

**LEGAL FRAMEWORK
FOR DISASTER MANAGEMENT
PARTICULARLY IN THE FIELD OF
EARLY WARNING SYSTEM IN
INDONESIA**

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LEGAL FRAMEWORK FOR DISASTER MANAGEMENT PARTICULARLY IN THE FIELD OF EARLY WARNING SYSTEM IN INDONESIA

By Anthony DMS

1. Background

Indonesia as an archipelagic country lies on three plates, Eurasia, Indo Australia and Pacific and consider as tsunami prone country.

One of the largest catastrophes experienced by Indonesia was the the earthquake and tsunami in Nangroe Aceh Darussalam and other areas on the 26th December 2004 and the earthquake in Nias Island on the 28th March 2005 which cost huge amount of damages and losses physically and socially.

There is still weaknesses in the implementation of the disaster management in Indonesia especially in relates to the tsunami disaster due to the absence of a comprehensive and integrated legal framework for the disaster management. The current legal policies related to disaster management are being developed sectorally and partially and rather emergency response oriented, which is more focus on the physical assistance, carried out by the government.

The regional autonomy policies have provided a foundation for a fundamental transformation in the government mechanism. However the transformation is not tags along with the governance adjustment. The delegation of authority in the regional autonomy implementation from the central government to regional government does not followed by the delegation of responsibility especially in the issue of public protection and service. When disasters strike the regional government response tends to be slow and rather rely on the direct intervention from the central government.

The current institution framework for disaster management in Indonesia was being designed based on centralistic governmental paradigm and thus central government holds a dominant role and has qan instructional line of relationship with the region.

Align with the regional autonomy implementation; the roles of regional government are important and vital in the disaster management especially in disaster risk reduction measures, considering that the direct impact of disaster always suffered by respected disaster-prone region.

Therefore, the regional government is expected to take more active actions suc as a preparation of required legal instruments as the foundation for the Tsunami disaster management; organization/institution structure include respective roles and responsibilities; and procedures or mechanism for the Tsunami Disaster risk reduction activities.

The Tsunami Early Warning System (TEWS) is now being developed as one of the tsunami-disaster risk reduction measures. The objective of the system is to reduced as much as possible the negative impact of the tsunami-disaster such as high death toll victims as well as massive destruction of infrastructure and/or building.

The Nation-wide Tsunami Early Warning System development has to be responded by the regional government by developing necessary capacity, structure and infrastructure in their areas to enable the community and local institutions in responding the early warning into effective and timely based actions.

The Early Warning System consists of four integrated component chain, i.e.:¹ (1) Risk knowledge and mapping include hazard and vulnerability assesment; (2) Technical monitoring and predict future disaster occurrence as well as warning services; (3) Communication and dissemination of understandable warning to political authority and public; and (4) Community response capability include effective actions in timely manner.

There are another four crucial factors for a successful Early warning System, i.e. legal framework; institutional mechanism; Resource Management; and awareness and knowledge. These factors are mandatory for every component in a Early warning System, whereas the absence will reduce the system effectiveness as well as efficiency.

For this reason, in the frame of the German-Indonesian cooperation for implementing a Tsunami Early Warning System (GI-TEWS), the German Technical Cooperation (GTZ-International Services) is executing a project of Capacity Building for improving preparedness at the local level. As part of its baseline studies, the projects will asses the existing Legal framework as well as the ongoing draft development of Legal framework for the Disaster management.

2. Focus of Analysis

The analysis will be focused on the legal arrangement related to the early warning system (EWS):

- To assess how the early warning is placed in national or regional disaster arrangements, i.e. whether early warning is integrated in disaster reduction plans or is managed as a stand-alone process;
- To asses whether the early warning clearly raises the responsibility issues from national to local level, and how it is relate to the regional autonomous governance system.

¹ UN- International Strategy for Disaster Reduction; Platform for the Promotion of Early Warning

3. Expected Results

Assessment result of the Legal framework with special consideration on:

- The description of existing Legal Framework on Disaster Management in general and on Tsunami early warning system (Law, PP, Kepres, Perpu, Kepmen, SK Gubernur, SK Bupati, Perda, other regulation from national and local);
- The compilation of the existing result, done by other institution, of the Legal Framework assessment for Disaster Management and tsunami early warning system;
- The description of role and mandate of stakeholders in early warning system, both on local & national level;
- The description how early Warning System in Padang is legally based. This will include the description on what activities they have been taken to pursue the legal framework for early warning System and what measures they have been taken to improve the legal framework.

4. Methodology

To achieve the result stated above, this project uses a descriptive-normative methodoly, i.e. research that shows information based on existing reference.

Presentation of this analysis requires data that are normative (based on literature study) and empiric (obtained from stakeholders whose competence in legal matters related to Tsunami Early Warning System – TEWS regulation). Visit to Provincial Government of West Sumatera and Municipal of Padang has also been taken to obtain a legal foundation of local EWS implementation.

5. FRAMEWORK OF INDONESIAN LEGAL SYSTEM

5.1 Characteristic of Legal System

According to Black's Law Dictionary, 'System' means "orderly combination or arrangement, as of particular, parts, or elements, into a whole; especially such combination according to some rational principles".

According to Lawrence M. Friedman, legal system is combination of legal structure, legal substance and the legal culture, in which one relates to another in order to achieve certain target.

Based on that, it is concluded that the legal system comprise of three components; (1) legal structure, (2) Legal Substance, and (3) legal culture.

In case of disaster management, especially Tsunami disaster, the legal structure means the state institutions and government organizations which having scope of work related to Tsunami disaster management. State and government officers are working in these institutions and play important roles.

The example of the respective state institutions and government organizations are The National Coordinating Agency for Disaster Management (*BAKORNAS*), The Ministry of Home Affairs (*Mendagri*), Agency for the Assessment and application of technology (*BPPT*), Agency for the Meteorological and Geophysical (*BMG*), Indonesian Institute of Sciences (*LIPi*), the Department of Marines and Fishery (*DKP*), and Agency for Meteorological and Geophysics (*BMG*).

The second component of legal system is a legal substance, which means all principles and norms that are taken into account as reference for civil society and government. In the context of Tsunami disaster management, the legal substance covers legislation issued by the respective authorized institutions. This also includes legal principle, both written and non-written.

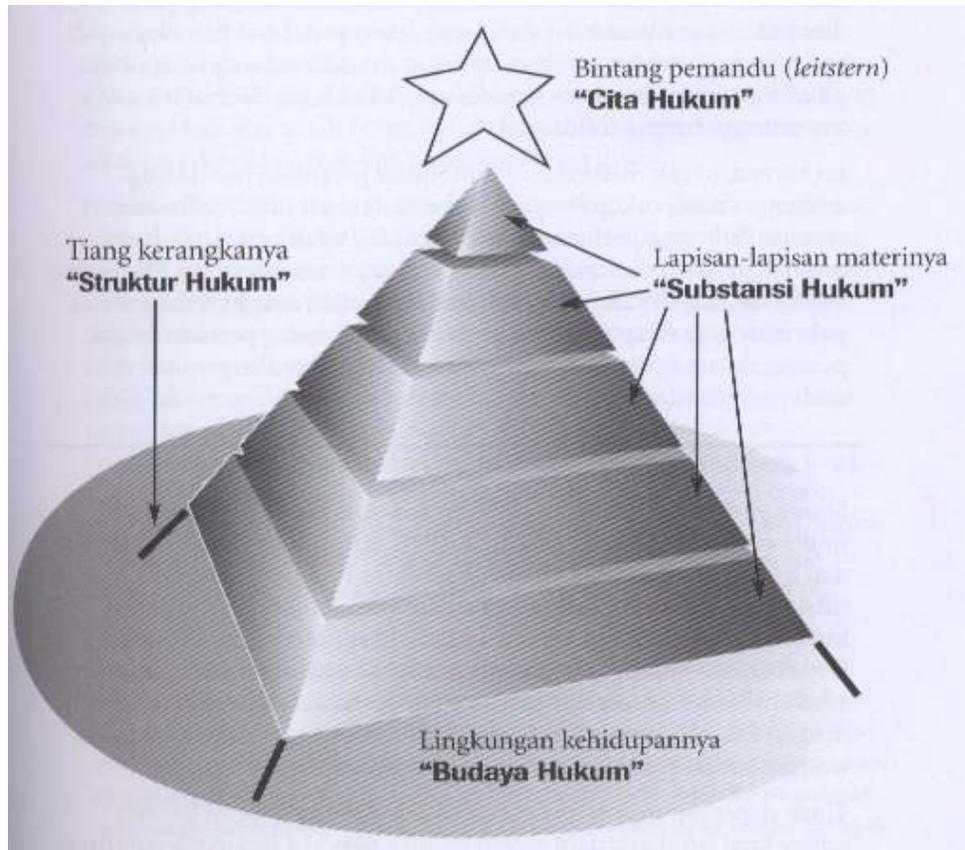
Both type of legal substance, written and non-written, must rooted from the philosophy of life or supreme ideology of Indonesia, **Pancasila**, which is considered as the essence of all legal substance, and as a foundation for the creation and implementation of the legal system in Indonesia.

The third component of the Legal System is Legal culture. According to Lawrence M. Friedman, legal culture is “...*people’s attitudes toward Law and legal system? Their believe, values, ideas, and expectations, ... the legal culture, in other word, is the climate of social though and social force witch determines how Law is used, avoided, or abused. Without legal culture, the legal system is inert? A dead fish laying in the bustard not a living fish swimming in its sea.*” Legal culture also means legal awareness of the legal subjects of the whole community.

The example for those components can be described as follows:
A government institution such as Department of Public Works (referred as a legal structure), and Law of Water Resource (referred as a legal substance) work and applied for the whole Indonesia. However, a possible divergence might occur between the working principle of the Department and the real implementation of the Law in the regions resulted from complex interactions amongst the Department officers, Issued Laws and Local Culture.

It is not possible to discuss legal system In Indonesia without inter-linking the above three components together. Therefore in understanding a substance/content of legislation we must understand as well who interpret the content and which culture/environment the interpreter live. Those circumstances determine the point of view of the respective person in understanding the legal substance of the Law.

The following diagram illustrates the three components:



Based on formal-jurisdiction point of view, the national legal system in Indonesia has started since 17 August 1945. However, legal substance, legal structure and legal culture prevailed before the Independence can not be ignored or excluded during the formulation of the future Legal System in Indonesia.

It is undeniable that the Dutch Legal System strongly influences the Indonesian legal system e.g. A 'civil Law system' (European continental) become a character of Indonesian legal system.

5.2 Material Source of Law

Despite of the basic source of law i.e. Pancasila, there are two type of Source of Law called as material source and formal source.

The material source of Law is all factors supporting to the development of law such as culture, social, political and economy. The material source of Law is especially needed by those who are in charge in the legislation arrangement i.e. parliament member. The material source shows where the Law material is being obtained from.

5.3 Formal Source of Law

Formal Source of Law in Indonesia consist of (1) Law (referred as material), (2) custom, (3) judge sentence, (4) International agreement, and (5) doctrine.

Nowadays, these formal sources of Law have been increasing that one of which is moral values or philosophy of Law, despite of the fact that this is rarely mentioned in the text book. In general, since the philosophy of Law is not formalized in a separated norm within a regulation; therefore it is recognized as moral value. In case of international public dispute, this philosophy of Law is even used as the main source of Law.

5.4 Legislation Hierarchy

According to Maria F. Indriati Suprpto² legislation is a decree of state or government institution by which arrangement is based on attribution of authority and delegation of authority.

Attribution of authority in the legislation development is authority to develop legislation awarded from UUD or Law to the State or government institution. For example, the Attribution stated on Article 5 clause 1 of 1945 constitution (UUD 1945) is given to the President by giving him/her the right to propose a draft of regulation to the parliament (DPR).

The delegation of authority is a distribution of authority to develop legislation by higher level of legislation to the lower in establishing legislation, regardless whether this delegation is stated clearly or not. Example of this delegation of authority is government authority in issuing governmental regulation to impalement the Law accordingly, [article 5, and clause 2 of UUD 1945].

The Legislation hierarchy in Indonesia is stated in regulation No.10 year 2004 about establishment of legislation. According to article 7 clause (1) of this regulation, legislation hierarchy is as follow:

1. 1945 Constitution (*UUD1945*);
2. Law/Government Regulation (*UU/Perpu*);
3. Governmental Regulation (*Peraturan Pemerintah*);
4. Presidential Regulation (*Peraturan President*);
5. Regional Regulation (*Peraturan Daerah*).

Elucidation of the above article states that other type of legislation such as those produced by MPR, DPR, DPRD, MA, MK, BPK, BI, Minister, Head of council, is admitted and it has legal binding as long as it is ordered by the higher legislation.

² Maria F Indrati Soeprpto, "Kedudukan dan Materi Muatan Peraturan Pemerintah Pengganti Law, Peraturan Pemerintah, dan Keputusan Presiden dalam Penyelenggaraan Pemerintahan Negara Di Republik Indonesia", Dissertation, Doctoral Program of Legal Science of the University of Indonesia, 2002, p.255-256.

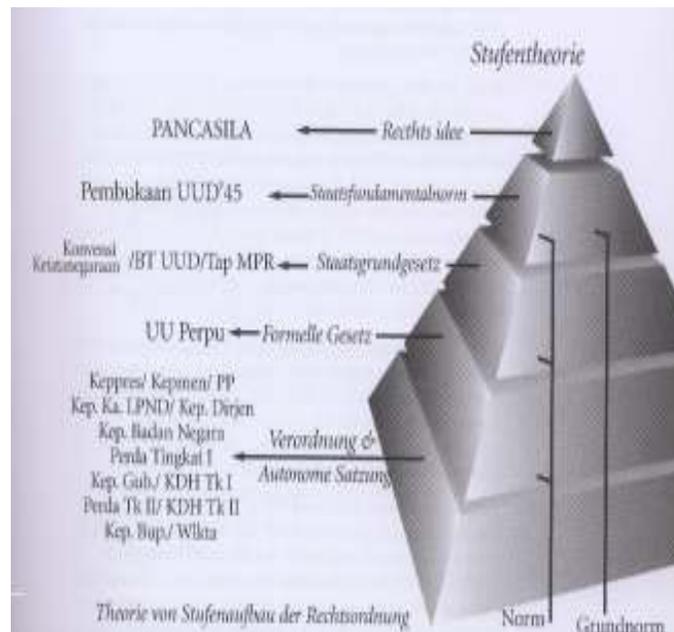
The term of hierarchy as stated in regulation No.10 year 2004 is classification of legislations based on principle that the lower level of legislation may not contain contradictory substance that is against the higher level.

Related to this legislation hierarchy in Indonesia, many experts explain differently on their respective arguments.

According to Mahmud Azis, SH, MH³, the legislation hierarchy must be as follow:

1. 1945 Constitution (*UUD 1945*);
2. Law (*UU*) /Government Regulation as Substitution of Law (*Perpu*);
3. Governmental Regulation (*PP*);
4. Presidential Regulation (*Perpres*) and Regulation of State Institution, which is equivalent to Presidential level, e.g. Head of BPK, Great Council regulation (*MA*), Ministerial Regulation, Judicial Regulation, Constitutional Council Regulations, as long as it is clearly ordered or delegated by the higher level legislation.
5. Provincial Regulation;
6. Governor Regulation;
7. County Regulation;
8. Regulation of Head of County;
9. Village Regulation.

As many experts provide various number of their opinion about legislation hierarchy in Indonesia below is the general picture of the hierarchy:



³ Machmud Aziz, SH, MH, "Jenis dan Hierarki Peraturan Perundang-undangan Menurut LAWD-RI dan LAW Nomor 10 tahun 2004 Tentang Pembentukan Peraturan Perundang-undangan", Indonesia Legislation Journal Vol.1-December 2004, published by General Directorate of Legislation of the Departemen of Law and Human Right of the Republic of Indonesia.

Below is the Elucidation on several type of legislation according to Law No.10 year 2004:

a. The Constitution 1945

According to the Law No. 10 of 2004, Article 3, the Constitution 1945 is a foundation for laws and regulations. It means that the Constitution 1945 is also play as a legal source in the laws and regulations arrangement. The Constitution 1945 consists of the Preamble and the articles. The Preamble and the articles are having a different legal position. According to Hamid S. Attamimi⁴ the Preamble which is higher than the articles, is a basic norm of the state (*Staatsfundamentalnorm*), while the articles (*verfassungsnorm*) are basic regulation of the state (*Staatsgrundgesetz*).

b. Law (UU)

According to the Law No. 10 of 2004, Law is a legal production of the Indonesian House of Representatives (DPR) in cooperation with the President. Since the amendment of the Constitution 1945, the initiator of the Law arrangement has been converted from the President dominated initiative into DPR dominated.

Formally, the Law system in Indonesia only recognise a single type of Law (an equal position from one to another Law), therefore one Law does not necessary being superior to other. However the substantial coverage of certain Laws might have a supreme effect against other Laws. In case of a contradictory position (disharmony) among two or more Laws, the principle of "*lex specialis derogat lege generali*" will be in effect, that the more specific Laws consider being superior toward the general one.

The content of the Law is a follow up regulation that has been previously determined by the Constitution 1945 or by other higher ordinance.

c. Government Regulation as Law Substitution (Perpu)

A legal basis for the Government Regulation as Law Substitution (Perpu) is laid on the article 22 of the Constitution 1945. A "force majeure" context is a basis condition for a Perpu arrangement. Paragraph (2) and (3) of the Article 22 of the Constitution 1945 stated that the Perpu proposed by the Government must be agreed by The Indonesian House of Representatives (DPR) otherwise the Perpu must be cancelled.

The term "must" in the paragraph (2) of the Article 22 of the Constitution 1945 refer to an obligatory condition addressed to the DPR to always review every Perpu arranged by the government.

⁴ Is an expert on administrative law, who has developed legislation science in Indonesia

As above explained a “force majeure” context is a basis condition for a Perpu arrangement, in which an unexpected urgent and complex as well as crucial situation is considered as a parameter. This condition requires an immediate response through a legislation arrangement equal to the Law. The substances of the Perpu are equal to the substance of the Law.

d. Government Regulation (Peraturan Pemerintah)

The substances of the Government Regulation contain an implementation of the law as orderly. The Government Regulation type is stipulated in the Constitution 1945, Article 5, and paragraph (2). The authorized party in producing Government Regulations is the President.

e. President Regulation (Peraturan Presiden)

The President Regulation contain substances stipulated by the Law or an implementation of the Government Regulation. In the Law No. 10 year 2004, a new term has existed, i.e., “President Regulation” (include Ministry Regulation, Governor Regulation etc), which has never been recognized before the Law No. 10 year 2004 is enacted. The previous term was “Presidential Decree”; “Ministrial Decree”, and “Governor Decree” etc.

To answer question whether the Ministrial Decree, the Governoral Decree, etc. are still being recognized or not, we need to consider that the Law No.10 of 2004 only define legislations with a regulative substance. Before the issuance of the Law No.10 year 2004, decree was equivalent to regulation (*regelling*) or stipulation (*beshicking*), whereas according to legislation theory, these two terms are having different meaning.

A stipulative decision is produced by certain authority in order to determine or define specific policy that is needed, include the promotion or dismissal of respected government officers.

A stipulative decision is not considered as legislation, considering that the content or substance of the decision does not attached to public in general instead only attached to particular individual or group of officials within respected institution (interim decision in most cases).

The Law No.10/2004 clearly states that a regulative decision is translated as a “regulation” that has a role as a *nomenclature* to distinguish it from a “decree”. Thus there are two term of decisions, i.e. (1) “**a regulative decision**” as the implementation of the higher legislation, which is known as “Regulation”; and (2) “**a stipulative decision**” or “Decree”.

f. Regional Regulation (Peraturan Daerah or PERDA)

The Law No.10/2004, Article 7, clause (2) states that Regional Regulation (Perda) covers:

- Provincial Regulation arranged by The Regional House of Representative (DPRD) at province-level together with the governor;
- County/City Regulation arranged by The Regional House of Representative (DPRD) at county/city-level together with the head of county/city;
- Village Regulation or the equivalent arranged by a Village Representative Body, or the equivalent, together with the head of the village or the equivalent.

The entire substance of the PERDA is the implementation of regional autonomy strategy; the assistance duties; the accommodation of specific regional condition; and the further proceeding of the higher level of legislation.

6. Regional Authority in the Arrangement of the Regional Regulation (PERDA)

6.1 General

Indonesia is a unitary state that consists of several provinces and counties/cities. The definition is stated in the Constitution 1945, article 18. This definition is the main legal framework in exercising regional autonomy in Indonesia.

The Constitution 1945 has four time of amendment change, include of the article 18 which has stipulated the following points as a product of amendment inter alias;

1. The Unitary State of the Republic of Indonesia shall be divided into provinces and those provinces shall be divided into regencies (*kabupaten*) and municipalities (*kota*), each of which shall have regional authorities which shall be regulated by law.
2. The regional authorities of the provinces, regencies and municipalities shall administer and manage their own affairs according to the principles of regional autonomy and the duty of assistance (*tugas pembantuan*).
3. The regional authorities shall exercise wide-ranging autonomy, except in matters specified by law to be the affairs of the central government.
4. The regional authorities shall have the authority to adopt regional regulations and other regulations to implement autonomy and the duty of assistance
5. The structure and administrative mechanisms of regional authorities shall be regulated by law

The regional autonomy is regulated on the Law No. 32 year 2004 on The Regional Government. According to the Law No. 32 year 2004, the

regional autonomy shall refer to the rights, authorities and obligations to regulate and take care of own government affair, and the interest of the local communities according to the laws and regulations. Meanwhile the regional autonomy, hereinafter referred to the region, shall refer to the legal community unit having the regional borders authorized to regulate and take care of government affairs and the interests of the local communities in correspond to their own initiatives based on the public aspirations within the system of the Unitary State of the Republic of Indonesia.

According to the Law No. 32 year 2004, the authorization to the region for the regional autonomy means an embodiment of broad, factual and accountable autonomy. The broad autonomy is refer to an entire governance administration except for (central) governmental affair which are matters related to foreign policies, defense, security, judicial, national monetary and fiscal; and religious.

In article 22 Law No. 32 year 2004 it is stated that in running the autonomy, the regions must protect the communities, maintain national unity, integrity and harmony, as well as the ensurance that the Unitary State of the Republic of Indonesia will remain intact. Further, it is also stated that the region must draft and execute laws and regulations in correspond to their respective authorities.

Based on the above regulation, it can be concluded that the region has obligations to draft and execute the Law in order to provide a public protection (within their authority). As this is an obligation, regional administrative must prepare necessary public protection measures include regional regulation preparation meassures.

In related to tsunami disaster risk reduction effort through tsunami early warning system, one of the regional administrative efforts in providing public protection is to prepare a legislation instrument, through regulations either in provincial level and regency/municipal level, or through governor or regency/municipal decree on early warning system.

The Early Warning System regulation is urgently required as the disaster is directly impact the disaster-prone regions from County/city up to villages level.

Beside, the regulation will optimized the implementation of the Early Warning System i.e., the hazard and risk mapping; the monitoring and forecasting procedures; the dissemination of understandable warning to public and political authority; and the reaction meachanism of effective respond to the warning in timely basis.

6.2 Regional Regulation (Perda) Arrangement

According to the Law No. 10 year 2004, the Regional Regulation draft can be originating d from the DPRD or the head of regions. A regional regulation arrangement is being initiated only in a condition when there is

an emerging problem which its prevention or solution require a new regional regulation. In general elucidation of Law No. 32 year 2004 on Regional Administration stated that in the regional government administrators in implementing the duties, obligations, and Responsibilities over the power of Laws and regulations with higher legal status may apply regional policies that are formulated in, among others, regional regulations, regional head regulations and other regional provisions. Such regional regulations may not contradict the Laws and regulations that contradict laws and regulations with higher legal status, the public interests and other regional regulations.

The regional regulation arrangement is essentially a logical problem solution. The regional regulation draft must consist of recommendations of identified and formulated specific problem solution. Empiric studies through public consultancies and inter institutional discussion must be obtained in the regional regulation drafting process.

Generally, there are six (6) steps in drafting a new regional regulation. The following are general description of each step, i.e.:

- Step 1: The Problem identification
- Step 2: The Legal baseline identification include how the local regulation solve the problem
- Step 3: The Academic white paper composition.
- Step 4: The public consultancy performance
- Step 5: The local house of representative discussion
- Step 6: The Local Regulation authorization

It is necessary for the regions to pursue the above steps when arranging the regional regulation for early warning system in order to achieve a comprehensive substance of the regulation.

7. THE LEGAL ASPECT OF THE TSUNAMI EARLY WARNING SYSTEM IN INDONESIA

7.1. Basic Concept of The Tsunami Early Warning System

According to Glossary of Term published by The United Nations Development Programme (UNDP), the early warning is “The provisions of timely and effective information, trough identified institutions, that allows individual exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response”. And then it stated that Early warning system includes the chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending event; processing and disseminating understandable warnings to political authorities and the populations, and undertaking appropriate and timely actions in response to the warnings⁵.

⁵ The definition is informal and only being used as reference or liberate comparisson. The similar definition has been published by the International Strategy for Disaster Reduction Secretariate (ISDR).

The definition of the system is a group admission of real or abstract entities/objects in unity with an integrated component/element from one to the other.

Based on above definition, it can be concluded that early warning system is an integrated chain of warning activities through formal institution in order to provide of timely and effective warning to the society that enable them respond to the warning in effective and timely basis.

7.2. Tsunami Disaster

The word Tsunami comes from the Japanese,"tsu" which means harbour and"nami" which means wave. Generally it means huge surging sea water at the sea port.

Tsunami could be interpreted as well as a long period of sea waves caused by impulsive disturbances from the sea bed, i.e. earth quakes, volcanic eruption or landslide.

Tsunami usually caused by a dislocation movement following the aftershocks of huge mass of soil/rocks, or underwater landslide, or underwater volcanic eruption.

7.3. The Legislation Concerning Tsunami Early Warning System

A study on related legislation has been completed to review legal frameworks for disaster management in Indonesia, especially in relate to the Tsunami Early Warning System (TEWS).

1. Constitution 1945 (UUD 1945)

The fourth alinea of the Preamble of the Constitution 1945 stated that "Further, in order to establish a government of the State of Indonesia which shall protect the whole Indonesian people and their entire homeland of Indonesia, and in order to advance their general welfare...and so on."

Article 12 states that it is the President, with the agreement of the House of Representatives, who has the authority to declare a state of emergency. The conditions governing and the consequences of the state of emergency shall be laid down by law.

Next is article 28G Article (1) which states that "Every person shall have the right to protection of his/herself, family, honour, dignity, and property, and shall have the right to feel secure against and receive protection from the threat of fear to do or not do something that is a human right".

Follows by article 28H Article (1) that states " Every person shall have the right to live in physical and spiritual prosperity, to have a home and to enjoy a good and healthy environment, and shall have the right to obtain medical care".

Article 34 states that:

- (1) Impoverished persons and abandoned children shall be taken care of by the State.
- (2) The state shall develop a system of social security for all of the people and shall empower the inadequate and underprivileged in society in accordance with human dignity.
- (3) The state shall have the obligation to provide sufficient medical and public service facilities.
- (4) Further provisions in relation to the implementation of this Article shall be regulated by law.

Based on the above provisions, it can be concluded that the **Government has obligation to provide protection** toward people rights such as the right to live, the right to protection of his/herself, family, honour, dignity, and property, and the right to feel secure to get protection for one self and their assets especially in the state of emergency.

Inrelation to the disaster risk reduction through Tsunami Early Warning System (TEWS), it is clear that the Constitution 1945 has provided a legal foundation to the government to prepare a legislation instrument as government manifestation in providing people rights protection.

2. Law No. 74 / 1957 on Revocation of "*Regeling Po de Staat Van Oorlog En Beleg*" and Stipulation of "the State of Emergency".

Law No. 74 Tahun 1957 is a form of government manifestation to give protection for the people as mandated on the 1945 constitution, especially to the people when the state is under a dangerous situation.

On the legislation, it is described what is the meaning by under dangerous situation, as explained on Article 1 paragraph (1) which states that the whole area or every part of the Indonesia's area can be stated under a dangerous situation by the instruction of emergency situation or war emergency, from the President on behalf of the Dewan Menteri's decision when

- a. The security or public order in every area or in a part of Indonesia is threatened by insurgency, riots or natural disaster; which are not manageable by general state apparatus.
- b. A breaking of a war or a danger of war or if there is an immediate concern on the forced occupation of Indonesia area.

On paragraph (2) it is stated that a “clear status’ of dangerous situation can be decided by the President on behalf of the Ministerial Council decision, except for the arm struggle situation which can only be ended by the Law.

Based on the principles, it can be concluded that the President on behalf of the Ministerial Council decision can state the status of dangerous situation affected by natural disaster.

In relate to the EWS, the law authorized President to announce and relay to the public a dangerous situation of the state, in which the next action is to respon the situation.

Even though this regulation has not clearly implied the procedures that have to be taken to respon the danger, the understanding on natural disaster and EWS, and/or a number of conditions which is linked to a disaster or early warning system has already introduced.

3. Government Regulation as Law substitution No. 23 of 1959 concerning Revocation of Law No. 74 of 1957

Government Regulation as Law substitution No. 23 of 1959 concerning Revocation of Law No. 74 of 1957 is formalized under an extreme circumstances, as the Constitution 1945 has been taken immediately into effect.

The substances on the Government Regulation as Law substitution No. 23 of 1959 concerning Revocation of Law No. 74 of 1957 is similar to substance of the Law No. 74 of 1957 which describes on dangerous situation condition as mandated on Constitution 1945.

The main differences are:

- a. The legal basis of the Law No 74 of 1957 is a Temporary Constitution (LawDS) 1950, while the legal basis for the Government Regulation as Law substitution No. 23 of 1959 is the Constitution 1945.
- b. The difference on the dangerous level. On Law No 74 of 1957 there are two stages of dangerous situation which are emergency situation and war situation, while on Government Regulation as Law substitution No. 23 of 1959 there are three stages of dangerous situation which are civilian emergency situation, military emergency situation and war emergency.

On this Article 1 Government Regulation as Law substitution No. 23 of 1959, it states that President as the Supreme Military Commander is authorized to state dangerous situation in all or part of the State of Republic of Indonesia caused by civilian emergency, military emergency or war emergency situation. The state of dangerous situation is stated when the area of Indonesia is threatened by

uprising, riots or natural disaster, war, and special situation which can be critical to the State. The 'all clear' status from dangerous situation is exercised by the President as the Supreme Military Commander.

On the Government Regulation as Law substitution No. 23 Year 1959, an institution in the form of "Badan" (an Agency) is introduced and has a role in assisting President as the Supreme Military Commander to bring back the situation under control (natural disaster included), as it is implied further on Article 3 which states that in the process of having power over civilian emergency situation/military emergency situation/ war emergency, President as the Supreme Military Commander is to be assisted by an agency which consist of Menteri Pertama (First Minister) , Menteri Keamanan/Pertahanan (Security/Defense Minister), Menteri Dalam Negeri dan Otonomi Daerah (Home Affairs and Regional Autonomy Minister), Menteri Luar Negeri (Foreign Affairs Minister), Head of Arm Force, Head of Navy, Head of Air Force, and head of State Police Force.

On this regulation, the roles/ functions and activities of each institution are not clearly described, especially when a disaster occurs. On the Government Regulation as Law substitution No. 23 of 1959, the agency only arrange the authority and activity the 'man' in power under civilian emergency situation on the central government,

which are :

to have rights to search every places, investigate and confiscate belongings which might be used or will be used to disturb the security and to limit or ban the usage of the particular belongings,.to have rights to take or use official belongings, to know every news and discussions, to ban or cut the relaying of news or discussions by the phone or radio, to limit or ban the use of codes, secret writings, secret publishing, steno writing, pictures, signs, also the use of other languages but Indonesian, to set rules to limit or use the use of telecommunication instruments such asphone, telegraph, radio broadcaster and other instruments which can be connected to broadcasting radio and can be used to reach general public, and also to confiscate and destroy the instruments, to have rights to limit people whereabouts outside a house.

Furthermore, the interest of Civil Emergency Authority in enforcing the rules and respons is also regulated that the member of police institution, institutions to prevent the air hazards, fire department and officials or other security agencies are subordinate to Civil Emergency Authority

To exercise power over dangerous situation in a region, President as the Supreme Military Commander is appointing Kepala Daerah (Head of Region), the lowest is from a subdistrict, to act as Penguasa Darurat Sipil Daerah (Regional Civil Emergency Authority). The position is supported by an agency which consist of

- a Highest Military ranked from the related region;
- a Head of Police from the related region;
- a Supervisor/ Head of Prosecutor (Pengawas/Kepala Kejaksaan) from the related region.

To maintain public order and security, the Regional Civil Emergency Authority has rights to issue a number of regulations that might be needed, as implied on Article 10.

Based on the previous factors, it can be deduced that the President is able to:

- a. Formalize a dangerous situation
- b. Form an agency consist of many elements, in central or regional level
- c. lift (“all clear”) the state from dangerous situation
- d. Provide responsibility and delegate part of its authority to a region as to formulate rules.

The substances on this Law (Perpu) regulates dangerous situation in general, but there is no provision sepecifically regulate an emerging dangerous of natural disaster.

In relate to TEWS, the Law does not have direct correlation. However, the Law has introduced one component of early warning concerning on who has the rights to announce information on a dangerous situation which is the President.

4. Government Regulation as Law substitution No. 52 of 1960

This Law is only a final accomplishment of the Article 43 of Law No. 23 Year 1959 on Dangerous Situation. Article 43 paragraph (5) states about the placement for a certain people considered as potential to disturb security in the process of normalising (controlling back) the dangerous situation.

On Article 43 (5) Law No. 23 Year 1959, it states that the place assigned is based on paragraph (1), and this Article is under the jurisdiction of Department of Justice.

The Law No. 52/1960 change the Article 43 paragraph (5) to the following statement: “the place assigned as a place to stay is based on paragraph (1), and this Article (Articles) is under the jurisdiction of National Security Minister”.

In relate to TEWS, the substances of Perpu does not have a direct correlation, as it only regulates on a change of a particular article which has no link with EWS.

5. LAW NO. 11 / 1967 ON THE GENERAL GUIDANCE FOR MINING

The Law consists of 12 Chapters and 37 Articles. The Law does not explicitly regulate matters relating to disaster management. However if it is linked with the hazards condition, the Law has regulated characteristic of biologic hazards such as epidemics or outbreaks of diseases.

On Article 30, it stated that “After a mine completed, the Mining License Holder has the obligation to make reclamation process on the mining areas; inside and outside the mining license’s area to avoid any epidemics or other hazard risk against the surrounding communities”.

Furthermore, the Elucidation of Law 30 stated that “the Mining License Holders have the obligation to maintain the mining areas so that when a mine has completed the areas are not causing outbreak cases against the surrounding people.

The Law does not regulate disaster preparedness measures for the epidemic risk reduction. The Law only emphasizing on the post-mining activities management aspect, and does not consider risk possibility during the mining activities. Beside, the Law does not describe post-mine land function recovery mechanism and/or procedures.

The provision is stated that the Minister of Energy and Mineral Resources who responsible for the supervision of the mining activities.

In regard to the Tsunami Early Warning, the regulation does not have a direct correlation and can not be used as a legal framework for TEWS. However, the Law has introduced one of disaster management component, i.e. the environmental rehabilitation efforts.

6. LAW NO. 6 / 1974 ON SOCIAL WELFARE

The Law consists of 5 Chapters and 12 Articles. This Law regulates assistance effort of the government in the social welfare aspect. The effort covers social assistance to citizen, both individually and collectively, who lost their social roles or affected by either social or natural disasters, or other incident. Furthermore, Article 4 regulates the above provision completely as in the following:

(1) The Government efforts in the social welfare aspect are:

- a. The social assistances to citizen, individually or collectively, who lost their social roles or affected by either social or natural disasters, or other incident

- b. The maintainance of the social welfare level by running a social insurance system;
- c. The tutoring, training and social rehabilitation, within which the inclusion of disadvantaged, abandoned, and disoriented individual or a group to the society are taken into account;
- d. The capacity building and social coaching to improve dignity, humanitarian and cooperation.

(2) The implementation of the Government effort as stated in paragraph (1) of this article is regulated by legislation

The further analysis has concluded that The Law regulates the efforts of the government in providing assistance to the citizens who suffers **during disasters event**. However, the Law does not explicitly describe on how and in what form the social assistance shall be provided.

The Law also presents two disaster types, i.e. social disaster and natural disaster; however the Law does not further explained in details the meanings of both types.

The provision on Article 4 paragraph (2) of this Law does not explicitly stated which form of a legislation will regulate the follow up of the government efforts in the social welfare, whether in the form of Government Regulation (*Peraturan Pemerintah*), President Decree (*Keputusan Presiden*), or Minister Regulation (*Keputusan Menteri*).

This Law does not verify which institution responsible for the implementation of the governments' efforts in the field of social welfare.

Based on this, it can be concluded that the Law does not have a direct correlation with TEWS or in other words the Law can not be used as a legal framework for TEWS.

7. Law No. 4 Year 1984 on Contagious Diseases

The Law consists of 9 Chapters and 17 Articles.

Article 1 states the meaning of contagious diseases as event of a disease when infects outsized number of community in certain areas and time and potentially cause a disaster.

The objective of the Law is to provide as early as possible a protection to people from outbreak disaster, in order to enhance the community ability in having well life.

The Minister of Health is authorized to declare which certain area in Indonesia is having epidemic and also authorized to cancel the previous declaration when the outbreak has ended.

The efforts of epidemic management covers:

- a. Epidemiologist investigation
- b. Patient examination, medical treatment, nursing, and isolation, include quarantine;
- c. Prevention and immunisation
- d. Disease sources extinguishment
- e. Deceased management.
- f. Community training and education
- g. Other prevention measures

The responsibility of epidemic management lies on the government.

The Law does not provide a comprehensive mechanism for government (or society) in epidemic management effort from planning up to the implementation in pre-disaster, during and post-disaster.

The Law considers as excessively general regulation as it is revealed on the limited number of the Articles by which nearly the entire provision will be followed up by different type of legislation, particularly the provisions on declaration and cancellation mechanism, central and local government roles and responsibilities, and community roles. This will affect the effectiveness of the implementation especially when the epidemic occurs.

Based on this, it can be concluded that the Law does not have direct correlation with EWS or in other words this Law can not be a legal framework for EWS.

8. Law Nomor 5 Year 1990 on Conservation of Biodiversity and Ecosystem

Law No. 5 / 1990 consists of 14 Chapters and 45 Articles regulate the government effort and community on biodiversity conservation and ecosystem.

According to the Law, Biodiversity conservation is management efforts for biological resources to attain sustainable utilization through maintenance and improvement of the biodiversity quality. Ecosystem is a system of mutually dependent relationship among natural elements, either biological or non-biological.

The articles of the Law does not explicitly regulate disaster management or in relate to tsunami early warning systemy. However, the substance of conservation effort of the government as regulated in the law is considered as prevention effort against potential hazard or disaster risk. Besides, the Law regulates the steps in managing conservation areas when a disaster occurs.

Article 3 of the Law states that biodiversity conservation ecosystem is aimed to achieve a sustainable biological natural resources and a

stable ecosystem in order to support the improvement of social welfare and human quality. The provision clearly states that a conservation effort is part of government efforts to improve the people welfare.

Article 5 of the Law states that the biodiversity conservation and ecosystem is conducted through a protection activities of life supporting system. Life protecting system is a natural process of various elements, both biological and non-biological, which ensure the living existence of all well being.

The protection of life supporting system is aimed to ensure the maintainance of ecological process which supports the living existence of well being and to improve people's welfare and quality of life.

Article 8 of the law regulate the Government in order to achieve the above objective shall specify particular area as a protected area for life supporting system.

Article 10 of the law states the areas of life supporting system which has suffered from a natural and/or man-made damage and other causes shall be rehabilitated with a planned and sustainable rehabilitation effort. Further, the explanation of this particular Article specify the life supporting system which damaged by natural disaster i.e. land slides, erosion, forest fires and earth quake, or caused by inappropriate usage and other means, shall immediately undergo the rehabilitation process to recover its function accordingly. The Rehabilitation requires community participations, especially who have rights for the area.

Based on above article, the Law No. 5/1990 is clearly regulate one of the disaster management step, i.e. post-disaster rehabilitation effort, particularly for areas of the life supporting system. However, **the Law does not clearly specify who should implement the rehabilitation activities**, beside the Law does not clarify the meaning of planned and sustainable rehabilitation, as well as the procedures.

On Article 35, it well stated that under specific condition and when urgently required to conserve and recover biodiversity and ecosystem, the government are authorized to end, either partially nor entirely, any utilization practices and to close national park, national forest and park for a period of time accordingly. Further, the description of "under specific condition and when urgently required" is a specific damaged condition and situation in the conservation area affected by natural disasters (volcanic eruption, the toxic gas outburst, and the forest fire), and by continuous usage that endanger visitors or the life of flora and fauna.

The Law has arranged one aspect of disaster management; however it does not arrange the early warning system aspect and does not have a direct correlation with TEWS.

9. Law Number 23 Year 1992 on Health

The Law states that Health is a prosperous condition of body, soul and social which enable person to live in socially and economically productive way.

The health efforts are every activity to maintain and improve health carried out by government and/or community.

The Article 4 of the law states that every person has the equal right in obtaining an optimum level of health. Further on, Article 6 states that the Government has a role to regulate, promoting, and supervising the implementation of health efforts.

The provisions states that the government and/or the community, cooperatively or independently, shall exercise health efforts. The regulation shall be arranged by the Government

Article 31 states that the eradication of contagious disease, which potentially turn into epidemic and illness, shall be exercised through quarantine efforts in accordance to the existing laws.

In relate to the disaster management (contagious disease is a form of disaster), the Law has clearly regulates that the operational arrangements shall be made in accordance to regulations of the Law No. 4 / 1984 on Contagious Disease.

The Law does not specifically arrange the EWS aspect and does not have a direct correlation with TEWS.

10. Law Number 24 Year 1992 on Spatial Planning

According to the Law, the meaning of the **spatial planning** is a space planning, handling (usage), and controlling.

The Article 3 of the Law states that the objectives of the spatial planning are as the following:

- a. To achieve an environmental-oriented space usage based on the archipelagic concept and National defense;
- b. To achieve a spatial usage regulation of the protected and conservation areas;
- c. To achieve a spatial usage of areas qualified for the following achievement and improvement:
 - 1) Achievement of intelligent; honorable; and prosperous nation lives.

- 2) Achievement of integrated usage of natural and artificial resources by taking into account human resources.
- 3) Improvement of the usage of natural and artificial resources efficiently, successfully, and accurately to increase human resources quality.
- 4) Achievement of protection of the spatial function, and of prevention and management the negative impacts of the environment.
- 5) Achievement of stabilization of prosperity and security interest.

The analysis for the provisions is that the spatial usages regulations are aimed to manage the inter-relation among various space-functioned activities to achieve qualified space usages. In relation to tsunami disaster management, the effort on coordinated and integrated planning and usage for the coastal areas considered as one of the disaster risk reduction effort.

The Article 7 of the Law states that spatial Arrangements is based on the main function of an area which covers from protected to conservation area. On the Elucidation Article, it is stated that the classified as protected area are protected forest, turf area, water conservation area, coastal area, river area, area around a lake/dam, springs, conservation area on nature, sea and the surroundings, mangrove area, national park, national forest and nature park for tourist attraction, cultural and science park, and area prone to natural disaster.

When the above provision is linked to disaster management, it is clearly stated that spatial planning regulations shall addressed all protected areas prone to disaster. Besides, the Law on Spatial Planning has explicitly regulated disaster management efforts to conservation areas prone to disaster, even though the provisions does not further explain the nature of disaster prone areas include the spatial planning mechanism for those areas.

Further, although the Law regulates one component of the disaster management, it does not regulate the Early Warning System.

11. Law Number 23 / 1997 on the Environment Management

According to the Law, the environment management is integrated efforts to preserve the function of the environment include arrangement policies, usages, development, maintenance, recovery, monitoring, and management efforts on the environment.

The Law Number 23 / 1997 consists of 11 Chapters and 52 Articles. The Law states that the Government Authority in the Environment management is to regulate and develop policies, as well as to control activities which have social impacts (Article 8).

The Elucidation of the Law describes “social impacts” as activities which has an effect, culturally and structurally, to the public interest. Thus, the Government shall take in charge on the license issuance, preventive regulation development or prohibition address to any parties who will implement activities in relate to environment. The control activities shall liable from prior, during, and after the implementation of environmentally risk-activities. However, the Law does not further describe in detail on the meaning of culturally and structurally public interest, or whether disaster is a part in socially impacted activity.

The Law does not provide regulation on disaster management, instead, as regulates in Article 35 paragraph (2), only provide deliverance and/or liberation from damage compensation to the license holders for their activities causing environmental damages or pollution, as long as they are able to verify that the damage and pollution is caused by natural disaster.

The Law neither regulates nor having direct correlation with Tsunami Early System.

12. Law Number 41 Year 1999 on Forestry

The Law No. 41 / 1999 consists of 17 Chapters and 84 Articles, which principally regulate the forest usage and management in Indonesia. The Law does not have a clear regulation on disaster. However, the Law indirectly implies the disaster impact management like floods, as it stated that the Government shall defined a protected forest area for the certain purposes. the Article 8 paragraph (8) states that Protected Forest is an area of forest which has a main function as a protection to life supporting system as water conservation, floods prevention, erosion control, sea water intrusion prevention and fertilized soil preservation.

Based on the above definition, the Law only provide information that to prevent natural disaster impact the government shall define a protected forest are. The Law neither regulates EWS aspect nor having direct correlation with TEWS.

13. Law Number 22 year 2001 on Oil and Gas

The Law No. 22 / 2001 on Oil and Gas consists of 13 Chapters and 67 Articles. The law does not regulate directly the disaster, however, as regulated on Article 40, the Business entities or permanent establishment shall guarantee the working safety and health condition as well as the environmental management and abide by provisions of laws in force in the petroleum and natural gas related business activities.

The Law further states that Business entities or permanent establishment shall guarantee the environmental management in the

form of obligations to prevent and overcome pollution as well as to restore the environmental damages, including obligation of post-mine operation.

The Law has indicated disaster-risk prevention by obligating the Business entities or permanent establishment to conduct recovery activities to mine areas as it origin.

The provision is intended as an effort to avoid the negative impact toward the environment around the mining area such as pollution, outbreak, or other disaster like land slides floods and so on. However, the Law does not regulate the EWS aspect.

14. Law Number 3 Year 2002 on State Defense

The substance of Law No. 3 / 2002 has indirect linkage towards disaster in the frame of state defense.

The Law explains that state defense is one of the government functions in the achievement of the national goal through a unitary state defense, which is to protect the nation and citizens of Indonesia, to improve people's welfare, to educate the society and to participate in the world orders based on freedom, everlasting peace and justice.

The Article 9 of the Law states that every citizen has a right and responsibility to defend the country and it is incorporated in the state defense. The civil participation shall be in the form of the services as in accordance to their profession. The Elucidation of the law, describe the services as in accordance to their profession is a services of professional citizens for the state defense interest include the natural disaster management or other type of disaster.

The Law has enforced every citizen particularly who have profession to participate in disaster management in which tsunami is included. However, the Law does not explain further the disaster management mechanism and any other effort that can be done by the community.

15. Law Number 2 Year 2002 on Police Institution

The Article 13 of the Law states that the Police Institution of the Republic of Indonesia has main roles (a) to maintain public security and order, (b) to uphold the Law and (c) to provide protection, safety, and service to the community.

Further, the Article 14 also states that the form of protection to the community covers protection over life, property, people and environment from disturbances and/or disaster which includes provision of rescue and assistance. The Indonesian Police Institution

also has a role to serve temporarily needs of the community until other institutions handle the services.

According to the Law, it is clear that the police institution has major roles in disaster management. They are in the front line when disaster strikes particularly in providing rescue, assistance, and protection for the live and property of the community.

The Law and its Elucidation do not describe in detail the definition of disaster, therefore we can interpret the disaster as mentioned in the Law is any type of natural and man-made disasters such as tsunami, earth quake, environmental pollution, outbreak, etc.

The Law is consider general and do not contain regulation that specify EWS as risk reduction effort of the Police Institution.

16. Law Number 32 year 2002 on Broadcasting

The Law does not regulate information dissemination on disaster. The Law only regulates which and what type of broadcasting institutions are authorized to disseminate information and/or to conduct broadcasting to public.

The Law states that the broadcasting institution is a mass communication media which has a significant role in the society, culture, politic, economy and posses freedom and responsibility in conducting its roles as media for information, education, entertainment, sand social control and link.

The Article 1 of the Law states that Broadcasting Institutions, that are public, private, and subscribed broadcasting institutions; shall base their roles, functions and responsibilities on the existing legislations.

According to the Law, broadcasting is defined as an activity of mass relay program by means of broadcasting facility and/or transmission on land, water or space and using a spectrum of certain radio frequency by air, cable, and/or other media that are directly and simultaneously receivable by the general public through specific receivers.

The Law also states that the contents of relayed program shall contain information, education, entertainment, and benefits for the development of intellectual, character, moral, improvement, nation potency, harmony and unity, and carry out religion values and Indonesian cultures. Further the law prohibits any contents of slander, provocation, mislead, deceive and/or deceit.

The provision of The Law can be concluded that the information dissemination mechanism is including disaster information which can be disseminated through broadcasting institutions recognized by the Government and Law. The content of the disseminated information

and/or news to public shall be accountable and reliable to avoid confusion and misled outlook among the community

The Law can be used as reference for the Early warning System particularly in relate to the disaster information dissemination.

17. Law Number 32 Year 2004 on Regional Government

As previously described, the Law number 32 Year 2004 is legislation on the regional autonomy which is directed to speed up the public welfare through the improvement, services, empowerment of the public role. The regional authority as arranged in the law are include the drafting and execution of regional policies in providing service, roles, initiatives, and community development which aimed to improve public welfare.

The direct link of the law to regional disaster management is in corresponds to the regulation on the regional revenues.

The Article 157 of the Law states that the sources of the regional revenues comprise of the purely regional revenue; balance funds; and other legitimate revenues. According to the Elucidation of the Law the term “other legitimate revenues” refers to among others regional grants and/or emergency funds from the Government.

According to Article 164 paragraph (3) the emergency fund revenues shall be the Central Government aids taken from the State budget to the regional administration to fund emergency needs resulting from certain occurrences that cannot be covered from the Regional Budget. As in the Elucidation of the Law, the term “certain occurrences” refers to among others natural disasters.

The Article 165 of the Law states that a condition that may be categorized as a certain occurrences shall be stipulated with Presidential Decree. On paragraph (2); Clause 2; the amount of emergency fund allocation shall be determined by the minister of Finance in view of the opinions from the Minister of Home Affairs and related technical Ministers.

Based on the above provisions when disaster occurs to a region, the fund allocation can be acquired from Regional budget or from the Central Government taken from National Budget. The direct aids from the central government acquired only if the regional budget cannot cover the emergency expenses resulting form the natural disaster. The aids procedure from the Central Government shall be stipulated by the President through Presidential Decree. Nevertheless, first of all the Minister of Finance along with other related technical ministers shall determine the amount of funds that can be allocated to the region for disaster management.

The provisions only covers fund provided by Central Government for natural disaster response, exclude man-made disaster. Further, the Law does not describe in detail the term of natural disaster.

18. Law No. 33 year 2004 on Fiscal Balance between the Central Government and the Regional Government

The Article 2 of the Law states that a revenue sharing between the central Government and the regional government is a subsystem of the State Finances as a consequence of the sharing tasks between the central government and the regional government.

A Revenues sharing between the central Government and the regional government is a comprehensive system in the funding of decentralization; Deconcentration and Co-administrated tasks.

The Article 5 of the Law states that the Regional Revenues derives from purely regional revenue; balance funds; and other legitimate revenues. The provisions are similar to the Law No. 32 / 2004 on Regional Government. Hence, the direct link of the law to regional disaster management is in corresponds to the regulation on the regional revenues

19. Law Number 7 year 2004 on Water Resources

Some articles of The Law provide regulations that can be linked to disaster management. The Article 38 Paragraph 1 states that the development of functions and benefits of rain water should be conducted by developing of weather modification technology. The Elucidation of the Law states that weather modification is an effort by utilizing weather parameters and conditions at certain locations for the purposes of minimizing natural disaster impacts caused by weather seasons and climate such as draught, flood and forest fire.

Based on the provisions, it can be concluded the activities of modification weather technology development by considering particular requirement are aimed to minimize a natural disaster impact. The Law also regulates prevention efforts towards possible emerging negative impacts.

The Article 51, states:

1. The control of water damaging potentials should be conducted thoroughly and comprise preventive, handling and recovery efforts.
2. The control of water damaging potentials as intended under paragraph (1) should be prioritized for preventive efforts through water damaging potential planning that is integrally and thoroughly prepared in the water resources management pattern.
3. The control of water damaging potentials as intended under paragraph (1) should be organized by involving the people.
4. The control of water damaging potentials as intended under

paragraph (1) should be the responsibility of the Government, regional government, and the water resources manager in the river areas and of the people.

The Elucidation of Article 51, states what is intended by water damaging potentials includes:

- a. Flood;
- b. Erosion and sedimentation;
- c. Land slides
- d. Cold lava flood;
- e. Sunk soil;
- f. Change of water chemical, biological, and physical nature and content;
- g. Threat to distinction of certain flora and/or fauna;
- h. Epidemics;
- i. Intrusion; and/or
- j. Infiltration.

Article 53 regulates:

- (1) Preventions as intended under Article 51, paragraph (1) should be conducted through physical and/or non-physical activities through upstream and downstream balancing of river areas.
- (2) Preventions as intended under paragraph (1) should be prioritized for non-physical activities.
- (3) Activity selection as intended under paragraph (1) should be made by the related water resources manager.
- (4) Provisions on the prevention of damages and disasters caused by water damaging potentials will be regulated further by a government regulation.

The Elucidation of Article 53 states that physical activity is a construction of facilities and infrastructures and other efforts to prevent damage/disaster resulting from water damaging potentials, whereas non-physical activity constitutes software, buildings, and/or application including among others the arrangement, development, supervision, and control. Upstream and downstream balance of river areas is the balance between conservation effort activities at the upstream areas and the utilization at the downstream areas.

Article 54 regulates that:

- (1) Water damaging potentials handling as intended under Article 51, paragraph (1) should be conducted by disaster mitigation.
- (2) The handling as intended under paragraph (1) should be conducted integrally by the related agencies and the people through a national, provincial, and regent/municipal level disaster handling coordination agency.
- (3) Provisions on the handling of damages and disasters caused by water damaging potentials will be regulated further by a

government regulation.

Elucidation on Article 54 paragraph (1) states that mitigation of disasters comprise activities to relieve suffering caused by disasters, for instance the supply of evacuation facilities and emergency repair of collapsed dams.

Article 55 states:

- (1) The handling of disasters caused by national scale water damaging potentials should be the responsibility of the Government.
- (2) Disasters caused by national scale water damaging potentials should be stipulated by a presidential decree.

Article 56 states:

Under emergency situations, the governor and/or regent/mayor will be authorized in taking emergency measures for the purpose of handling water damaging potentials as intended under Article 55, paragraph (1).

Elucidation of Article 56 states:

Emergency situation or endangering condition constitutes an extraordinary water condition that goes beyond the limit of the plan which if no emergency action is taken is considered to potentially incur a greater disaster to the public safety.

The Law has a clear arrangement on disaster management. Compare to others legislation the Law considered to be the most comprehensive one in the disaster management. The Law also introduced term disaster mitigation and emergency situation. Furthermore, the Law also introduces a mechanism and/or procedures on how to manage disaster from prevention, mitigation, response and recovery. The law also arranged the role of central government, regional government and community in disaster management.

The Law no 7/2007 on Water Resources can be used as a foundation for a formulation of disaster management legislation as it has comprehensively introduced terms and mechanism of the disaster management.

However, the Law does not clearly determine the early Warning System Component, particularly Tsunami early warning system.

Further, the arrangements on the Law in regard to disaster still limited to prevention efforts and emergency response efforts which should be organized by related sectors in accordance to Law.

20. Government Regulation of Republic of Indonesia Number 50 year 2005 concerning the Performance of the Private Broadcasting Institutions.

The Government Regulation is one of implementing legislation of the Law number 32/2002 on Broadcasting.

The Government Regulation is arranged by the Government coordinated by Minister whose role and responsibilities is in the scope of communication and information.

The substances of the Government Regulation is in relates to broadcast and radio frequency spectrum for the interest of radio and television broadcasting performance by private broadcasting institution, include the license, broadcast performance, investment, ownership and control cancellation and cross ownership, relay station system, basic technical plan and technical inquiry for broadcast equipment, and administrative sanction.

The Government Regulation states that the Private broadcasting institution is a certified and commercial broadcasting institution which exclusively provides broadcasting services through radio or television. The Private Broadcasting Institution established by exclusively Indonesian shareholders initial investment and/or Indonesian legal entities.

In this government regulation there is a specific regulation on the role and responsibilities of the Private Broadcasting institutions (PBI) as one of the supporting unit in the disaster management, as stipulated in the Article 17, Paragraph (10) and (11):

(10) The private broadcasting institution shall widely disseminate early warning information originated from the Government official sources on the possible disasters occurrences that are able to endanger life safety and cause destruction to public property.

(11) In case of national disaster occurrence, the Private broadcasting Institution shall widely distribute information from the Government Official sources in relate to disaster management in the phase of emergency.

The Elucidation of Paragraph (10) states that the Early Warning is an effort to inform the potential disaster affected society to prepare them in dealing with disaster condition. The Early Warning information covers detail of the possible disaster occurrence include safe zones that can be the evacuation places or to save life.

The Elucidation of Paragraph (11) states that the focus of the Private broadcasting Institution participation during the emergency response phase is to widely disseminate information of the community evacuation method, victims handling and disaster-affected locations to the society.

Based on the above regulation, the Private Broadcasting Institution is clearly bear a responsibility to disseminate information received from the government official sources on the early warning and possible

disaster occurrences, include evacuation mechanism and victims handling.

However the Early Warning concept as stated in the government regulation is different from the definition of the UNDP/UNISDR.

The UNDP/UNISDR definition on Early Warning is *“The provisions of timely and effective information, through identified institutions, that allows individual exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response”*.

The following are the summary of the analysis result toward the government regulation:

1. The UNDP/UNISDR definition on Early Warning considered to be more comprehensive than the definition from this government regulation
2. The information dissemination as regulated by this government regulation only focuses to information activities to the society and do not take into account the timely and effective information. Thus, the government regulation does not further arrange the timeframe or period of the information dissemination, whether the dissemination responsibility are urgently required or refer to a certain time limit.
3. The Government regulation does not clearly describe the meaning of the Government official institution
4. The Government Regulation does not regulate mechanism of information dissemination from the official institution to the Private Broadcasting institution

Despite of the above analysis, the Government Regulation number 50 / 2005 considered as one of the legal framework for the Early Warning System, particularly for the Private broadcasting Institution, both central and regional based, in the implementation of information dissemination of disaster early warning.

21. Regulation of The Minister for Communication and Information of The Republic of Indonesia Number: 20/P/M.Kominfo/8/2006 Concerning Early Warning for Tsunamis or Other Disasters Through Nationwide Broadcasting Services

The Minister Regulation specifically arranges the early warning mechanism for disasters to the Indonesian broadcasting institutions. The Regulations states that Radio and television broadcasting services delivered by nationwide National Broadcasting Services, Commercial Broadcasting Services, Community Broadcasting Services, and Subscription Broadcasting Services have the duty to transmit information on potential disaster as a STOP PRESS insert. STOP PRESS is the temporary putting on hold of an ongoing

broadcast to transmit early warning information after which the original broadcast is resumed.

The Early Warning Information is information on earthquakes identified by the Meteorological and Geophysics Agency (BMG) as having the potential of triggering tsunamis or other life-threatening disasters and is delivered as special to Broadcasting Services for transmission.

The Regulation also states that Television Broadcasting Services have the duty to transmit information as soon as possible and without delay upon receiving the information from BMG. Television Broadcasting Services follow the information with the transmission of a High Tone Alarm by generating a 1 KHz Test Tone for 30 (thirty) seconds and the concurrent transmission of full-screen static text containing the information void of interpretation.

The Regulation also arranges penal sanctions towards the violation against this Minister Regulation

The Regulation emphasize on the rapid and uninterrupted action taken by all broadcaster institution in transmitting early warning information on potential tsunami disaster received from BMG as the official government institution.

The following are the limitation of the Minister Regulation resulting to the possible ineffectiveness on the implementation:

- a. The minister Regulation consider as having a limited requisite Legal basis, given that both the consideration and substance of the regulation do not determine the arrangement of the minister regulation as an instruction and/or recommendation from the higher legislation.

As stated in the Law no. 7 /2004, Article 7, on the arrangement of the Legislation, the Minister Regulation is having a mandatory legal supremacy only as long as it is instructed by the higher legislation.

- b. The minister regulation states the early warning system is "...Earthquakes as having the potential of triggering tsunamis or other life-threatening disasters...etc"

Thus, the definition is different from the higher legislation i.e. the Elucidation of the Government Regulation Number 50 / 2005 on the Private Broadcasting institution, which states that early warning information is not limited to earthquake information as having the potential of triggering tsunami or other disaster, instead it include details information of potential disaster occurrences and information on locations for evacuation and for life saving.

- c. The minister Regulation does not regulate clearly the dissemination mechanism of early warning information from BMG to the broadcasting institutions.
- d. The penal sanctions as stated in this minister regulation is in contradictory to the Law number 10 / 2004 on the development of legislation in which states that penal sanction shall be regulated only by the Law and Regional Regulation.

Despite of above limitation, the minister regulation can be used as one of the legal basis for the Tsunami Early Warning System; nevertheless the regulations do not particularly regulate the Early Warning System Components.

The Minister Regulation is limited to the arrangement of the broadcasting institutions involvement in supporting the early warning information dissemination or other disaster to public based on the information received from BMG as official information sources.

22. Regulation of The Minister of Home Affairs of The Republic of Indonesia Number 33 year 2006 Concerning General Guideline for Disaster Mitigation

The article 1 of the Minister regulation states that the Disaster mitigation activities in regions is being conducted for the purposes of identifying potential disaster in the regions and implementing anticipation efforts.

The Regional administration shall consecutively perform the disaster management through institutional structure from Satkorlak, Satlak, Operational Unit, and Head of village/lurah.

The mitigation is defined as “efforts aimed to reduce disaster risks either natural or man-made disaster as well as combination of both in a state or society”

Disaster mitigation is part of disaster management. Meanwhile, the purpose of the guideline is to provide general guideline or supervision of the disaster mitigation efforts in Indonesia.

The guidelines states there are four main point in disaster management, i.e. 1) available information and maps of disaster risk areas in accordance to each disaster type; 2) socialisation activities to improve public knowledge and awareness in dealing with disaster, as they are living in disaster risk areas; 3) knowledge on what has to be done and what has to be avoided, and knowledge on how to do self rescue when disaster occurs; and 4) Regulation and management of disaster-prone areas to reduce the disaster risk.

The guideline explains potential each type disaster; include its mitigation effort, i.e. earthquake, tsunami, flood, volcanic eruption, landslide, tropical cyclone, forest and land fire. The guideline also describes policies and strategies in disaster mitigation, disaster management, as well as steps for the disaster mitigation.

One of the strategies being developed by the guideline for disaster mitigation is early warning. According to the guideline early warning is efforts to inform the level of activities resulting from continued monitoring activities in certain risk areas so that early preparedness can be carried out to anticipate the potential disaster occurrence.

According to the guideline, the early warning shall be disseminated to the society through regional administration with the purpose of providing public awareness on how to deal with disaster. The early warning and monitoring result of disaster-prone areas are in the form of technical advices as for instance shifting the street route (temporary or permanently); evacuation and/or relocation; and other management advices.

The general guideline states that necessary steps shall be taken to reduce risks when tsunami occurs, include:

- a. The improvement of alertness and preparedness toward tsunami hazard.
- b. The education and introduction to society on the characteristic of tsunami hazard
- c. The development of Tsunami Early Warning System
- d. The development of tsunami resistance barrier along the risk coastal line
- e. The planting of mangrove and other plants along coastal line to reduce tsunami speed
- f. The development of safe evacuation places surrounds the housing areas. The evacuation areas/building shall be higher and accessible to avoid tsunami run-up.
- g. The development of tsunami early warning system, specially in Indonesia
- h. The development of tsunami-resistance houses
- i. To understand the characteristic and signs of tsunami hazard in surrounding location
- j. To understand rescue method when tsunami are foreseen
- k. The improvement of alertness and preparedness in dealing with tsunami
- l. The provision of report as soon as possible when noticing the upcoming tsunami to in charged officers i.e. head of village, police officers, radio station operator, Satlak, etc.
- m. The self equipment by communication tools.

The following are the summary of the analysis result:

- i. The minister regulation is a guideline or general supervision in region
- ii. The disaster mitigation as described in the guideline considered as part of the disaster management. While early warning is one of the element or component in disaster mitigation.
- iii. The early warning as describe in the guideline is efforts to inform the level of activities resulting from continued monitoring activities in certain disaster risk areas so that early preparedness can be carried out to anticipate the potential disaster occurrence.
- iv. The disaster mitigation efforts of the regions should be performed consecutively through institutional structure.

The following are the limitation of the Minister Regulation resulting to the possible ineffectiveness in the implementation:

1. The minister regulation is a general guideline only therefore this considered as non-legally binding resulting to possible ineffectiveness in the implementation.
2. There is inconsistency between Article 1 and the annex of the minister regulation on the guideline objective. The article 1 concludes that the arrangement only addressed to disaster mitigation activities in regions, while the annex conclude that the arrangement addresses to disaster mitigation activities in Indonesia, which can be interpreted as nation widely effective include to the central government.
3. The early warning system stated as one of the necessary steps to reduce tsunami risk. However the guideline does not further specify in detail on what kind of steps need to be done in regions for the development of early warning system.
4. The role of related sector for instance BMG does not clearly defined.
5. The general guideline states four main points in the disaster mitigation, however the four points do not systematically described.

Based on above limitation, the minister regulation cannot be considered as the legal basis for the Tsunami Early Warning System; however the regulations is one of the main references that is useful for the region in developing regulation on Tsunami Early Warning System.

23. Draft of Disaster Management Bill

The Draft of Disaster Management Bill is an advanced breakthrough in the development of legislation on disaster in Indonesia, as of today the legislations relate to disaster management in Indonesia is partial developed and considered unsuitable to any further extent with the current situation in the community and the needs of Indonesian society. The substance is still temporary and possibly changed, as this is still a draft and in the final process.

The substances of the Draft on Disaster Management generally regulates on:

1. General Stipulations
2. Basis, Foundation And Aim
3. Government Responsibility And Authority
4. Community Rights, Obligations And Role
5. Implementation Of Disaster Management
6. Disaster Management Agency
7. Disaster Financing and Assistance
8. Resources Mobilization
9. Oversight
10. Settlement Of Dispute
11. Criminal Provisions
12. Transitional Provision
13. Closing Provision

The Draft does not specify the early warning system; however the Draft provides provisions and description on early warning to disasters in general.

The Draft defines early warning as follows

”early warning is an effort to give warning on the possibility of disaster to be delivered officially, covering the whole community explicitly and without confusion”

The definition does not clearly describe who responsible for the information deliverance, meanwhile the UN International Strategy for Disaster Reduction (UNISDR) has defined that early warning is the provision of timely and effective information, through identified institution, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response. Therefore the additional term “...by the identified institution...” is needed for the Draft.

The Draft states that disaster management is comprised of four fields of works:

- a. Disaster risk reduction;
- b. Emergency Response activities;
- c. Rehabilitation and Reconstruction; and
- d. Disaster administration

The Draft includes early warning in disaster risk reduction field of work. However, the provisions on early warning does not systematically formulated.

The provisions on early warning described briefly, as the following

- (1) Early warning shall be efforts to enable the community at risk to take actions accurately and immediately that reduce the risks

exposed by the disaster as well as to prepare responses to disaster.

- (2) Early warning as referred to in paragraph (1) hereof shall include the provision of information in timely manner and effectively through projection and prediction processes regarding hazards, processing and distribution or dissemination of warning and taking prompt and proper action.

The paragraph (1) does not clearly define what kind of accurate and immediate actions should be taken by the community. Therefore, it is necessary to add in the Draft regulations on component and/or actions which are linked to early warning as a system to ensure the effectiveness and optimum result.

According to the Glossary of Term publicized by the United Nations Development Programme (UNDP) early warning will running effectively if only follow activities comprise of four component of integrated warning chain mechanism i.e. understanding and mapping the hazard; monitoring and forecasting impending event; processing and disseminating understandable warnings to political authorities and the populations, and undertaking appropriate and timely actions in response to the warnings.

Based on it, the Draft is necessary to add more detail description on the early warning system and the four components within the early warning mechanism.

The paragraph (2) does not have the Elucidation which describes in more detail the meaning of projection and prediction processes regarding hazards, processing and distribution or dissemination of warning and taking prompt and proper action.

The draft doesn't further describe in more details on what kind of immediate and appropriate activities to be taken by the public and warning dissemination mechanism.

The Draft states that the Government shall establish an independent Disaster Management Agency to implement disaster management policy which provision will be regulated by an Implementing Regulation, i.e Presidential Decree.

The members of Disaster Management Agency comprises of Government elements and other related disaster management actors.

The Provincial Government establishes Disaster Management Agency **upon receipt of the recommendation** from Disaster Management Agency at central level.

The Disaster Management Agency is to be responsible to formulate disaster management policies, to implement disaster management policies, to perform the tasks of disaster management information

centre, to perform intersectoral coordination and international cooperation.

The Draft intended to empower the position of disaster management institution, by emphasizing **the independency** of the Agency from the planning up to the implementation.

In regard to the Disaster Management Agency in Regional level, The Draft still refer to the centralistic-model of Disaster management, by stating that the establishment of an agency in a region must have a recommendation from the central government. In the other hand the regional autonomy regulation has provided independency to region administration in establishing the Disaster management agency includes its policy mechanism.

In performing the duties, Disaster Management Agency (BPB) as referred to in Article 55 shall establish Disaster Management Council with 17 members consisting of experts comprising of related department ministries, non-department government officials and those having competence. It considered as a potential complex situation and prolongs bureaucratic chain in disaster management causing to inefficient implementation of Disaster Management Agency and overlapping of responsibilities.

8. Institutional Framework on Tsunami Early Warning System

There are range of institutions definitions among which is *“a model of hierarchy or multiparty relation between community or organization or public that specify the form of relation among people or organization in a organization or a network and defined by boundary and binding factors, i.e norms; ethic codes of formal and informal rules that control social attitudes and provide incentives for the cooperation and achievement of common objectives⁶”*.

It is necessary to have a broader description on institutions responsible for the disaster management in Indonesia, national and local level, in order to have a particular overview on the institutions responsible for tsunami early warning in Indonesia,

8.1. National Institution Related With Tsunami Early Warning System

8.1.3 Disaster Management Institution

⁶ Tony Djogo, Sunaryo, Didik Suhajito and Martua Sirait, *“Kelembagaan dan Kebijakan Dalam Pengembangan Agroforestri”*, Published by World Agroforestry Centre (ICRAF) Southeast Asia Regional Office PO Box 161 Bogor, Indonesia, March 2003.

The analysis of this study is focusing on institutional stipulations reflecting the central government authority in effective disaster management and Tsunami early warning System.

In Indonesia, BAKORNAS, a non structural and coordinative institution, is carrying out the disaster management.

Historically, the establishment of the agency was based on Article 3 of the Government Regulation as Law substitution No. 23 / 1959 concerning Revocation of Law No. 74 / 1957. The article states that in command of civil emergency/ military emergency/war, President as a Highest Commander of the Military Force assisted by an "agency" comprising of the First Minister; Defend/Security Minister; Home Affair and Regional Autonomy Minister, Foreign Affair Minister; Chief of staff of Arm Force; Chief of staff of Navy; Chief of staff of air force; and Chief of staff Police Force.

The following are the transformation process summary of the special institution for Disaster management in Indonesia:

a. President Decree Number 54 Year 1961

In this President Decree the agency for Disaster Management was established in the form of Central Committee for Natural Disaster Accommodation/Shelter (PPBA). Therefore the President Decree arrangement is different from Government Regulation as Law substitution No. 23 / 1959.

b. President Decree Number 312 Year 1965

Few years later on 1965, the *Kabinet Dwikora* (Dwikora Administration) was established, by which the PPBA structure had to be adjusted accordingly. The Central Committee structure as arranged in President Decree Number 54 Year 1961 was dissolved by President Decree Number 312 Year 1965 which arrange a new structure of the Central Committee for Natural Disaster Accommodation/ PPBA, i.e:

- Chairman : Vice of Prime Minister II
- Vice Chairman : Coordinating Minister of Welfare
Compartment
- Members : 1. Coordinating Minister of Defense
Compartment
2. Coordinating Minister of Internal Law
Compartment
3. Coordinating Minister of Finance
Compartment
4. Coordinating Minister of Distribution
Compartment
5. Coordinating Minister of Public Work
& Energy Compartment
6. Coordinating Minister of Farming &
Agriculture Compartment

The working scope of the committee was limited to shelter or evacuation activities. The works did not cover other disaster management activities. The working mechanism was only coordination based. Moreover, both Regulations did not clearly defined the legal status of the Committee, and did not clearly state that the Committee under direct responsibility of the President.

A year later, following disaster events, on 1966 the President Decree Number 98 year 1966 was formalized concerning on additional budget from the Government to alleviate people suffering from the flood disaster in East Java (March 1966), landslides in West Java (February 1966) and Mount Kelud eruption (April 26, 1966). On the dictum of the three regulations, the natural disaster management efforts include rehabilitation of the damages carried out by institutions as assigned by each involved departments while prioritizing coordination efforts responsible by Vice of Prime Minister for Social /Politik as the Chairman of the Committee and Social Minister as the Vice Chairman, while in local level the coordination is under the responsibilities of the Governor.

Based on the above provision, PPBA which has been established as institutions did not have a mandate to participate in disasters management efforts and rehabilitation process, instead directly responsible by the involved Department.

In relate to EWS, PPBA is not included as it is not directly involved.

c. President Decree Number 256 Year 1966 Concerning Advisory Agency for Natural Disaster (BPPBA)

Further, the PPBA (Central Committee for Natural Disaster Accommodation/Shelter) was being revoked by the issuance of President Decree No. 256/1966 concerning the establishment of the Advisory Agency for Natural Disaster (BPPBA).

The foundation for the establishment of BPPBA is the newly developed Cabinet called *Kabinet Ampera* (Ampera Cabinet) replacing *Kabinet Dwikora* (Dwikora Cabinet), hence, the structure of the Committee again must be adjusted accordingly.

It is necessary to note down that the President Decree did not state any legal determination concerning the change of the name from "Committee" to "Agency."

The BPPA is chaired by Main Minister of People Welfare Section. The BPPA roles are to formulate policy and to exercise necessary steps to the Government regarding a disaster management when a disaster emerges or a possible disaster in the near future. BPPA is also responsible directly to the chairman of the Presidium of the Cabinet.

It can be concluded that the role of BPPA is limited to an advisory provision to the government by formulating policy of disaster management.

BPPA, as stated in the Decree, was not directly involved in the field activities of the disaster management; the Coordinating Team for the Implementation of Disaster Management, whose roles and responsibilities is stipulated by the chairman of the Presidium of the Cabinet, will execute the tasks derived from the policy provided by the BPPA.

The BPPA roles are considered for having no direct correlation in the Early Warning System as they are limited as the policy provider.

d. President Decree Number 28 Year 1979 concerning National Coordination Agency for Natural Disaster Management (BAKORNAS-PBA)

Thirteen years later, the Advisory Agency for Natural Disaster (BPPBA) was being revoked by the issuance of President Decree No. 28 year 1979 concerning the National Coordination Agency for Natural Disaster Management (BAKORNAS-PBA).

According to the President Decree, the BAKORNAS-PBA is placed in central government and responsible to the President.

The different between President Decree No. 28 year 1979 and the previous Decrees concerning the disaster management institutions were on the roles in local level. This Decree also regulate Local Coordination Agency from Province level to District/City Level called Coordination Unit for the Implementation of the Natural Disaster Management (SATKORLAK-PBA)

BAKORNAS-PBA roles & responsibilities:

1. To formulate policy and to provide guideline/provision of the consensus and to coordinate natural disaster management efficiently
2. To supervise the natural disaster management program in the frame of general consensus as set by the government
3. To provide directives and provision for SATKORLAK-PBA as in accordance to the consensus in a natural disaster prevention, repression, and rehabilitation effort.

In addition, it is stated as well that SATKORLAK-PBA in province and district/city level has to implement policy derived by BAKORNAS-PBA and report to them.

It is apparent from the provision that procedures of the working relation are mostly centralized as the coordinating institution on the region (SATKORLAK-PBA) is to do a consensus which has been set by the central institution (BAKORNAS-PBA).

The Decree indicated the dominant roles of the central government through top-down mechanism from central to local that require SATKORLAK-PBA only to implement policy derived from the central government.

BAKORNAS-PBA roles are not directly involved in the implementation and execution of early warning system. Their roles are formulating policies like for instance the disaster management guideline and to coordinate institutions/departments linked to disaster management.

e. **President Decree Number 3 Year 2001 concerning National Coordination Agency for Disaster Management and Displacement (BAKORNAS PBP)**

In 2001 the Indonesian government issued another President Decree which defined disaster management disaster management as efforts to manage disasters caused by nature or man-made disaster, covers prevention, mitigation, emergency response and rescue, rehabilitation and reconstruction activities.

The BAKORNAS-PBP roles and responsibilities are:

1. To formulate and stipulate policies for disaster management and displaced treatment immediately, efficiently and effectively.
2. To coordinate the implementation of disaster management.
3. To provide direction and guidelines for disaster management and displaced treatment covering prevention, mitigation, emergency response and rescue, rehabilitation and reconstruction activities

The provision of President Decree No. 3 / 2001 is similar to the President Decree No. 28 / 1979, except for the following substances:

- BAKORNAS-PBP also responsible for the displacement issues caused by conflict, which was not regulated by President Decree Number 28 /1979 for BAKORNAS-PBA;
- BAKORNAS-PBP is headed by the Vice President while BAKORNAS-PBA, as for the previous Keppres was headed by Coordinating Minister for People's Welfare.

BAKORNAS-PBP as the previous agency is not directly involved in the implementation and execution of early warning system. However, in the context of early warning system in Indonesia BAKORNAS-PBP role can be in the support of the legal framework development and guidelines preparation.

f. **President Decree No. 111 Year 2001 concerning the revision of the President Decree No. 3 year 2001.**

The substance of this Decree is only to change the arrangement stated in Article 3 President Decree No. 3 Year 2001, concerning the structure of BAKORNAS-PBP. The Decree adds new position for a deputy chairman, awarded to The Coordinating Minister for People's Welfare. Aside from it, the decree also changes some Ministers within a membership of BAKORNAS-PBP.

One of the Laws assembled by BAKOKRNAS-PBP is the BAKORNAS-PBP Secretary Decree No. 2 / 2001 concerning General Guidelines for Disaster Management and Displaced Treatment).

The Decree is a general guideline to every government institution and the community, in the central and local level, in formulating systematically and coordinative policies, organizations, working procedures and technical mechanism for disaster management and displaced treatment in accordance to each roles and responsibilities under their own tasks and capacities.

The general guideline also bring up the disaster management strategy consist of four (4) steps, i.e. steps before disaster; emergency response as step during disaster; rehabilitation steps; and reconstruction steps.

In the prevention steps, it is stated that the preventive measures is necessary to minimize damage and loss of life when disaster strikes. However the guideline does not specify the prevention form and methodology.

The guideline also state that the Transportation Minister is responsible for coordination and control the implementation of pre-disaster activities; during and post-disasters activities in the form of weather/meteorological detection and information, rescue efforts, and also provide assistance in transportation and telecommunication.

The General Guideline can be concluded for having a correlation in one of the early warning system component, i.e. detection and information dissemination by the transportation Department.

g. President Regulation No. 83 Year 2005 concerning the National Coordinating Agency for Disaster Management (BAKORNAS PB).

The Presidential Decree No. 3 of 2001 as amended by Presidential Decree No. 111 of 2001 has been adjusted by Presidential Regulation No. 83 of 2005 concerning National Coordinating Agency for Disaster Management (Bakornas PB).

The Article 1 of the Regulation states that BAKORNAS PB, is a non-structural agency subordinate and directly accountable to President.

BAKORNAS-PB is chaired by the Vice President and deputized by 2 (two) deputies, i.e.: The Coordinating Minister for People's Welfare and the Minister of Home affair.

There are 10 (ten) acting members consist of disaster management related ministers; Arm Forces, Police Force, and head of Indonesian Red Cross.

BAKORNAS PB has the duty of assisting President in:

- a. coordinating comprehensive planning and implementation of disaster management and emergency response;
- b. Implementing disaster management and emergency response during pre-disaster, disaster- and post-disaster situations which cover preventive, preparedness, and emergency response and recovery measures.

In implementing duties as described above, BAKORNAS PB has the following functions:

- a. Preparing and stipulating national policy for disaster management and emergency response;
- b. Coordinating cross-cutting and cross-functional activities and budgeting in implementing duties in areas of disaster management and emergency response;
- c. Providing guidance and directions to disaster management and emergency response efforts;
- d. Delivering support, assistance and services in areas of social affairs, health, facilities and infrastructure, information and communication, transportation and security and other support related to disaster issues and emergency response.

The Regulation further states that an Executive Board is established to facilitate BAKORNAS PB in performing its duties and functions, headed by *Kalakhar*.

Kalakhar acts as BAKORNAS PB Secretary subordinate and accountable to Chairperson. *Kalakhar* is structurally an Echelon 1.a position.

According to the Regulation, the following may be established for benefit of local disaster management and emergency response delivery:

- i. Coordinating Body for Disaster Management, hereinafter referred to as SATKORLAK PB, at Provincial level which is chaired by Governor;
- ii. Implementing Body for Disaster Management hereinafter referred to as SATLAK PB, at District/ Municipal level which is chaired by District Head/ Mayor.

SATKORLAK PB has the duty of coordinating disaster management and emergency response efforts in its respective provincial area by using as guideline policies enacted by BAKORNAS PB;

SATLAK PB has the duty of implementing disaster management and emergency response activities in its respective district/ municipal area by using as guideline policies enacted by BAKORNAS PB.

Based on the above regulation, it can be concluded that:

1. The Regulation which has been enacted in the era of regional autonomy remain top-down or being centralistic by not delegating responsibilities to regional and not providing authority to regional (SATKORLAK and SATLAK) to

arrange policies for disaster management in respective areas.

2. The duty of SATLAK-PB is limited to the implementing unit and not authorized to coordinate with related institutions in respective regency/city. It can contribute to a slow disaster management and response as coordination must depend on the central or province government. Furthermore, it will hamper early warning effort and dissemination process for the absence of coordinating body and institution.

h. **President Regulation No. 3 of 2007 concerning the Revision to President Regulation No. 83 of 2005.**

The Presidential Regulation No. 83/2005 has been modified and revised by the issuance of Presidential Regulation no. 3/2007.

The revision is based on the needs of improving capacity and coordination from various stakeholders in disaster management in Indonesia.

Principally, the revision is on the membership of the BAKORNAS PB structure. There are 5 additional members (from previously 10 members); Minister of Defense, Minister of Forestry, Minister of Agriculture, State Minister for Environmental, and State Minister for Research and Technology.

Then again, on the basis of BAKORNAS' role, it can also be assumed that in a frame work of building early warning system in Indonesia, BAKORNAS can have a role in establishing directives' legal frame work.

8.1.2. The Role of Respective Government Institutions in The Early Warning System

In order to understand the roles of central institutions/organizations in the early warning system mechanism, it is necessary to firstly understand the general description of the roles and functions of the respective institutions/organizations as in accordance to enacted Laws and Regulations.

The Governmental institutions/organizations as refer to this report are the **Ministerial/ Department/ Non-Departmental Government Institutions**.

Governmental institutions/organizations are established to support the implementation and execution of the executive function (president and ministers). The general arrangements of the roles and functions of the government institutions/organizations in Indonesia usually depend on the

current authorized administration; therefore, the changing of roles and function will imply as consequences.

Under the era of President Susilo Bambang Yudhoyono administration, the policy on the roles and functions of the government institutions/organizations is refer to the Presidential Regulation No. 9 of 2005 concerning Positions, Duties, Functions, Organizational Structures and Working Mechanisms of State Ministers of The Republic of Indonesia and was amended by Presidential Regulation No. 62 of 2005.

The Regulation states that the State Ministry of the Republic of Indonesia is consist of Coordinating Ministry, Department and the State Ministry.

The Coordinating Ministry has a role in providing support to the president in coordinating policy planning and formulation, and to synchronize the implementation of the policy respectively.

The Coordinating Ministry is comprised of:

- a. The Coordinating Ministry for People's Welfare
- b. The Coordinating Ministry for Politic, Law and Security;
- c. The Coordinating Ministry for Economy

Concerning to the Early Warning System, the Coordinating Ministry for People's Welfare and Coordinating Ministry for Politic, Law and Security are considered as relevant institutions involved in the development process of the EWS.

The following are description of the of Ministry/ Department / Non Government Institutions or organizations roles in relate to early warning system:

a. **Coordinating Ministry for People's Welfare**

Based on the President Regulation No. 9 of 2005, the Ministry has a duty to coordinate the policy planning, formulating and synchronizing policies on people's welfare and poverty alleviation.

Based on the Regulation, the Coordinating Ministry for People's Welfare is authorized to coordinate and synchronize the tasks of the respective departments/sectors, and it does not have a direct task or activities in the implementation of poverty alleviation.

The ministries/departments which are coordinated directly under the Coordinating Ministry for People's Welfare are Department of Health, Department of Social, Department of Environment, and others.

As stated in the Presidential Regulation No. 83 of 2005 which has been revised by Presidential Regulation No. 3 of 2007, the Coordinating Minister for People's Welfare is standing as Deputy Chairman of BAKORNAS PB.

The Coordinating Minister for People's Welfare of the Republic of Indonesia in The Capacity of Executive Director for National Coordinating Agency for Disaster Management (Bakornas Pb) has issued The Decree No. 21 of 2006 Concerning the Appointment of a Government Institution as Focal Point and Establishment of a Tsunami Early Warning System Development Team

The Decree states that the respective government institutions such as The Ministry of Research and Technology (*Menristek*), Agency for the Meteorological and Geophysical (*BMG*), Agency for the Assessment and application of technology (*BPPT*), Indonesian Institute of Sciences (*LIPI*), The Ministry of Home Affairs (*Mendagri*), The Ministry of Communication and Information (*Depkominfo*), Coordinating Agency for National survey and mapping (*BAKOSURTANAL*) are appointed as the focal point in the development of Early Warning System.

Based on the legal aspect, there are weaknesses on the substances and mechanism of this decree formulation that may affect to the effectiveness when it is implemented, as described bellow:

1. The Decree doesn't include Presidential Regulation No. 83 of 2005 as one of the Legal basis of the decree, whereas only within which the legal basis of the assignment of the Coordinating Ministry for People's Welfare as the Executive Director of Bakornas PB is in place.
2. The President Regulation No. 83 of 2005 doesn't provide stipulations which allow deputy (the Executive Director) of Bakornas PB to issue and/or formulate a policy on disaster management.
3. When it is linked to the President Regulation No. 9 of 2005, the Coordinating Ministry does not have capacity to coordinate *Menristek*, *BPPT*, *LIPI*, *BMG*, *Depdagri*, *Depkominfo* and *Bakosurtanal*.
4. The Decree appoints the The Ministry of Research and Technology (*Menristek*) to be acting as Coordinating Focal Point of Tsunami Early Warning System Development. The appointment somehow in contradictory to another legal aspect which has clearly indicate that the *Menristek* does not have capacity and function of inter-sectors coordination.

However, the Decree can be used as reference in the Early Warning System Development, despite of the possible above hindrance.

b. **The Department of Home Affairs (Depdagri)**

As one of the government element the *Depdagri* has a role in internal affairs. The General Directorate of Public Governance is one of the Echelon 1 unit in the *Depdagri* related to disaster management.

Based on the President Regulation No. 10 of 2005 concerning the Organizational Unit and Duty of the Echelon 1 of the State Ministry of Republic of Indonesia; as well as the Decree from Ministry of Home Affairs No. 130 of 2003 concerning Organization and Working Mechanism of the Department of Home Affairs, the roles of The General Directorate of Public Governance is to formulate policies and provide technical standardization in the field of Public Governance.

The Decree from the Minister of Home Affairs No. 130 of 2003 states that one of the functions of Directorate General of Public Governance is in the preparation of the formulation of Department's policy for disaster prevention and management.

The preparation of the formulation of Department's policy for disaster prevention and management is to be carried out by the Directorate of Disaster Prevention and Management or *MPPB* (as one of the Echelon 2 Unit within the Directorate General of Public Governance).

The *MPPB* duties are:

- a. The preparation of the policy formulation and the facilitation of potential disaster identification,
- b. The preparation of the policy formulation and the facilitation of the institutional and procedures,
- c. The preparation of the policy formulation and the facilitation of the equipment, infrastructure, and rehabilitation, and
- d. The preparation of the policy formulation and the facilitation of fire prevention and management.

One of the policy formulation facilitated by Directorate General of Public Governance is **the Decree from The Minister of Home Affairs No. 131 of 2003** concerning the Guideline for Disaster Management and Displaced Handling in the Region and **the Regulation from The Minister of Home Affairs no. 33 of 2006** concerning the General Guideline for the Disaster

Mitigation. The Decree is specified as being used as reference for the region in the disaster management.

The *Depdagri*, as of the defined function, have capacity to arrange the disaster prevention and management mechanism include the Early Warning System in Indonesia.

c. The Agency for Meteorological and Geophysical (BMG)

BMG is a non-department government institution as stated in the President Regulation No. 11 of 2005 concerning the Fifth Amendment of President Decree No. 103 of 2001 on the Position, Duties, Function, Authority, Organization Structure, and the Working Mechanism of a Non Department Government Institution, within which states that the main function of the BMG is to implement the government duties in the field of meteorology, climatology, air quality, and geophysics.

The President Regulation also states that BMG has the following functions:

1. To conduct assessment and formulation of a national policy for meteorology, climatology, air quality, and geophysics.
2. To conduct observation, collection and dissemination, processing and analysis as well as provide services in the field of Meteorology, Climatology, Air Quality and Geophysics.

BMG is one of the main components in the monitoring and forecasting possible event, processing and disseminating warning of the understandable geo-physics condition to the political authority and general public.

The *BMG*, as of the defined function, have capacity to arrange the observation mechanism and warning dissemination as for instance in the form of the Standard Operation Procedure (SOP) for Tsunami Early Warning System.

d. The Department of Communication and Information (DEPKOMINFO)

In accordance to the President Regulation No. 9 of 2005, DEPKOMINFO is a government institution (Department) with the duty to support the President in the implementation of governmental issues of the communication and information.

One of the authorities is to formulate and exercise the policy for information dissemination, as implied by President Regulation No. 10 of 2005 concerning the Organization Unit and Duty of Echelon 1 of the State Ministry.

In addition to the following regulation:

- a. Law no. 32 of 2002 concerning Broadcasting,
- b. Government Regulation No. 50 of 2005 concerning the Private Broadcasting Institutions.
- c. Minister Regulation from the Minister of Communication and Information No20/P/M.KOMINFO/8/2006 concerning Early Warning for tsunami or other Disaster through Broadcasting Institution in nationwide.

DEPKOMINFO is a government institution authorized to formulate policy in the support of disaster information dissemination include earthquake and tsunami. One of the policies is to require all broadcasting institutions to disseminate disaster information to the public.

Therefore, DEPKOMINFO is one of the government components having authority in the arrangement of mechanism for early warning dissemination through broadcasting institution.

8.2. Regional Institutions Related to the TEWS Management

The main focus in the assessment is to illustrate the Legal Framework in relation with the TEWS management in the West Sumatera Province and the City of Padang.

8.2.1. West Sumatera Province

Under the current Legislation, the provincial level is able to establish agency for disaster management in the form of SATKORLAK PB. The stipulation is based on the President Regulation No. 83 of 2005 concerning BAKORNAS-PB.

As previously described, the President Regulation No. 83 of 2005 states that the following may be established for benefit of local disaster management and emergency response delivery:

- a. Coordinating Body for Disaster Management, hereinafter referred to as SATKORLAK PB, at Provincial level which is chaired by Governor;
- b. Implementing Body for Disaster Management hereinafter referred to as SATLAK PB, at District/ Municipal level which is chaired by District Head/ Mayor.

SATKORLAK PB has the duty of coordinating disaster management and emergency response efforts in its respective provincial area by using as guideline policies enacted by BAKORNAS PB;

SATLAK PB has the duty of implementing disaster management and emergency response activities in its respective district/ municipal area by using as guideline policies enacted by BAKORNAS PB.

The establishment of SATKORLAK in West Sumatera Province is in reference to the Governor Decree Number 360-357-2006 concerning the Establishment of SATKORLAK-PB of the Province of West Sumatra.

The Governor Decree states that the duty of SATKORLAK PB is to conduct coordination and control of the disaster management activities in accordance to the stipulated regulations of BAKORNAS-PB from pre-disaster; disaster; and post-disaster stages which consist of prevention; mitigation; rescue; rehabilitation and reconstruction.

The description of the SATKORLAK-PB duties as of stated in the Governor Decree is different from the President Regulation No. 83 of 2005, in which the difference is between the words **“...coordination and managing of the disaster area...”** (Governor Decree) to the following **“...to coordinate and managing disaster and emergency...”** (President Regulation No. 83 of 2005). One can assume that managing emergency situation in the West Sumatera province is not included in the list of SATKORLAK-PB’s job description.

The SATKORLAK-PB assigned in the West Sumatera Province area has a list of function:

- a. To coordinate, guide, support, train and manage all disaster management action includes planning, implementing and evaluation of the disaster management,
- b. To coordinate and manage the technical and administrative assistance in disaster management carried out by agencies (*Badan*), offices (*Dinas*) or community,
- c. To coordinate and manage donation/aids received and distributed to the people by the Major or Head of districts, as the Chairman of the SATLAK-PB, of the disaster affected areas.

Based on the above functions, it is clear that the West Sumatra Province already has a special institution assigned to manage disasters. However, the institution mandate is only to coordinate, especially in the job divisions of respective sectors or institutions.

However, the arrangement is not applicable for the TEWS legal foundation considering that the arrangement is only refer to the establishment of SATKORLAK-PB. In addition, the SATKORLAK is not directly subjected to one of the TEWS' component.

The Province of Wet Sumatra has also issued the Governor Decree Number 32 of 2002 about Official Procedure of Disaster Management and Displaced Treatment for the West Sumatra Province (*Prosedur Tetap – PROTAP*). However, this Governor Decree can't be considered as the Legal basis for the TEWS implementation in their area.

It is arranged on the Governor Decree that the PROTAP shall be used as references for the respective institutions assigned for the disaster management. The Decree also states that the Head of Agency (*Dinas*) or Institutions or organizations which are members of SATKORLAK-PB and SATLAK-PB shall follow up the arrangement stated in the PROTAP.

The Governor Decree Number 32 of 2002, consider for having a link to TEWS as arranged in the arrangement of Disaster Management Mechanism from provincial level to rural community. The decree states that the pre-disaster working procedures, include for the tsunami disaster, covers:

1. In the Nagari (traditional group of community), or villages, and Kelurahan managed by SATLINMAS:
 - The development of disaster risk maps;
 - The preparation of potential volunteers for community protection (*LINMAS*) in the disaster Management;
 - The implementation of disaster management training;
 - The determination of alternative areas for evacuation;
 - The Provision of early warning to people living in the disaster prone areas.
2. In Sub district level managed by Operational Unit (SATGAS PBP):
 - The development of risk area maps, and the information mechanism of the finding to the public of the risk areas;
 - The provision of trainings and assistance to potential volunteers for community protection (*LINMAS*) and community in the disasters prone village;
 - The provision of early warning to community living in the disaster prone areas.
3. In the districts level managed by SATLAK-PBP:

- The development of disaster risk maps and the information mechanism of the finding to public;
 - The arrangement of potential volunteers for community protection (*LINMAS*) in the respective areas;
 - To form Disaster Management Program such as education and training, to run through exercise to develop disaster awareness and formal procedure of managing disaster.
4. In the Province level managed by SATKORLAK-PBP:
- The development of disaster risk maps and the information mechanism of the finding to public;
 - The arrangement of *LINMAS* and *SATGAS-PBP* for the respective areas;
 - The determination of alternative areas for evacuation;
 - The development of Disaster Management Program such as education and training, drills, and standard operational procedures in accordance to the given situation and condition of the respective areas.

The Decree states that the Governor as a chairman of SATKORLAK and Major as the chairman of SATLAK is the authorized person to inform the disaster warning and its management.

The PROTAP also regulates subjects related to computerized system of disaster management; include the data collection subjected to the disaster early warning of the impending disaster.

Nonetheless, the PROTAP indicate weaknesses which possibly lead to the ineffectiveness in the implementation, as the following:

- 1) The stipulations of the Governor Decree No. 32 of 2002 based on the abrogated/outdated legislation that lead to the ineffectiveness of the implementation of the PROTAP.
- 2) The Protap stipulated by the Governor Decree only effective internally within the governance structure, and has no legal binding towards other institutions or organizations.
- 3) The PROTAP does not explain in detail of EWS mechanism include the role and responsibility of respective institutions.

Asside from the PROTAP arranged by the Provincial Government, The Police Department for West Sumatera Region has issued PROTAP No.Pol:Protap/01/VII/2006 Concerning Natural disaster preparedness management in West Sumatra Region.

PROTAP arranged by The Head of Police Department in West Sumatera (KAPOLDA Sumbar) is also exclusively for internal use,

as the Standard Operational Procedure for disaster management in West Sumatra is addressed only to the police department elements.

In term of Early warning The PROTAP of POLDA consider as having rather comprehensive and specific than the PROTAP of the Governor, as it has clear description of the Early Warning component steps like for instance the police roles in the disaster risk mapping, monitoring and forecasting the impending disaster, warning dissemination procedures, and warning response types.

In term of disaster management, the West Sumatra Province is now drafting a Regional Regulation Draft (*Ranperda*).

The draft arrange clearly the Early Warning measures which is defined as set of actions to inform warning of an impending disaster, announced formally to reach the entire community immediately, definitely and clearly.

In the *Ranperda*, it is still unclear who will formally announce the impending disaster, whether a person or formal institution or other media.

The early warning measures by the *Ranperda* consider fairly brief and according to the legal drafting point of views the regulation unsystematically structured, like for example the Article 28 of *Ranperda*:

1. Early warning is to be carried out to let the vulnerable community taking rapid and effective actions or reducing disaster risk and preparing disaster response.
2. Early warning includes the provision of information rapidly and effectively through forecasting of the impending disaster danger, a processing and disseminating warning and rapid and effective actions.

There is gap of topic between clause 1 and 2 as the draft does not further provide stipulation on the type of actions needed by the vulnerability community as of stated in clause 1 and mechanism of rapid and effective warning dissemination as of stated in clause 2.

The Disaster Management Units (*Satuan Penanggulangan Bencana*) arranged by the *Ranperda* also consider fairly brief and general as in the Article 48:

- (1) The regional government shall form a Disaster Management Unit which is responsible for the implementation of disaster management policies.

(2) Further arrangement, working mechanism and budgeting for the Disaster Management Unit will be stipulated by the governor Regulation.

As stated above, the draft only refer to the central-based institution such as SATKORLAK-PB which is only authorized to coordinate while actually the regional regulation is able to arrange different type of institutions which authorized to take a command as well.

The *Ranperda* include Early Warning in the chapter of Disaster Management implementation particularly in the pre-disaster activities.

8.2.2. Padang Municipality

In term of Tsunami Early Warning System (TEWS), the City of Padang does not have specific regulations on TEWS.

In term of disaster response management, the City has an agency responsible for the disaster management implementation, include tsunami. The establishment of the agency is based on Mayor Decree No. 60 of 2005 concerning the establishment of SATLAK PBP Kota Padang. However the establishment is based under the Presidential Decree no. 3 of 2001 concerning BAKORNAS-PBP, which is no longer in effect.

The Mayor decree states that SATLAK-PBP of the City of Padang is a non structural agency with a coordinative character for the operational implementation of the disaster management and displaced treatment in accordance to the regulation stipulated by the Ministry of Home Affairs covers preventive actions, emergency response, rehabilitation and reconstruction.

The SATLAK PBK has functions as follows:

- a. To develop an operational guideline for disaster management;
- b. To conduct planned and integrated efforts for the disaster management and displaced treatment and or in cooperation with the neighboring SATLAK PBK;
- c. To report the disaster event and evacuation to the SATKORLAK-PBP of The Province;
- d. To report the working result of disaster management and displace treatment to BAKORNAS-PBP via SATKORLAK-PBP of West Sumatera Province

Based on above arrangement, the SATLAK PBK of Kota Padang has both coordination and implementation functions. This is different and/or in contradictory with its legal basis i.e, the President Decree No. 3 of 2001, BAKORNAS PBP Secretary Decree No. 2 of 2001, and Home Affairs Minister's Decree No.

131 of 2003, which clearly states that the SATLAK PBP function is merely limited on the operational implementation, and doesn't has a coordination function.

The point of the issue is that the formation of SATLAK PBP in Padang is not consistently following the selected legal basis.

In term of TEWS, the decree is not applicable for the EWS' legal foundation as it is only subject to the establishment of SATLAK PBP whose function does not include roles in EWS mechanism.

In term of Tsunami disaster management, the City of Padang has drafted the Regional Regulation (Ranperda) concerning Earthquake and or Tsunami Disaster Management. The Ranperda has recently been passed to the Regional Parliament (DPRD tk.II) for further discussion.

According to the Ranperda the earthquake and or tsunami disaster management are pre-disaster actions covers prevention, early warning, mitigation, and preparedness; actions during disaster cover search and rescue operation, and aids distribution; and post-disaster actions cover mental rehabilitation; and physical reconstruction.

The Ranperda stated that regional government together with the community shall commonly responsible for disaster management. Further it stated that SATLAK PBP is formed and responsible to coordinate, to lead and to control the structural and non-structural organizations activities in disaster management.

The Major of the City is authorized to stipulate the following points:

- a. A Formal Procedure (Protap) for disaster response management for the City of Padang;
- b. An Operational Control Center (Pusdalapos) for disaster in the City of Padang;
- c. A Local-based curriculum on the earthquake or tsunami disaster management starting from the primary to secondary schools;
- d. Evacuation routes and areas;
- e. Escape sign boards and evacuation areas;
- f. Earthquake zone and prohibition to construct buildings along the inland earthquake line.

A Major of the City is authorized to determine certain area is in emergency situation when earthquakes and or tsunami occur.

The Ranperda also regulate the community rights and duty in disaster management.

In term of TEWS, assumptions for the Ranperda summarized as follows:

- Substantially the Ranperda already includes the tsunami disaster, and early warning. However, the Ranperda does not explicitly describe that the early warning as a system is part of disaster risk reduction.
- The Ranperda does not provide a clear definition of EWS and stipulation of “**who or what institution authorized to announce a formal warning** of impending disaster, whether a person or formal institution or other media”.
- The Ranperda does not list components included in EWS such as the hazard and risk mapping, monitoring and forecasting the future event, the process of warning Dissemination, and respond to the warning.
- The Ranperda is rather focusing to the arrangement of emergency response activities, instead of pre-disaster activities.

Furthermore, the City of Padang has drafted a Formal Procedure (PROTAP) for Disaster Management of the City of Padang. The draft has been formulated by the local Non Government Organization (KOGAMI). the Major of Padang is expected put the draft in effective soon.

The substance of PROTAP briefly described as follows:

- The disaster management organization by SATLAK-PB;
- Early Warning System;
- Roles and responsibilities for each institution in a disaster management;
- Logistic distribution system;
- Rapid emergency response toward.

On the subject of Early Warning System, the draft of PROTAP has already regulated the process of warning dissemination process and a variety of action in respond to the warning. As it is only a draft, the PROTAP can not be used as the legal framework for TEWS implementation of the City of Padang.

9. CONCLUSION AND RECOMMENDATION

9.1 Conclusion

- a. The activities and/or the arrangement of EWS is a part of disaster management activities. EWS include as part of prevention and preparedness activities or in other word EWS procedures does not regulated as a stand alone process.
- b. In Indonesia, currently there is no particular legislation on EWS. Legislation means a stipulation or decree of government agency that

is issued based on delegation of authority by the constitution and Law to certain government/state agency.

- c. The definition of EWS is only described by the Government Regulation No. 50 of 2005 concerning the Private broadcasting institutions, as effort to inform the potential disaster affected society to prepare them in dealing with disaster condition.

However, the definition is different from the UNDP/UNISDR definition:

- The UNDP/UNISDR definition on Early Warning considered to be more comprehensive than the definition from this government regulation
 - The information dissemination as regulated by this government regulation only focuses to information activities to the society and do not take into account the timely and effective information. Thus, the government regulation does not further arrange the timeframe or period of the information dissemination, whether the dissemination responsibility are urgently required or refer to a certain time limit.
- d. The regulations relates to the EWS generally only issued by Ministerial Decree, governor Decree, and/or ad hoc institution decree in the form of general guideline or protap, which has a limited legal binding.
- e. Organization/institution for disaster management in Indonesia i.e. BAKORNAS, SATKORLAK, SATLAK is only a coordinative institutions and has a limited authority in instructing and making decision for those under its coordinations.
- f. Institutional frame for disaster management still based on centralistic paradigm and not taking into account the regional autonomy roles. As written in the President Regulation No. 83 of 2005 concerning National Coordinating Agency for Disaster Management (BAKORNAS PB) that can be concluded:
- The SATKORLAK and SATLAK in regions do not have authority and competency in developing policy for disaster management in their respective areas.
 - The SATKORLAK PB only acts as a task force based on instruction and/or procedure arranged by Central Government (BAKORNAS PB).
 - The SATLAK PB is not authorized to conduct coordination.
- g. Thus affect to the following;
- High dependency of regional to central, as such when disaster occurs, the regional focus on seeking aid/assistance to central government
 - Regional competency in managing disasters is not taken into account as obligation.

- The delay in handling disasters, due the wide-range coverage/area of Indonesia and dependency to central government.
- h. The arrangement EWS and disaster management in Indonesia does not comprehensively regulate in 1 (one) specific regulation. Instead, it regulated partially in various legislation i.e., Law on Water Resources, Natural Environment Resources, Law on Mining, Law on State Defense etc.
 - i. The arrangement related to EWS and disasters in legislation are not comprehensive and internal only, i.e., Law on Mining only regulates the role of Mineral Resources and Energy Department in case of disasters caused by mining process.
 - j. Generally, the arrangement of disaster management only focus on the emergency respond efforts with incomplete description, such as:
 - Does not describe public roles;
 - Does not describe in detail the meaning of disaster management efforts i.e., mitigation, preparedness, EWS, rehabilitation, recovery etc;
 - Unclear institution responsible for disaster management;
 - Generally the regulations do not clearly instruct for the follow up and describe mechanism and working procedures of the disaster management elements.
 - k. The Law No. 32 of 2004 Article 22 states that in running the autonomy, the regions must protect the communities, maintain national unity, integrity and harmony, as well as the ensurance that the Unitary State of the Republic of Indonesia. Further, it is also stated that the region must draft and execute laws and regulations in correspond to their respective authorities.

Based on the above regulation, it can be concluded that the region has obligations to draft and execute the Law in order to provide a public protection (within their authority). As this is an obligation, regional administrative must prepare necessary public protection measures include regional regulation preparation measures.

- l. The regional regulation arrangement is essentially a logical problem solution. The regional regulation draft must consist of recommendations of identified and formulated specific problem solution. Empiric studies through public consultancies and inter institutional discussion must be obtained in the regional regulation drafting process.

Generally, there are six (6) steps in drafting a new regional regulation. The following are general description of each step, i.e.:

Step 1: The Problem identification

- Step 2: The Legal baseline identification include how the local regulation solve the problem
- Step 3: The Academic white paper composition.
- Step 4: The public consultancy performance
- Step 5: The local house of representative discussion
- Step 6: The Local Regulation authorization

It is necessary for the regions to pursue the above steps when arranging the regional regulation for early warning system in order to achieve a comprehensive substance of the regulation.

- m. West Sumatera Province has set up the legal instrument related to EWS and disaster management that can be used as reference in case of tsunami occurrence. Nevertheless the legal instrument is limited on the level of Governor Stipulation concerning the PROTAP which still has to be improved i.e., due to:
 - The stipulations of the Governor Decree No. 32 of 2002 based on the abrogated/outdated legislation that lead to the ineffectiveness of the implementation of the PROTAP.
 - The Protap stipulated by the Governor Decree only effective internally within the governance structure, and has no legal binding towards other institutions or organizations.
 - The PROTAP does not explain in detail of EWS mechanism include the role and responsibility of respective institutions.

In West Sumatra there is also PROTAP arranged by The Head of Police Department in West Sumatera (KAPOLDA Sumbar) which include early warning system in the arrangement; however the Protap is exclusively for internal use only. Aside from it, the West Sumatra has already drafted a *Ranperda* which also include Early Warning. However, as the draft, *Rapenda* can not be used as a legal basis for the implementation of EWS.

- n. The Padang City currently doesn't have legislation for TEWS yet, nevertheless in term of disaster response management, the City has an agency responsible for the disaster management implementation, include tsunami. In term of TEWS, the decree is not applicable for the EWS' legal foundation as it is only subject to the establishment of SATLAK PBP whose function does not include roles in EWS mechanism.
- o. On the subject of Disaster risk reduction, The Padang City is now drafting a Regional Regulation and Protap, by which also arrange the process of warning dissemination process and a variety of action in respond to the warning. As it is only a draft, the PROTAP can not be used as the legal framework for TEWS implementation of the City of Padang.
- p. Based on the task and function, Ministry or Department that has an authority and competency for the policy formulation in the disaster

management, include EWS is **Ministry of Home Affair**. Meanwhile the Agency for Meteorology and Geophysics (BMG) has a capacity in arranging mechanism for observation, warning dissemination through SOP in TEWS.

- q. Each respective institution should maximize their roles and authority in the disaster risk reduction by initiating the development of legislation for disaster management or EWS. However it will be depending on the political commitment and the strategic planning of the institutions whether the disaster risk reduction is taken into account as a priority issue or not.

9.2 Recommendation

- a. Considering that the Early Warning System is one of the most important efforts in the tsunami disaster risk reduction, the Executive and/or Legislative, independently or cooperatively, need to take obligation and political commitment to arrange legislation on EWS. Without the existence of definite legislation, there will be no norm that can be used as a basis in defining the objective, stipulating the working mechanism to accomplish the objective; motivating the actors in implementing the tasks.
- b. The Central Government must play an active role in motivating the Regional Government, especially in tsunami disaster prone areas, to independently drafting Regional Regulation on EWS, as an embodiment of protection granted to public as stated in the Law No. 32 of 2004 concerning Regional Regulation.

The arrangement on EWS is urgently needed due to the massive and destructive impact of tsunami disaster especially in the regencies/municipals, districts or villages.

- c. The Draft of Disaster Management Law as an initiative of the Legislative should be taken as a main priority agenda of National Legislation Program.
- d. Disaster management and/or the development of EWS need to be included in National Development Planning Program by integrating the disaster management and/or the development of EWS as a part of the governance and development regular planning and implementation.
- e. The replacement of existing disaster management institution e.g., BAKORNAS is urgently required. A new institution/organization whether in central or regional government should be independent, having capacity on drafting and formulating policies, having an authority in making decision for the political/bureaucracy on the technical elements and/or related aspect and having an operational ability.

Annex 1

1. Figure of Organization of BAKORNAS PB
2. Figure of Organization of BMG
3. Figure of Organization of Centre of Data and Information System of Geophysic
4. Figure of Organization of The Ministry of Information and Comunication
5. Figure of Organization of The Ministry of Internal Affairs
6. The Figure of Organization of Directorate General PUM
7. Figure of Organization of Directorate MPPB
8. Figure of Satkorlak PB In West Sumatra Province
9. Figure of SATLAK PB in Municipal of Padang

**Figure of Organization of BAKORNAS PB
(President Regulation Number 83 Year 2005)**

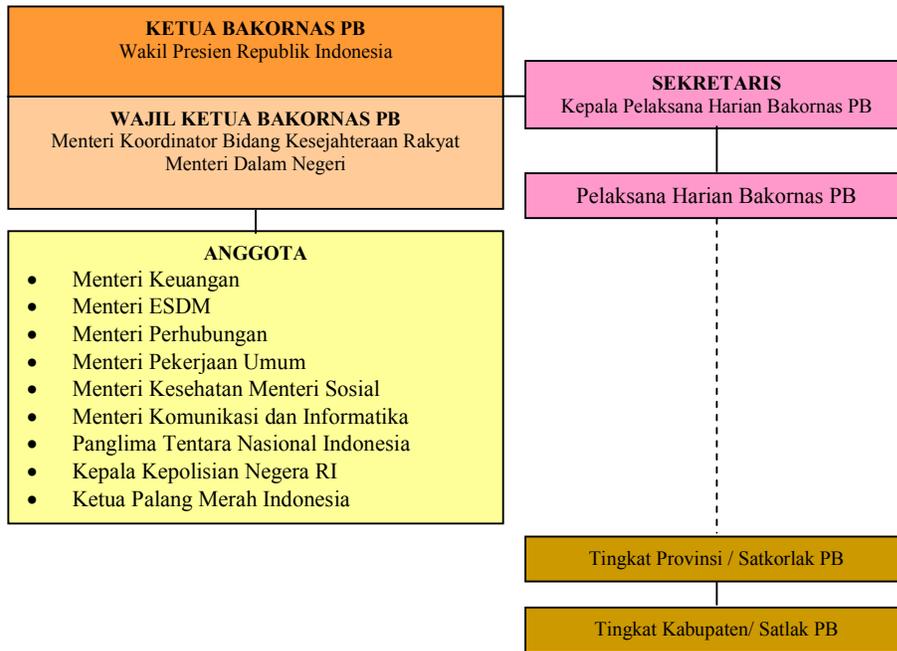


Figure of Organization of BMG

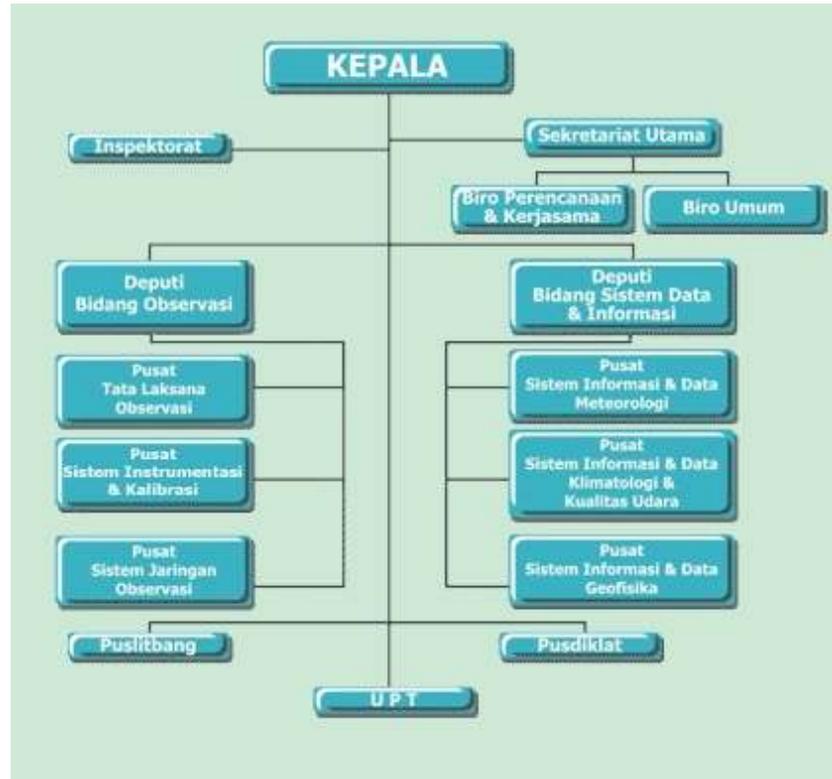


Figure of Centre of Data and Information System of Geophysic

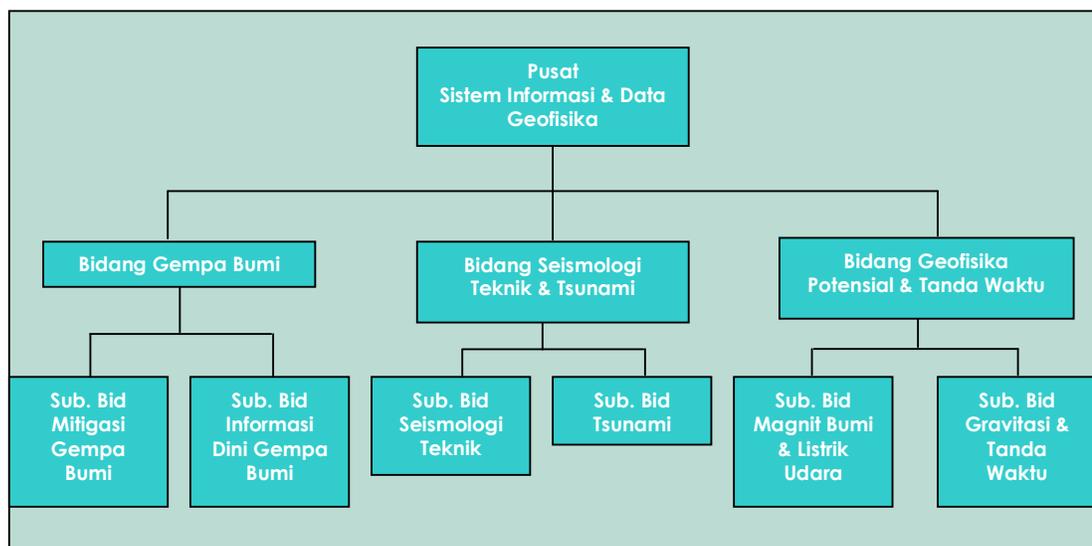


Figure of The Ministry of Information and Comunication

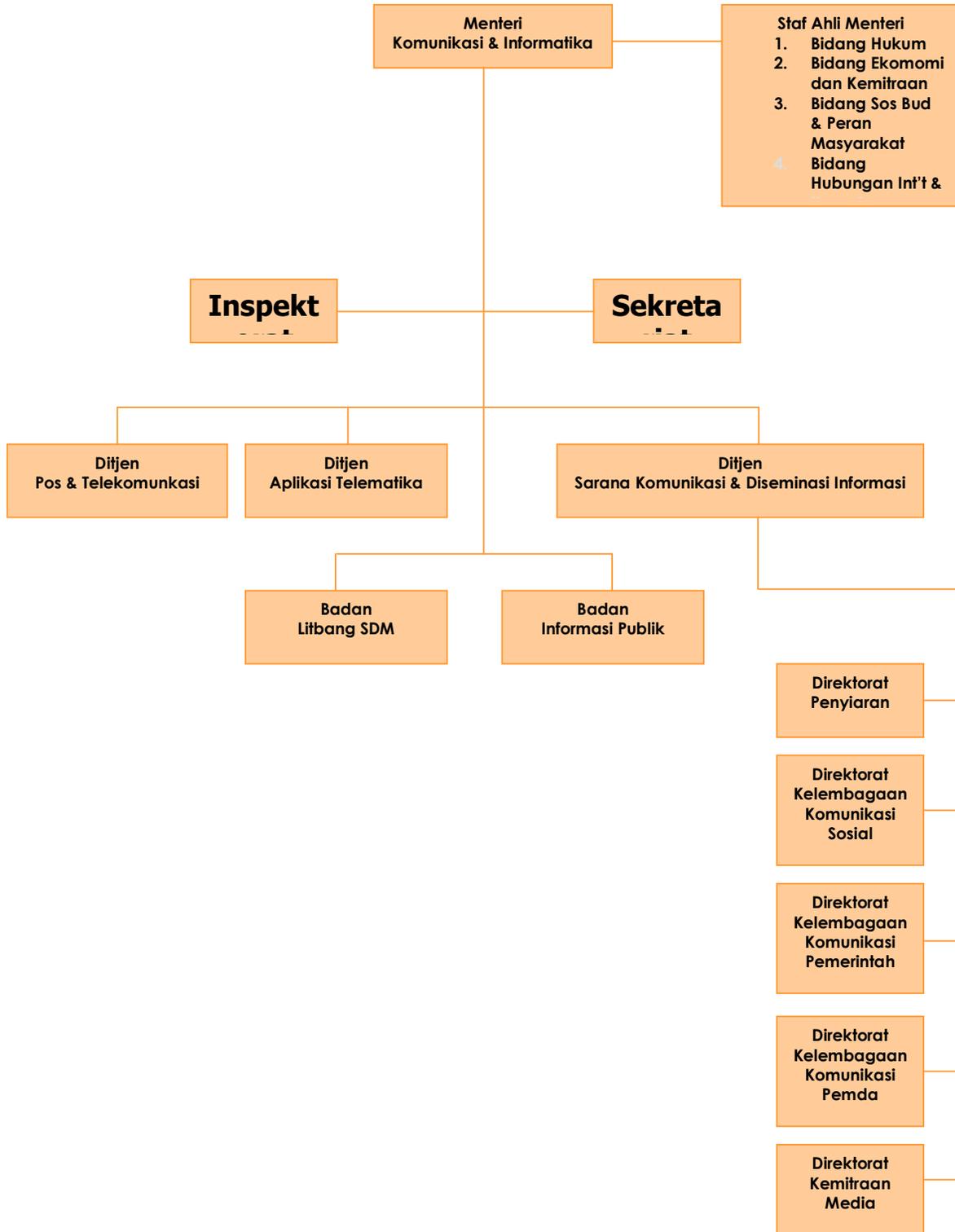
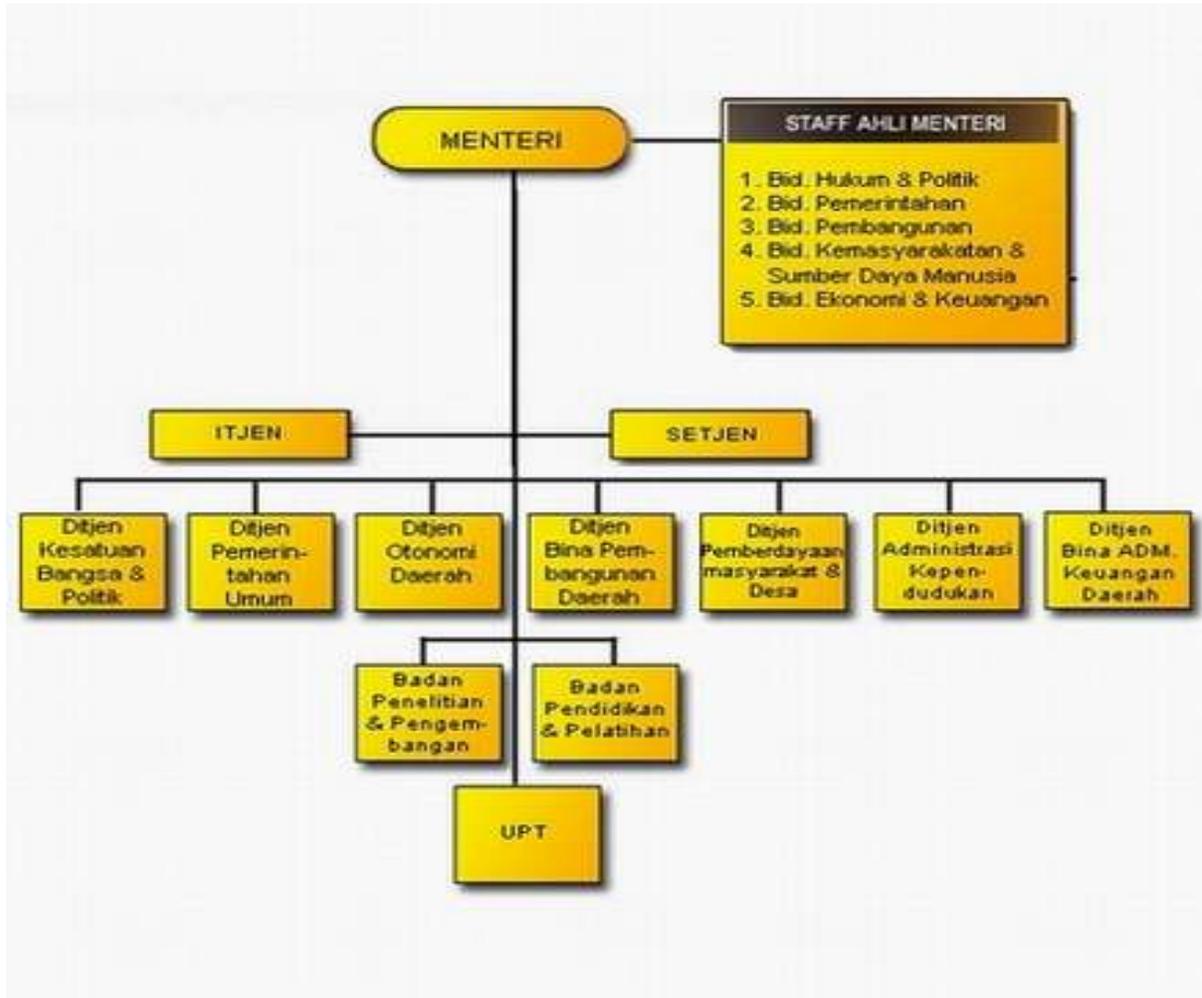


Figure of The Ministry of Internal Affairs



The Figure of Directorate General PUM

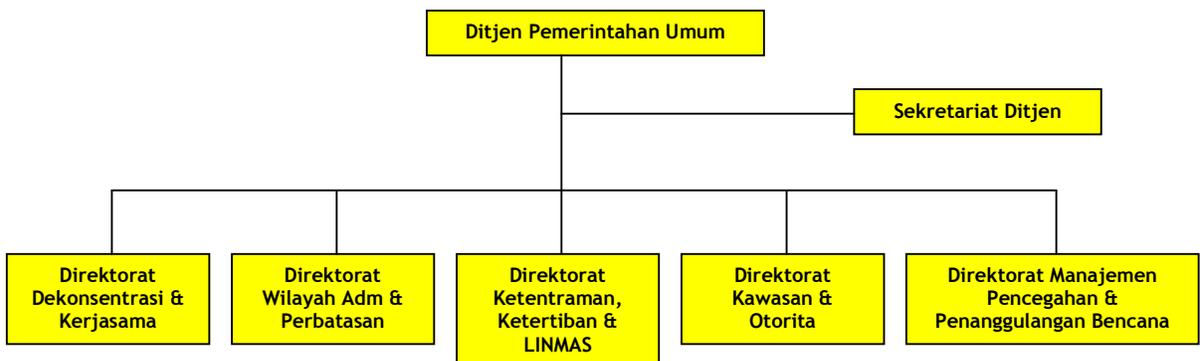


Figure of Directorate MPPB

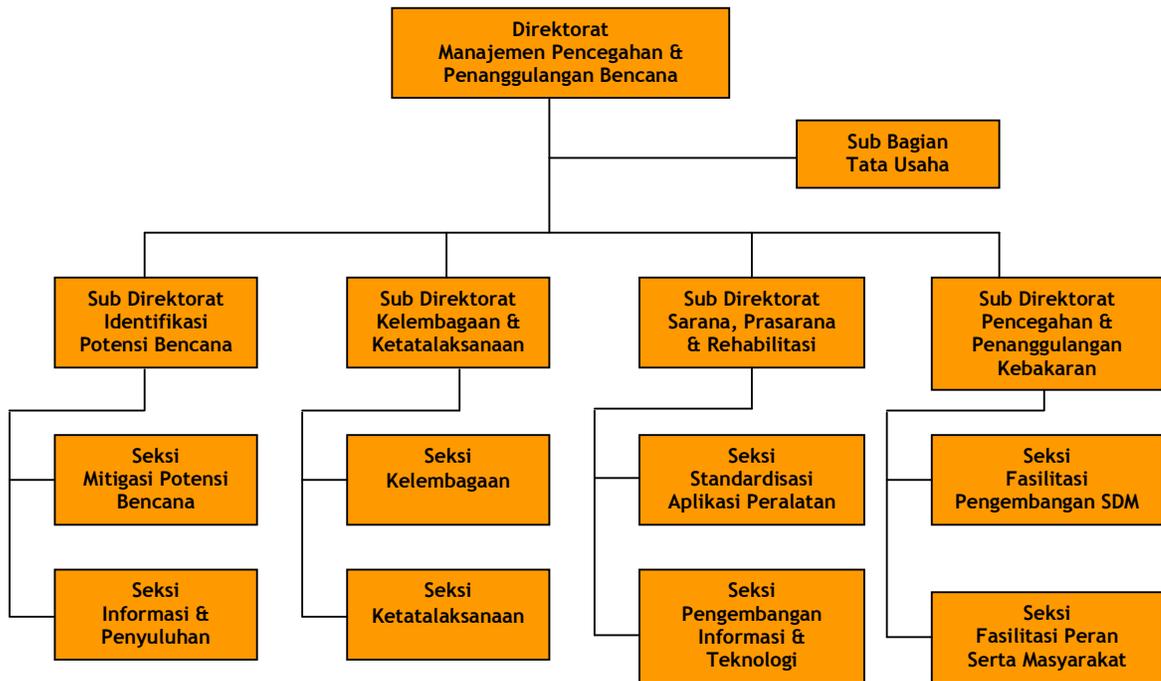


Figure of Satkorlak PB In West Sumatra Province

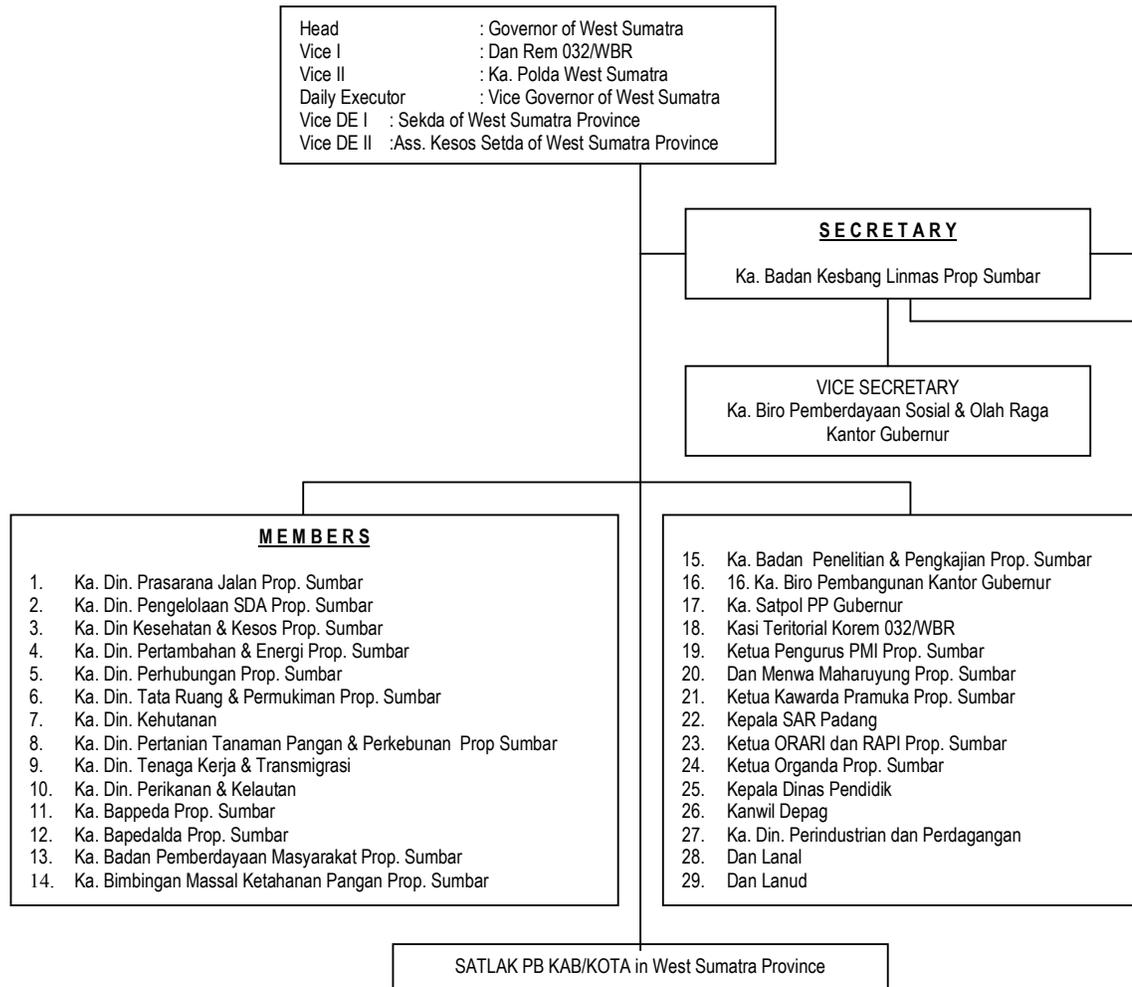
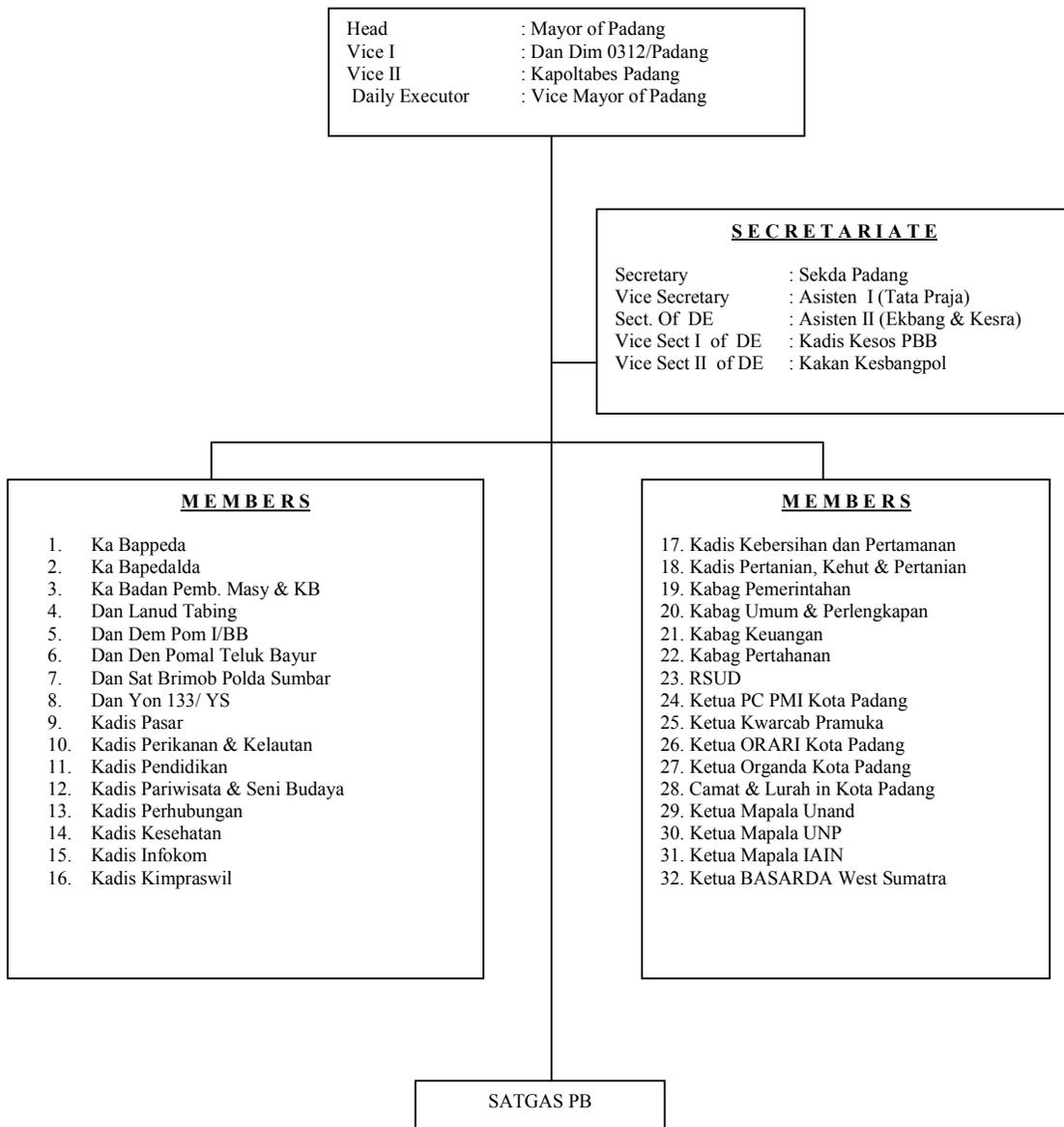


Figure of SATLAK PB in Municipal of Padang



ANNEX 2

List of Regulations

Regulations at National Level

- Law No.10 Year 2004 concerning The Establishment of Legislation
- Law No. 32 year 2004 concerning regional government
- Law No 23 Year 1997 concerning Environmental Management
- Presidential Regulation No. 9 Year 2005 concerning Position, Task, Function, and Organization of The State Ministerial of The Republic of Indonesia.
- Presidential Regulation No. 10 Year 2005 concerning Unit Organization and Task of Echelon I of The State Ministerial of The Republic of Indonesia.
- Presidential Regulation Number 83/ 2005 concerning National Coordinating Management Agency for Disaster Management (BAKORNAS PB)
- Decree of Minister for People's Welfare of The Republic of Indonesia in The Capacity of Executive Director for National Coordinating Management Agency for Disaster Management No. 21/KEP/MENKO/KESRA/IX/2006 Concerning Appointment of Government Institution as Focal Point and Establishment of Tsunami Early Warning System Development Team.
- Ministerial Decree of Ministry of National Affairs no 131 Year 2001 Concerning Guidelines of Disaster Management and Treatment of Refugee in Regional Level.
- Decision of Secretary of The National Coordinating Management Agency for Disaster Management and Treatment of Refugee.

Regulations at Local Level

- Governor Decree No. 32/2002 concerning Satkorlak of West Sumatera Province
- Protap/01/VII/2006 of Polda Sumatra Barat concerning Natural Disaster SOP in West Sumatera
- SK Walikota (Mayor's Decree) Padang No.60/2005 concerning Satlak

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