factors and/or non-natural factors as well as human factors so resulting in human casualties, environmental damage, property losses and psychological impacts ([Sumasto et al., 2019](#))

From these indicators, it can be concluded that Indonesia has a high main hazard potency. Meanwhile, the collateral hazard potency may be seen from the presence of wooden buildings, building density and hazardous industry density [[Secretary of the National Coordination Body of Disaster and Refugee Management \(Bakornas PBP\), 2002](#)].

The Yogyakarta Special Territory consists of one city government and four regency governments. It is an area which has experienced natural disasters several times, which include: eruption and hot clouds from Merapi volcano in Sleman Regency, earthquake disaster in Bantul Regency, Gunungkidul Regency and Yogyakarta City, and also land slide disaster in Kulonprogo, Sleman and Gunungkidul Regencies ([Yudhicara et al., 2009](#)).

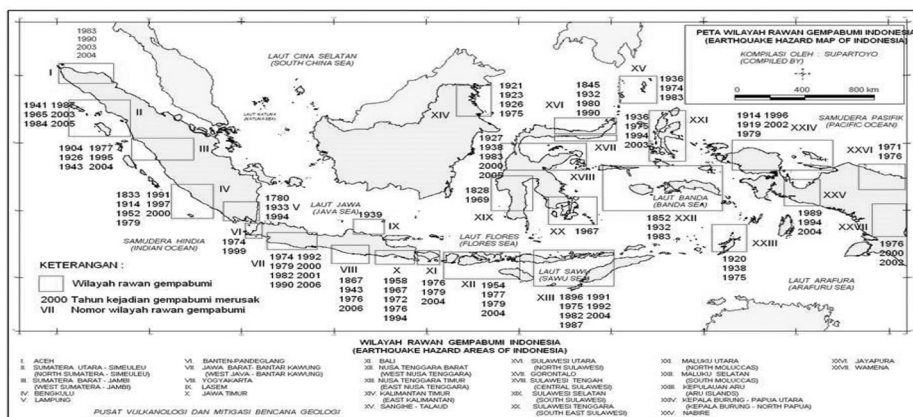
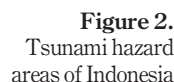


Figure 1.
Earthquake hazard
areas of Indonesia

Source: Surono (2006)



One of the most hazardous disasters which happened in the Yogyakarta area is the earthquake disaster that happened on 2006, with the number of casualties and damage as written in [Tables 1, 2 and 3](#).

In line with this condition, in the last few years, the management of disaster has shifted into community empowerment, like what was mentioned in World Conference on Natural Disaster Reduction in Yokohama on 1994 regarding Community-based Disaster Management (United Nations, 1994).

Through the community empowerment-based disaster management, it is hoped that the local society's capabilities in participating in prevention and mitigation activities may be involved and improved. It is useful in the preparation stage, at the time when the disaster happened and post-disaster recovery.

Table 1.
Number of death and
injuries of
Yogyakarta
earthquake victims
on 2006

Source: Death and Injures Haifani (2008)

What should not be forgotten is the development of disaster-detecting instrument, which may give early warnings on tsunamis and earthquakes. These instruments will surely help the disaster victims. With the development of these detecting instruments, the number of death victims will be minimized (Sumasto, 2018).

Apart from that, the disaster management system must consider and must be responsive toward diversity, differences and competitiveness that may arise due to factors of social, economy, political interest, differences in communities and even religion. These differences often create a complex and dynamic relation. An incorrect handling of this may cause horizontal conflicts. Because of that, the disaster management contains various aspects that

Table 2.

Recapitulation of damages on citizen residences due to earthquake in Yogyakarta on 2006

No.	City/Regency	Damaged to the ground	Damage Severe damage	Lightly damaged
1.	Bantul	71.683	70.796	66.512
2.	Sleman	5.243	16.003	33.233
3.	Yogyakarta	7.161	14.535	21.192
4.	Kulonprogo	4.527	5.178	8.501
5.	Gunung Kidul	7.746	10.670	27.130
Total		96.360	117.182	156.568

Source: The house and building damage Haifani (2008)

Table 3.

Losses due to the earthquake in Yogyakarta on 2006 (in trillions of rupiah)

Sector	Damage	Loss	Total
Residence	13,9	1,4	15,3
Social	3,9	0,1	4,0
Productive	4,3	4,7	9,0
Infrastructure	0,4	0,2	0,6
Intersectoral	0,2	0,1	0,3
Total	22,8	6,3	29,1

Source: Financial losses Sutikno (2007)

Plate 1.

Destroyed houses



Source: BNPB (2011)



Source: Surono (2006)

Figure 3.
Impacts of the
Yogyakarta
earthquake

may be conflicting. Thus, there should be further analysis on how the law may undergo its function as an integrating mechanism from the different interests, which may cause conflicts between one and another in managing this disaster.

Apart from that, there is a shift in the disaster management model, from the paradigm of urgency to community empowerment. Because of that, it is important to analyze the regulations on Community Empowerment-Based Disaster Management.

As a province which is prone to the different hazards of natural disasters, the Yogyakarta province government has carried out some efforts in managing the disasters. Because of that, it is relevant to know how the regulations are in handling the disasters that had so far been carried out in the Yogyakarta Special Territory.

Based on the description in the introduction above, it can be concluded that the research problem is how is the characteristics of the constitutional regulations which regulate the disaster management in Indonesia, especially in the Yogyakarta Special Territory, and how is the handling model of community empowerment-based natural disaster management?

Research methods

This research is carried out in the Yogyakarta Special Territory province, which contains five regencies and cities, which are Sleman Regency, Bantul Regency, Gunungkidul Regency, Kulonprogo Regency and Yogyakarta City. This research uses the juridical normative method or the method which uses the doctrinal or the juridical normative approaches. The approaches in the research are the conceptual approach, the statute approach and the sociological approach.

The multi-faced law demands for creativity and a more constructive effort in developing the areas which are still untouched, as argued by [Denzin and Lincoln \(2000\)](#), "Sometimes researchers employ the methodologies which have Theory roots in distinctive different views of the world, for validating the results of one through the other or for different reasons, for instance to gain a variety of information."

This research does not only include dogmatic text analyses or material facts, but there are also those which are symbolic-interactional. A holistic research, which is not partial nor divided, means that researches in other scientific fields may be used to explain it more flexibly.

This research is a research with a legal design. Yet, it will not only focus on limited areas such as norms, principles or constitutional regulations but also include an extended area such as the sense of those norms (interpretation), critical behaviors and applicative actions, which may encourage the quality of the people's livelihoods post-earthquake disaster in Yogyakarta.

The researcher uses normative method as the research method will be used according to the need of the researchers. Such position gives ease to the legal studies researchers to find a more comprehensive explanation.

This research is analyzed using the qualitative analysis, which are carried out logically and systematically using the qualitative method. What is meant by the qualitative analysis is a sustainable, repetitive and continual effort, according to [Mills and Hubermann \(1984\)](#).

The qualitative method is a research method which produced descriptive data analyses which is scrutinized and studied holistically. The qualitative approach is based on the effort to develop their views which are analyzed in detail, and formed with detailed words and descriptions ([Moleong, 2002](#)).

The doctrinal approach is used to take stock and to carry out a synchronization test on the various constitutional regulations which regulate the natural disaster management in Indonesia, especially those which apply in the Yogyakarta Special Territory through a legal interpretation and construction method. so as to find a community empowerment-based disaster management model which suits the Indonesian ideals of law.

Discussion

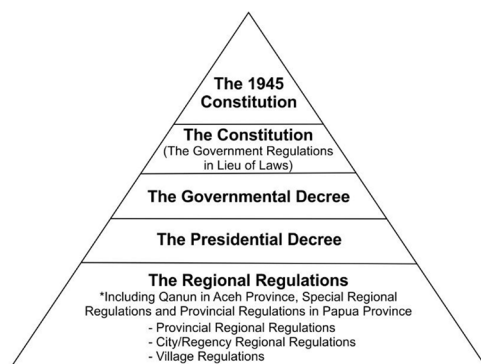
The constitution's characteristics regarding disaster management in Indonesia, especially in the Yogyakarta special territory

The law and conflict resolution. According to Hans Kelsen, the discipline of law has a constitutional character, which is creating its object, so long as it understands its object as a whole. The discipline of law has the capability to reconstruct the individual and the general legal norm – which are created by the legal authorities – to become a whole system, the “system” of law. [Kelsen \(1967\)](#)

With the basis of the hierarchic theoretical structure (*Stufenbaulehre*), the pure theory of law is based on the understanding that a principle of law is a set of principles (*stufenbau*). At the peak of the “*stufenbau*” set of principles, there is the “*grundnorm*,” which is the fundamental principle which is result of juridical thoughts. A set of legal principles is a hierarchic system of legal principles, which are ([Kelsen, 1967; Figure 4](#)):

- legal principles from the constitution;
- general or abstract legal principles in the constitution or habitual law;
- individual legal principles or concrete courtly legal principles.

By using the concepts mentioned by Talcott Parsons, which are based on the main four functional processes in a social system, which are adaptation, goal pursuance, pattern maintenance and integration. Harry C. Bredemeier then tries to write the intakes and the outcomes from the functional interactional processes in detail, between the legal sub-system of law and other subsystems, in the society's social system. Bredemeier tries to see how the



Source: Rahardjo (1991)

Figure 4.
Grundnorm of Kelsen
in Indonesia

law is connected with other aspects in the life of the people and how it places its central position in the middle of the intake and the output processes (Bredemeier, 1962).

The processes toward the intakes which come from the other subsystems, and which become these outcomes, are called integration, as what is carried out by the law, is the coordination between differently-running interests, even those which are conflicting each other, to an orderly relation so as to become a guide for the society (Rahardjo, 1991).

The adaptation functions are then further explained in detail by Bredemeier. It is not only in the form of economic activities but also science and technology, so the subsystems include activities to manage natural resources for the benefit of the human beings. The suggestions from this field gives information to the law, regarding how the resolution of the disputes are, seen as a process to maintain productive working relation Rahardjo (1979). The different interests in this field gives a sign to the social sub systems so that the disputes may be solved.

Based on the suggestions from the social subsystem, the law gives a solution to the validation requirement of an aim or the formulation of that aim. Through the regulations, those aims are determined as the law. If the law is then sued for its validity; thus, the court gives its decision, which may be in the form of that law's issuing or maybe its revocation. If the validity of that law is acknowledged, it means that the formulated aim is accepted.

First, in the cultural subsystem, members of the society must be moved to bring those disputes to the court. This motivation is based on the belief that the court is a place, which is able to give them justice. In this case, the courtly institutions need acknowledgment from the justice seekers regarding their function as a media to solve conflicts. Thus, when the dispute has been solved, the output of that court is in the form of justice (Rahardjo, 1991).

Based on Bredemeier's concepts, it can be known that the system of law is a mechanism, which functions in creating integration, which results to coordination in the society. In the form of this flowchart, the law's function as an integrating mechanism as mentioned by Bredemeier may be seen as follows (Figure 5).

In the legal perspective, in the international, regional and national levels, there are various policies and constitutional regulations, which try to manage and to accommodate the management of disaster prevention in the various degrees of regulation. In the International and regional levels, Indonesia has stated its commitment in creating a safer world from the risks of disasters.

The law and the management of disaster prevention in Indonesia and especially in Yogyakarta special territory. The Law in the National Level and especially in the regional government's level (both in the regional and in the central levels), there is an issuing of the various constitutional regulations to accommodate disaster management. In the national level, for instance, it issued the regulations as follows:

- The Republic of Indonesia's Act No. 24, 2007 regarding Disaster Prevention.
- The Governmental Decree No. 21 of 2008 regarding the Establishment of Disaster Prevention.
- The Republic of Indonesia's Governmental Decree No. 22 of 2008 regarding Funding and Management of Disaster Aide.
- The Republic of Indonesia's Governmental Decree No. 23 of 2008 regarding the Role of International and Foreign Non-Governmental Institutions in Disaster Prevention.
- The Republic of Indonesia's Presidential Decree No. 8 of 2008 regarding the National Body for Disaster Prevention.
- The Ministry of Internal Affairs Decree No. 33 of 2006 regarding the General Guide for Disaster Mitigation.
- The Ministry of Internal Affairs Decree No. 12 of 2006 regarding Early Awareness of Society in the Regions.

In the regional level, up to April 2008, there was only one province that strictly followed up on the central government's regulation in its regional regulation, which is the government of Western Sumatra, by issuing the Province of West Sumatra's Regional Governmental Decree No. 5 of 2007 regarding Disaster Prevention.

Another region which follows up on the regulation on natural disasters is the provincial government of Yogyakarta Special Territory. The regulations issued by this government regarding natural disasters are as follows:

- The Yogyakarta Special Territory Governor's Decree No. 20/Tim/2006 The Executing Team of Areal Rehabilitation and Reconstruction Post-Earthquake Natural Disaster in the Province of Yogyakarta Special Territory.
- The Yogyakarta Special Territory Governor's Decree No. 22 of 2006 The Guide of the Rehabilitation and Reconstruction of Post-Earthquake Natural Disaster in the Province of Yogyakarta Special Territory Fund Management.

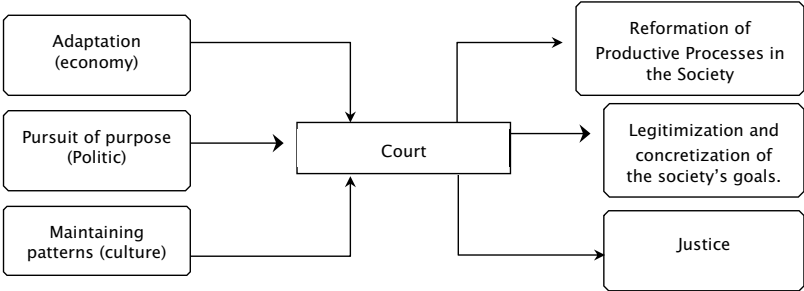


Figure 5.
The exchange
processes by
Bredemeier

Source: Rahardjo (1991)

- The Province of Yogyakarta Special Territory's Regional Secretary's Decree as the Secretary of the Executing Team of Areal Rehabilitation and Reconstruction Post-Earthquake Natural Disaster in the Province of Yogyakarta Special Territory.
- The Yogyakarta Special Territory Governor's Decree No. 121/Kep/2006 on the Inauguration of the Program Person in Charge, the Program Executor, the Head of the Work Team/Head of the Budget User and Assistant, Officials Who Carried Out Actions Which Result to Budget Usage/Commitment-Maker Official and Assistants, Official of Examination and Payment Orders and Treasurer for the Sake of Handling Supporting Tasks for Areal Rehabilitation of Reconstruction Post-Earthquake Disaster in the Province of Yogyakarta Special Territory of 2006.
- The Province of Yogyakarta Special Territory's Governor Decree No. 23/Tim/2006 regarding the Formation of Yogya Bangkit Forum (Yogya Rise Forum).
- The Province of Yogyakarta Special Territory's Governor Decree No. 23 of 2006 Operational Guide on the Areal Rehabilitation and Reconstruction Post-Earthquake Disaster in the Province of Yogyakarta Special Territory of the Budget Year of 2006.
- The Province of Yogyakarta Special Territory's Governor Decree No. 125/Kep/2006 The Activity of Post-Earthquake Action Plan in the Province of Yogyakarta Special Territory on 2006.
- Yogyakarta Mayor's Decree No. 619 of 2007 regarding the Regional Action Plan of Environmental Quality Improvement in Yogyakarta City on 2007-2011.
- Yogyakarta Mayor's Decree No. 669 of 2007 regarding the Regional Action Plan of Disaster Risk Minimalization in Yogyakarta City on 2007-2011.

Basically, the lower-level constitutional regulations contain further detail on the upper-level constitutional regulations. Yet, it must be realized that the lower-level constitutional regulations are usually the executing regulations from the numerous regulations above them. In this context, it can be understood that every one of the lowest-level regulations do not only have to synchronize itself with the regulations one level above them.

Even though each layer of regulation is a description or interpretation of the higher-level regulations, the numerous regulations which are related to the regulations in the lowest level will and on that regulation's burden to be synchronized with the related regulations. If seen from the hierarchy of those regulations, it is clear that the disaster-prevention process is an interrelated process. It has order in carrying out the existing policy execution in the national, regional and local levels for disasters mitigation. [Figure 6](#) shows the cycle of disaster mitigation.

This is proven from the regulation mechanism that is established in various levels. Thus, the disaster-handling process may be divided into as follows:

- the process of policy implementation from the national to the local level;
- facilitating the process of international aide;
- the formation of disaster prevention bodies from the national to the local level;
- the delivering of aid to the victims;
- the effort for post-disaster rehabilitation and reconstruction; and
- the budgeting process and the giving of aide.

The function of law in the natural disaster management in Yogyakarta

The numerous constitutional regulations, which are formed and implemented to regulate the disaster management in Yogyakarta Special Territory cannot yet run its function as an

Figure 6.
Mitigation circle



Source: Adawiyah (2008)

integrating mechanism efficiently. This is mainly because the handling of disasters is usually responsive, without clear planning. There are no clear policies regarding the disaster prevention in relations with the organizational structure and mechanism. Thus, the output of the integrating mechanism by the law cannot yet reorganize the productive process in the society effectively nor optimally. The determined goals in the execution of the disaster management often do not obtain legitimization from the society. It does not fully give the sense of justice in the society. The police force and the military are deployed to help the victims of the Yogyakarta earthquake disaster. They also maintain peace and enforce the law. More than 6,000 military troops and thousands of policemen were assigned to assist the people after the Yogyakarta earthquake disaster, so that there will be no chaos. This is more like a responsive action, yet it is not yet a plan (Plate 2).

It can be seen that there is a synchronization of the existing regulations, which are the Act No. 24, 2007 regarding disaster prevention, the Governmental Decree No. 21 of 2008 regarding the execution of disaster management, the Governmental Decree No. 23 of 2008 regarding the role of international and foreign non-governmental organizations in disaster management, the Ministry of General Affairs' Decree No. 19/PRT/M/2006, the Ministry of General Affairs' Decree No. 33 of 2006, Decree of Bantul Governor No. 166 of 2006, in determining what is viewed as problems by the creator of the constitutional regulations,



Plate 2.
The police and the
army help in the
Yogya Earthquake

Source: TNI (2006)

which are there is the need to prevent casualties, deterioration of the environment, loss of wealth and psychological causes in which in some cases may inhibit national development.

The government has deployed quite an abundant number of human resources to help the evacuation, to distribute aid in the effort of disaster mitigation. This is not even including the volunteering activities from the people. The government deploys a great number of army and police to help the victims of the disaster, to maintain the condition and to enforce the law so that there will be no chaos or looting after the disaster. In the condition of disaster, the law and the regulations become paralyzed due to the destruction of infrastructure, the disappearance of food resources and the loss of jobs. This is because the workplaces and the tools of jobs are destroyed. Thus, there is a chance that the people will not comply with the law by looting aid and the resources left. Table 4 shows the number of human resources during the mitigation.

The constitutional regulations on disaster prevention, which exist cannot yet become a strong and holistic legal basis. It is not yet according to the development and the needs of the society's condition. There is the concern that it may inhibit the effort for disaster prevention that is planned, coordinated and integrated.

In the handling of this disaster, the things which must be considered in legal regulations are:

- The Role of the National Body for Disaster:

In determining the membership of the National Body for Disaster, all of the constitutional regulations show its synchronization, where the membership of this institution consists of these elements: the advisor for disaster prevention and the executor for the disaster prevention. Meanwhile, in the regions, there is the Regional Body for Disaster Prevention formed by the regional government. In the provincial level, the body is led by an official one level underneath the governor, or the same level as IB echelon; and the body in the city/regency level is led by an official one level under the regent/mayor or the same level as IIa echelon (Figure 7).

- The Society's Rights and Responsibilities:

In numerous constitutional regulations, there is a synchronization between the regulations on the society's rights and responsibilities in disaster management. The point of these regulations is that they state that every citizen has the right to obtain social protection and a sense of safety. They have the right to obtain education, trainings and skills in the establishment of disaster management. Also, they have the right to participate in policies, in accessing information on disaster prevention policies. They may obtain compensation and

No.	Human resources	No.
1	Military	6,578
2	Police	2,412
3	Civil Defense	639
4	BNPB (National Body for Disaster)	1,466
5	Community Organization	3,114
6	Volunteer	Unregistered
7	Total	14,209

Table 4.
Human resources
during the
Yogyakarta
earthquake
mitigation

Source: Bakornas Penanggulangan Bencana (2007)

Figure 7.
The role of the
national body for
disaster



Source: BNPB (2011)

also security on the rights for basic needs. See [Figure 7](#) for the picture of social responsibilities during the disaster management ([Plate 3](#)).

- The Roles of Business and International Institutions:

In determining the roles of business institutions and international institutions in disaster management, the existing constitutional regulations show a synchronization. These regulations state that the institutions have the opportunity to undergo disaster prevention, either individually or in a group. Yet, there are the requirements. They must adapt their activities with the policies on disaster management. They must give a report. They must have the principle of humanity and they must consider the social, cultural and religious backgrounds of the local citizens. The Indonesian policies and laws are clearly related to the

Plate 3.
Social responsibilities
on Yogyakarta
disaster management



Source: Adawiyah (2008)

international institutions, which aid the disaster management. They must report themselves to the authorities. Meanwhile, the local business institutions may directly make efforts without reporting to the local authorities. See [Plate 4](#) for the role of international institutions in aiding the disaster victims.

- The Establishment of Disaster Prevention:

In stating the rules on the establishment of disaster prevention, there are some constitutional regulations which do not synchronize with each other. In the Act No. 24 of 2007 there are four aspects in the establishment of the disaster prevention, which are the society's social, economic and cultural condition; environmental protection; benefit and effectivity; the areal territory. Yet, on the Constitution No. 23 of 2008, it is stated that the roles of the international and the foreign non-governmental institutions are tailored with policies of the National Body for Disaster Prevention.

- The Funding, the Management, and the Supervision of Disaster Aid:

There is a contradiction in the various constitutional regulations in regulating the funding and the management of disaster aid. In the Act No. 24 of 2008, it is stated that the disaster prevention fund is the responsibility of the government and the regional government, by also motivating the society's participation in providing funds from the society. The disaster aid resource management includes planning, using, maintaining, supervising and evaluating the items, services, and/or money, both from national or international aid. The government, the regional government, the National Body for Disaster Prevention and the Regional Body for Disaster Prevention undergo the disaster aid management. Yet, in the governmental decrees, there are no mention of the society's role in the management of disaster aid fund.

Regarding the supervision, there needs to be a synchronization in the constitutional regulations which regulate the natural disaster prevention, where in the constitutional regulations, it is stated that the government and the regional government supervise all stages of disaster management including disaster aid supervision, which includes source of threat or disaster hazard; development policies which potentially cause disasters; exploitation activities which potentially cause disasters; the use of items, services,



Source: Hurston (2006)

Plate 4.
Business and
international roles in
the Yogyakarta
disaster management

technologies and also the skills of building plan and manipulation in the country; the activity of environmental conservation; spatial planning; environmental management; reclamation activities; and budget management.

There is also a synchronization between the stated aims which are to be achieved in forming the regulations in the existing laws, which are the Act No. 24, 2007 on disaster prevention, the Governmental Decree No. 21 of 2008 on the execution of disaster prevention, the Governmental Decree No. 23 of 2008 on the roles of the international and foreign non-governmental institutions in disaster prevention, the Ministry of General Affairs' Decree No. 19/PRT/M/2006, the Ministry of General Affairs' Decree No. 33 of 2006, Decree of Bantul Governor No. 166 of 2006. All of these laws have the aim in giving protection to the life and the survival of the people, including protection from disasters, to achieve public prosperity.

Community empowerment-based disaster management concept

According to Kahn, disaster management is “sum total of all activities, programmes and measures which can be taken up before, during and after a disaster with the purpose to avoid a disaster, reduce its impact or recover from its losses.” (Kahn, 2008).

Basically, the management of disaster prevention includes various activities, programs and steps which may be taken before, during and after a disaster with the aim to avoid disasters, to minimize the impacts, and to relieve the losses and damages occurred. Meanwhile, the three main activities in the management of disaster prevention may be seen as follows in Figure 8.

The stages of these activities are as follows:

- *Before a disaster (pre-disaster).* Pre-disaster activities those which are taken to reduce human and property losses caused by a potential hazard. For example,

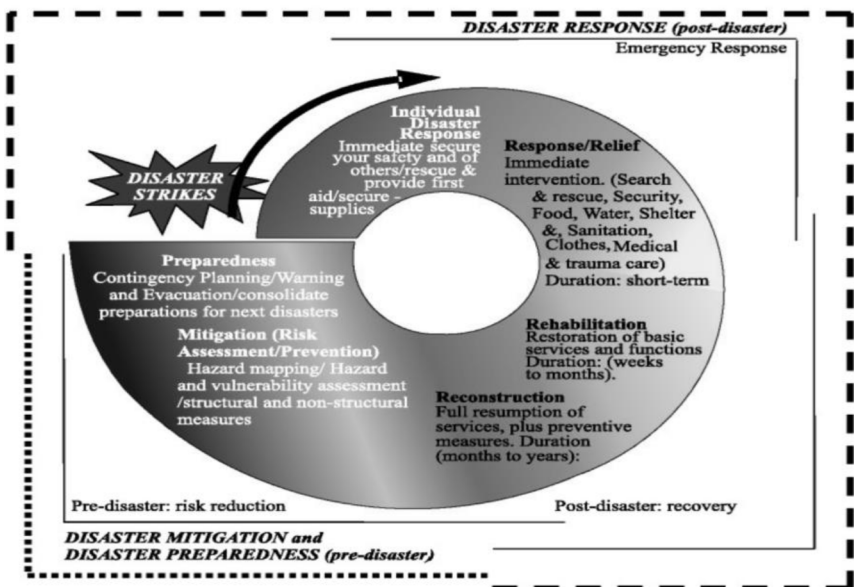


Figure 8.
Disaster prevention

Source: Vasilescu *et al.* (2008)

carrying out awareness campaigns, strengthening the existing weak structures, preparation of the disaster management plans at household and community level, etc. Such risk reduction measures taken under this stage are termed as mitigation and preparedness activities.

- *During a disaster (disaster occurrence)*. These include initiatives taken to ensure that the needs and provisions of victims are met and suffering is minimized. Activities taken under this stage are called emergency response activities.
- *After a disaster (post-disaster)*. There are initiatives taken in response to a disaster with a purpose to achieve early recovery and rehabilitation of affected communities, immediately after a disaster strikes. These are called as response and recovery activities. (Vasilescu *et al*, 2008).

According to Kirschenbaum (2004), the effectivity of disaster prevention management can be seen from the actual work results in fulfilling the goals of disaster prevention management which is aimed to avoid the loss of lives and material damage. So far, every time there is a disaster, it is always followed by a process in which according to Turner and Killian is called the milling process. It is a situation where a person doesn't know how to act or react toward a disaster as there are no specific guides to act. Even if there is such guide, it is not relevant with the condition faced by the society (Schneider, 1992).

Based on the paradigm of *Comprehensive Vulnerability Management* (CVM), the principles which must be given attention in building a disaster prevention management system is:

- Disaster prevention management contains four functional areas which are mitigation, readiness, response and recovery.
- The disaster prevention management must be followed with identification steps of all vulnerability forms present in the community to be minimized.
- Efforts of response toward a disaster should not be exclusive nor partial. A condition of disaster is a complex condition which usually asks for a holistic response from various perspectives and experiences. It needs effective teamwork between various institutional groups. Basically, it will not be effective if it is run by a single agency exclusively.
- All efforts of disaster prevention management must be based on the process which always depends on the participation of the public. In other words, the vulnerability identification efforts, the seeking of solutions and the implementation of disaster prevention must be based on the public's active participation or the victim community and also various other parties who are not victims of disaster.
- The disaster prevention management does not have to be directed to return the human or the system's condition into a normal pre-disaster management. This is because the human or the system's condition pre-disaster cannot be said as a good nor a neutral condition which gives contribution toward the occurrence of a disaster (McEntire *et al*, 2002; Twigg, 2001; Kouzmin *et al*, 1995; Heijmans, 2001).

The model of natural disaster management based on community empowerment may be done through:

- (1) the consideration of the variety/differences in the condition of each community groups who are in the disaster hazard areas (seen from the age, gender, education level and socio-culture) with the different levels of vulnerability;

- (2) the effort to avoid the occurrence of new vulnerability must be able to be done by, from and for the society itself;
- (3) the handling of natural disaster must include the various things which are and will be faced by the society before, during, and after the disaster;
- (4) the disaster hazard prevention must be an inseparable part of the development and management process of natural resources;
- (5) the people in the disaster hazard areas must be equipped with knowledge, understanding, experiences and other things related to the effort in disaster-risk minimalization together; and
- (6) in managing natural disasters, the regulations on disaster hazard management should consider these things:
- (7) It must be centered to the effort of empowering the local citizens.
- (8) It must be aimed to the effort to increase the capacity and the resources of the most vulnerable societal groups and it must decrease their vulnerability to avoid the occurrence of disasters in the future. It must be based on the reality that there is a direct relation between the disaster risk management and the development process.
- (9) The disaster risk management should be able to be handled by the society itself, in which its results will also be enjoyed by the managing society themselves.

This condition shows that the public in Indonesia is not familiar with the disaster management. Thus, the disaster management faces problems and chaos. The society cannot handle disaster managements nor development processes for future disasters. The government and the disaster-aware communities may create a disaster-response socialization and also prepare disaster-responsive superstructures (Ginanjari, 2016).

The process of this community-based disaster risk management may be carried out through these stages:

- need assessment;
- disseminating results of the need assessment to every segment members of the society, holistically and without discrimination;
- arranging the map of disaster risk problems;
- making a set of activities/programs to solve the various problems identified in the need assessment stage;
- trying out the programs planned;
- monitoring and evaluation; and
- disseminating the best practice of the program execution.

Conclusion

Based on the research results and the discussion above, it can be concluded that the characteristics of the constitutional regulations which manage the disaster management in Indonesia, especially that in the Yogyakarta Special Territory, on one side shows a synchronization, especially in identifying the things, which are deemed as problems by the regulation-makers, the aim which is to be achieved by the regulation-makers, the strategies chosen to reach the goal, the establishment of the National Body for Disaster Prevention

membership, the management on the society's rights and responsibilities in disaster management, and also the supervision in disaster management. On the other side, there is a contradiction in the assignment of the responsibilities and powers in the disaster management, the process of disaster prevention establishment, and the regulations on funding and disaster aid management.

This research brings impacts to the society, as from this research, it is known that there was the deployment of the military and the police force in maintaining safety, enforcing the law, and in helping the distribution of aid. These things are very suitable in the short term. The society tends to have more trust to the military. The military prevent the potential of anarchic actions due to the destruction of food resources, infrastructure and facilities during the disaster.

Various constitutional regulations made and applied to regulate disaster management in the Yogyakarta Special Territory cannot yet run its function as an efficient integrating mechanism, as the law cannot yet undergo the rearrangement of the productive process in the society optimally. The goals determined in the execution of the disaster management are often not legitimized by the society and they do not yet give a full sense of justice to them.

The community empowerment-based natural disaster management model may be done by:

The model of natural disaster management based on community empowerment may be done through:

- (1) The consideration of the variety/differences in the condition of each community groups who are in the disaster hazard areas (seen from the age, gender, education level and socio-culture) with the different levels of vulnerability.
- (2) The effort to avoid the occurrence of new vulnerability must be able to be done by, from, and for the society itself.
- (3) The handling of natural disaster must include the various things which are and will be faced by the society before, during and after the disaster.
- (4) In managing natural disasters, the regulations on disaster hazard management should consider these things:
- (5) It must be centered to the effort of empowering the local citizens.
- (6) It must be aimed to the effort to increase the capacity and the resources of the most vulnerable societal groups, and it must decrease their vulnerability to avoid the occurrence of disasters in the future.

A good and precise law-based disaster-handling management will bring the society to heal faster, to minimize the loss due to the disaster, and to prepare the mentality of the people before and after the disaster. The government and the society must work together in the law and in the disaster management. This is because so far, the central point in the disaster management is mostly on the shoulders of the government, though the capabilities and the effectivity of the government is still limited.

The existing laws are already adequate, yet they are not yet synchronized; thus, there needs to be a synchronization. Yet, the more important thing is to create the capacity to give aid which is focused on physical health, food ingredients and proper refuge as written in the law. The government gives psychological assistance to the disaster victims including pregnant women, mothers and children, health services including general health checks, infant health services and examination services for health-care treatments soon after the disaster struck.

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