

Indecision in Emergency Situation: The Absence of Technology or Intuition? A Study of September 30, 2009 Earthquake in Padang

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Abstract

An Actor's cognitive ability has become a major requirement in making decisions during a state of emergency. Either collapsed infrastructure or the disappearance of emergency personnel often delays an effective response which could result in indecisive action. This paper examines how indecision occurred in the September 30, 2009 tsunamigenic earthquake in Padang by employing a phenomenological interpretive approach. Data were collected by conducting in-depth interviews with emergency managers as well as reviewing public documents. The findings show that relevant actors' lack of experience concerning situational awareness and mental simulation had inhibited their efforts in applying intuitive strategy. Furthermore, the ambiguous actions taken were also driven by bureaucratic procedures and limited resources, which hampered innovation and adaptation in facing an escalating situation. At the same time, the actors had to deal with public distrust if the decisions were to be made without sufficient information or declared by an unexpected actor. Finally, the government had missed a most crucial time –the golden time –and let vulnerable people make their own choices.

Keywords:

bureaucratic inertia, indecision, natural disaster, public distrust,
recognition-primed decision

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Introduction

Effective decision-making has become a core focus in the field of crisis management (Pearson & Clair, 1998; Wang, Zhang, & Wang, 2015). Aside from its concern about the output of decision making, it also pertains to the process that guides to a specific output. Since timely responses are necessary during situation of crisis, decision makers struggle with difficulty to deal with information supply and possible alternatives to choose appropriate options (Hadley, Pittinsky, Sommer, & Zhu, 2011). They are most likely using technological agents to simplify this process (Faraji-Rad & Pham, 2017), in the name of bounded rationality. In this case, the actor's main capacity deals with interpreting output from the automatic procedural process in order to generate a resolute decision or outcome. In fact, secondary problems emerge due to the actor's cognitive inability (Su & Tung, 2014; Sweeny, 2008) while responding to the output, unpredictable estimation, and inapplicable output produced from deterministic scenarios.

Previous studies point out that actors who are incapable of managing this phase would end up with either non-decision or indecision. An approach using microcomputer-based emergency response was terminated in a non-decision when the emergency manager was unable to decide which one of the schools would be evacuated first to responding decision support system (DSS) (Belardo, Howell, Ryan, & Wallace, 1983). Bangladesh and India were also trapped in this similar status-quo concerning water resources sharing in the Brahmaputra River. While the first case talks about actor incapability, the latter is a product of political activity whereas each nation keeps their own data thereby hindering mutual agreement (Vij, Warner, Biesbroek, & Groot, 2019). Another case in point, the Nevado del Ruiz eruption in 1985 was closed without any official decision even though local government was aware about the signs of danger (Voight, 1990).

This paper examines indecision in a natural disaster context based on the September 30, 2009 earthquake in Padang, West Sumatra Province of Indonesia. It is quite rare to find indecision case nowadays when automatic procedural system integrated in an advanced DSS provides a specific outcome for the emergency managers. Few scholars provide a description about indecision in part of their study pertaining to disaster cycles e.g. Sobradelo, Martí, Kilburn, & López (2015) and Soulé (2014). The disaster preparedness stage often carries problems that range from gap of information to experiences that could delay

the decision process. Indeed, each case may be caused by several unique factors. In the case of the Nevado del Ruiz eruption, a statement about the emergency bureaus' commitment both at the national and international level was raised as a trigger to indecision. Reflecting on this event, indecision in the 2009 tsunamigenic earthquake may involve various antecedents that have already existed in the emergency agency or unexpectedly appeared triggered by the disaster event.

A 7.6 Mw earthquake hit Padang and several regions in West Sumatra on September 30, 2009. This great earthquake was presumed to be a part of the Mentawai patch movements which is becoming a concern for scientists as well as the general public. Scientists all over the world predict a next periodical cycle of 200 years earthquake which has not been released since the 1797 and 1833 strong tremors (McCloskey et al., 2010). The general public, on the other hand, are more familiar with this megathrust's name after a scientific exposure of the latest destructive event that will be followed by a tsunami more than 10 meters in height. It is a cause of concern for people living near coastal areas since they understand about current modeling depicting disastrous tsunami inundation along the coast of Padang and Bengkulu (Sieh et al., 2008).

The moment the ground was shaking, infrastructures began to collapse. People believed that the earthquake epicenter was on the offshore between Padang and Mentawai which meant tsunami would suddenly come. Therefore, a quick evacuation procedure had to be carried out with or without government instruction. No official warning was issued during the golden time due to massive infrastructure destruction. The mayor, who was responsible for deciding the option to evacuate, did not announce any official instruction, whereas the Local Disaster Management Authority (BPBD) thought their agency had no authority to issue the warning. Formally, the Indonesia Tsunami Early Warning System (InaTEWS), which is managed by the Agency for Meteorology, Climatology, and Geophysics (BMKG) had provided up-to-date data through both modeling and observation system for the local government to formulate an evacuation order.

Overshadowed by the 2004 Indian Ocean tsunami, people living in the red zone performed massive evacuation. They moved to areas around Universitas Andalas and Semen Padang plant which is more than eight kilometers from the seashore. Still, no official warning could be accessed around thirty minutes into the event. Evacuees saw some

personnel of BPBD Padang held large paper banner with the writing “the earthquake did not potentially trigger a tsunami.” However, they continued evacuating. Most of them brought their property and did not back home for two to three days despite the government having released statements continuously about the current conditions an hour after the disaster.

The local government’s responses to the crisis situation need to be explored. Being fully reliant on a procedure-based decision support technology had resulted in the emergency manager overlooking past experiences as an element to formulate critical decisions. Actually, either human experience or environmental dynamics have become tools to support human cognitive and affective aspect in making emergency judgment. Due to impractical technology in the 2009 earthquake event, this paper aims to review the presence of emergency decision from a non-technical paradigm. Accordingly, Recognition Primed Decision (RPD) Model from Naturalistic Decision Model (NDM) is adequately utilized in this study rather than another NDM approach.

Methods

This is a phenomenological study directed by an interpretive approach. Data were collected by conducting in-depth interviews with emergency actors, who dealt with the September 30, 2009 earthquake, represented by BMKG; the Local Disaster Management Authority (BPBD) of Padang Municipality, the Emergency Operating Center (Pusdalops PB) of Padang Municipality; the Crisis Center of BPBD of West Sumatera Province; and an organization called RAPI (*Radio Antar Penduduk Indonesia* – Radio among Indonesians). Since it is a past event, public and official documents were also gathered to support the research data such as statements from GTz-GITEWS, National Disaster Management Authority (BNPB) and BMKG in order to explore audiovisual and contextual views, beliefs, and experiences (Roberts & Wilson, 2002) of the actors.

Since the September 30, 2009 earthquake is a past event, this study gathered the data from actors’ feedback experiences through a phenomenological method which is the most appropriate with our research objectives. Phenomenology answers the question of how we can share someone’s lived experiences and communicate it to the world (Mapp, 2008). Hummel points out that this method helps elude false assumptions about human beings and

their understanding (Al-Habil, 2011) as well as bring about knowledge and ascertained phenomena through language (Miles, Francis, Chapman, & Taylor, 2013).

Decision points serve as units of analysis which define a point in time when the alternative decisions or series of actions could have been selected (Klein, Calderwood, & Clinton-Cirocco, 2010). Each decision point could be an opportunity that leads to another choice that can be decided by the actor (p. 190). Identifying the decision points help researchers examine actors' situational awareness and mental simulation as well as distinguish particular antecedent factors pertaining to indecision.

Data processing followed the phenomenological interpretive method. It began by transcribing the interviews. Then reading and re-reading the texts in an open-minded manner. The next step dealt with structural analysis where units of meaning were identified to capture a single meaning and they were classified into a particular group. It subsequently resulted in the original meaning of data being specified into sub-themes and themes. The final phase involved reading the text in a comprehensive manner in order to connect the themes to the research questions (see Morgan, 2019; Wojnar & Swanson, 2007).

Results and Discussion

Classical versus naturalistic model of decision making: which one should be employed in emergency situation?

Classical decision making is attached to uncertain conditions since its systematic information processing supports problem solving. Both crises and emergencies have bounded decision maker's cognitive ability and timely reaction driving him to mostly rely on a systematic approach (Faraji-Rad & Pham, 2017). The approach provides actors with information that can fulfill their curiosity and assist in providing alternative options. Systematic decision making as an ideal model has existed for approximately seven decades by offering mathematical axioms and modeling resources (Tuckett et al., 2015).

According to Sobradelo, Martí, Kilburn, & López (2015) the decision process in a systematic approach generally follows three phases: deterministic, probabilistic, and informational. The deterministic phase integrates information pertaining to hazards, i.e. its past behavior, comparing patterns between similar phenomenon, and potential hazards turning into a disaster. The probabilistic phase deals with the possibility of the hazard

affecting vulnerable environs including the community, infrastructure, etc. Finally, the informational stage estimates the outcome of each option including its impact to post-disaster actions. Each phase has to be completed as a sequence. Output from the previous stage becomes input for the next phase.

Early warning technology typically implements a systematical approach. It consists of several components working together to produce either output or outcome for the emergency manager. Both applied and prototyped early warning systems (EWS) in the last 30 years have provided output for decision makers through prediction and forecasting instruments. This output should be executed at the institutional level to establish an effective decision (Reggiani & Weerts, 2008), for instance the decision to initiate evacuation or otherwise. A well-developed early warning system (EWS) nowadays works beyond the scope of its work. It not only provides warning but it also measures benefits and drawbacks of the options to guide decision makers so that they get closer to the most adequate decision (Horita, de Albuquerque, & Marchezini, 2018).

The classical model of decision making is valued for its procedural steps and possibility to re-evaluate course of actions before its execution (Sobradelo, Martí, Kilburn, & López, 2015). However, there are issues that tarnish its perfect image since it is developed from deterministic and idealistic conceptions with questionable assumptions (Kolen & Helsloot, 2014; Tuckett et al., 2015), unrealistic and inflexible scenarios (Grothe-Hammer & Berthod, 2017; Tuckett et al., 2015), challenging to be interpreted by decision makers (Gigerenzer, Hertwig, van den Broek, Fasolo, & Katsikopoulos, 2005), and politically-affected decisions (Pulwarty & Sivakumar, 2014).

Recognition Primed Decision: responding to emergency decisions from a non-techno-rational approach

The Recognition-Primed Decision Model (RPD) is rooted in Naturalistic Decision Making (NDM) that focuses on emergency decision making. NDM tends to employ intuitive decision process than being trapped in a deep search for alternatives and options ruled by the Classical Decision Making approach (Paton & Jackson, 2002). Following a series of problem-alternatives-choice tasks will be very stressful when time is limited, and rapid decision is demanded. Actors often do not have sufficient capacity to gather all information,

list possible alternatives, consider each alternative, and choose the best option to be implemented. This serial process remains a challenge despite the assistance of various technological instruments. Neither the complexity of problems nor situation dynamics can be replicated through laboratory works; it is specifically unique and highly contextual. Therefore, some scholars doubt the idea of decision making based on modeling and scenarios.

Scholars point out the characteristics of NDM in relation to its process: *i)* Process orientation: it emphasizes on the cognitive ability of actors as well as their skills when managing, processing and interpreting information; *ii)* situation-action matching decision rules, wherein decision makers screen their options by contrasting them to the standard not to each other. Whether an option is accepted or rejected rely on situational context; some tasks might likely be analytical but they adhere to pattern matching informal reasoning; *iii)* context-bound informal modeling, because the decision process is driven by experience-tied knowledge not abstract formal models; *iv)* empirical-based prescription, which is feasible for the observed task. Problem is solved on the basis of cognitive process within the contextual situation that will be implemented through actual tactics (Lipshitz, Klein, Orasanu, & Salas, 2001).

Recognition-Primed Decision (RPD) pinpoints a prototype of NDM. It builds upon the commander's knowledge, experience and training in assessing field situations and developing mental ability (Ross et al., 2004). Hence, this model is mostly applied under tactical emergency situations. Previous studies show RPD being implemented in man-made disasters such as urban fire, aircraft accident, and offshore oil incident (Lipshitz et al., 2001). They found that the majority of the decisions were shaped by the commander's recognition of past experiences drawn from various events he was facing (Klein, Calderwood, & Clinton-Cirocco, 2010). Decision is not generated by evaluating the negative and positive aspects of each option, rather by its conformability to the current situation.

There are two main features offered by the RPD Model that differs from the classical approach: situational awareness and mental simulation (Klein, 1993). Situational awareness describes the actor's ability to understand the objective of an existing situation, to capture salient cues required for contextual condition, to shape expectations that functions to balance the accuracy of situational assessment, and to point out the actions to be taken. In

addition, mental simulation is empowered to evaluate course of actions and anticipate whether it will work or not (pp. 142–144). These are rational and optimal individual strategies following Simon's concept of satisficing whereby actors do not do all the work to reach an optimal decision (Klein et al., 2010).

The missed alarm: a missing instrument or intuition?

Everyone was in fear of a tsunamigenic hazard being triggered by the September 30, 2009 earthquake. For more than thirty minutes following the earthquake, no official information could be accessed due to collapsed infrastructures. The mayor, who directly broadcasted every high-scale earthquake on the national radio station, Radio Republik Indonesia (RRI) neither issued any official warning nor evacuation order. On the other hand, Pusdalops PB Padang as an operational bureau under BPBD had no access to InaTEWS until about ten minutes after the tremor. Then a staff from GTZ-IS GITEWS Project (a joint-cooperation project between Germany and Indonesia for a Tsunami Early Warning System) supplied BMKG official information to the Pusdalops personnel.

When Pusdalops personnel tried to reach the Mayor through his handheld two-way radio, no one picked up. Some personnel tried going to his official residence; unfortunately, they did not meet him. Minutes passed, people initiated autonomous evacuation without any guidance. A few dwellers still stayed near the housing areas after receiving information from the army and RAPI personnel through VHF radio. Later, the BPBD personnel took to the nearest streets to inform about the situation of the current earthquake. Approximately forty minutes after the earthquake, the Mayor broadcasted his first instruction via RRI stating that no evacuation is needed.

Scholars cite that both non-decision and indecision is a form of decision (e.g. 't Hart, Rosenthal, & Kouzmin, 1993; Sobradelo, Martí, Kilburn, & López, 2015). Nevertheless, it is impossible to maintain either a status quo or an undecided option at the time when a critical decision is required to protect people highly at risk. Table 1 summarizes moments when the relevant actors paused in an indecisive action. Some parts of the moments were described by a third party who understood the September 30, 2009 situation very well.

Table 1.
Decision points at the emergency moment of September 30, 2009

| No | Actor | Decision point(s) |
|----|---------------------|---|
| 1 | Pusdalops PB Padang | <p><i>"We were guided by BMKG. When they said it has the potential to trigger tsunamis, we could issue an evacuation order. However, we also look up to our chief, the mayor. If he had ordered to evacuate, we would have to be done with it. Yesterday, he did not ask us to conduct evacuation procedure even though people themselves evacuated to higher land."</i></p> <p><i>Both Pusdalops and the mayor had a reference map used to simulate earthquake epicenter and its possibility of triggering tsunamis. Nevertheless, the mayor was still provided up-to-date information by Pusdalops. When an earthquake potentially triggers tsunamis, we have to inform and ask him whether to issue an evacuation order or not. If he chooses not to, he will be responsibility for that. But something quite worrying is: when the epicenter is located on a danger zone as visualized in the reference map and the evacuation actually has to be carried out immediately, but on the contrary, the mayor does not suggest it."</i></p> |
| 2 | Mayor | <p><i>"We provided a VHF radio for the mayor so that he does not have to go to RRI when an earthquake strikes. He could talk to people via this device and his word will be disseminated to the public. I just thought that he did not know how to operate the radio and no one could tell him about it since he is the mayor."</i></p> <p><i>"In an emergency, the mayor has the authoritative order. Another section of the municipal staff supported him. He received and accommodated information from Satkorlak (now BPBD of West Sumatera) as well as from BMKG."</i></p> |

Source: interview data, 2019

A high dependency on a systematic approach may determine an emergency manager's ability to explore one's skills. During the development of InaTEWS, GITEWS backed up Pusdalops with a reference map to help emergency actors to forecast upcoming tsunamis. The personnel knew exactly how to run the map and how to interpret the results. Still, they did not employ it properly; they just waited for BMKG's direction and the mayor's order. A similar case had occurred with the Mayor, since he always got official information directly from BMKG via his cellphone, he seemed unprepared to operate his handheld two-way radio that is better functioned in crisis than his cellphone is. These incidences actually affected the communication process during the emergency.

Situational awareness is not a passive process, operators around the relevant actors participate to support information provision and to actively assess the situation. In fact, the emergency actors had problems pertaining to situational awareness. They faced difficulties

while perceiving a total illustration of the current hazard used for projecting future events, which in fact have the crucial function of pushing actors to establish an effective decision (Endsley, 2013). The difficulties started when Pusdalops gave little attention to the surrounding dynamics that provided input in the decision process. No initial assessment had been done before receiving the official early warning message.

It was in stark contrast to what the Crisis Center of BPBD West Sumatera Province had done. They considered other trusted information sources i.e. USGS to obtain up-to-date information in order to run the reference map as well as to acquire information about the risks of the earthquake. Concurrently, the Crisis Center sent their staff to observe the tidal waves. Their closed-circuit television (CCTV) as part of the West Sumatera Early Warning System (WS TEWS) project that was installed at a waterfront hotel was destroyed by the strong tremors; therefore, manual measures needed to be employed immediately. Scientists believed that the oncoming tsunami in Padang would have been preceded by receding sea level such as the one that occurred in Aceh.

Actor's perception is usually shaped during the busiest time of emergency wherein the actor gathers much information within a changing situation (Endsley, 2015). The Pusdalops personnel seemed to be focused on repairing devices and getting in contact with the mayor. When information supply was limited, they had encountered a new problem. Pusdalops failed to develop a fully-integrated understanding about the current situation due to unprepared data. They may have had a lack of connection to both the manuals and skills they acquired from past trainings and simulations. Neither incomplete nor inaccurate situation awareness will produce appropriate judgment even when it is employed by expert or experienced decision makers (Endsley, 1995).

Mental simulation is the second element of RPD whereby decision makers develop a mental story in his mind to synchronize both situational awareness and the experiences they acquired. Actual emergency experiences become the main sources of mental simulation whereas crisis-responded mental model contributes to build an effective decision (Paton & Jackson, 2002). Despite the individuals in Pusdalops having personal past experiences in dealing with the strongest earthquake to ever hit Padang, they had no group experience of working as a team because they had only existed following the issuance of the 2007 Disaster

Law. In addition, a communal experience of a tsunami has only been shown by the 2004 Indian Ocean tsunami tragedy disseminated via mass media.

Dionne, Gooty, Yammarino, & Sayama (2018) argue that the mental model is not only formed by individual actors but by group collectivity as well. Actors may seek assistance to discuss the interpretation of escalating situation and its risks. A solid team with good emotional capacity building will provide support to actors' ability when facing stressful event. With its new track record as a young bureau, Pusdalops members had not yet have such a common bond. They had no clear definition about each member's capability, division of work and manager's responsibility at that time. Furthermore, their dependence on GTz-GITEWS was increasing since many tasks had been assisted by this international organization.

The idea of mental simulation is similar to what Weick (1988) calls sense-making. Referring to Maitlis and Sonenshein (2010), sense-making is "about connecting cues and frames to create an account about what is going on." Psychology studies sense-making for its contribution to shape a positive illusion that encourages actors to control their environment as well as create an adaptive future. Taking part in sense-making will motivate actors to look toward subsequent dangers by accommodating more information (2010, pp. 555–556). However, Weick notes that sense-making as a mental simulation may also cause more severity in times of crisis (1988, p. 305). Since there was a lack of connection between organization members, the development of sense-making has become questioned.

Antecedent factors: reasons behind indecisive action

This part explores the actors' inability to work within a systematic procedural and intuitive decision process by referring to themes found from the structural analysis. There are three themes viewed as underlying factors to indecisiveness:

Indecision as a form of bureaucratic inertia

On-duty personnel in Pusdalops believed they were performing in line with the standard operating procedures (SOPs). They argued not to make any decision which falls under the mayor's domain. On the other hand, the mayor also mentioned that his decision depended on analytical information supplied either by Pusdalops or BMKG. Both referred to Local Law Number 3 of 2008 article 36 which states early warning decision should be

taken by the authority. The mayor said that a preliminary choice had been considered but it needed to be discussed with Pusdalops. Nevertheless, the infrastructure damage had blocked their means of communication. *"The Mayor suggested people to remain vigilant, do not panic, gather with family members as soon as you move to higher ground (Hoppe & Mahardiko, 2010)."*

SOPs in crisis situation is usually seen as a double edged sword (Stark, 2014). While an edge could be analogous to handrails for guiding actors to decide what they should do, the other edge is like handcuffs that may trap actors to act beyond his authority. In this case, the Law has not been clear about who maintains the authority, although some argued that it is the mayor's duty. Thus, Pusdalops might have a chance to avoid the blame. The procedure was actually designed to safeguard the authority from any faults as they go through it. Instead, the rapid escalation of crisis had not given any opportunity for the authority to act firmly; a simplified process and procedure were immediately required.

Emergency personnel sometimes hide behind the procedures. In case they are unable to organize any protection measures, they let the people at risk to make a personal or group choice only by providing on the spot warning message. The people had mobilized under a collective agreement, to keep away from coastal areas, and they acted based on their limited knowledge about preparedness and safety. Those were the reasons people crossed the rivers using their motorcycle or evacuated by riding trucks full of evacuees. Indeed, a warning provided by a public agency has more weight and stature than that which is informed by family members or neighbors since it invokes people's sensibility about the imminence of real danger (Kakimoto & Yamada, 2016).

Bureaucracy is not appropriate for handling crises and emergency events with its escalated and chaotic circumstance (Farazmand, 2007). This is revealed and shown in the management of the 2005 Indian Ocean tsunami and the 2005 Hurricane Katrina. They used a formal approach to diagnose and respond to the disaster. In addition to its formal SOPs, bureaucracy has low level adaptation and learning capability (Takeda & Helms, 2006). This opinion below illustrates a missed sense of urgency which was much needed while managing the crisis: *"The Mayor should not have to go to RRI station, just inform the people via his radio and it will be broadcasted...The Regional Representative Assembly (DPRD) did not give adequate support. Once we threatened them for not allowing emergency equipment procurement."*

Indecision is influenced by availability of organizational resources

Both BPBD and Pusdalops were newly established public agencies at the time. Their existence is mandated by Law Number 24/2007 on disaster management. BPBD originated from the Disaster Management Implementing Unit (*Satuan Pelaksana Penanggulangan Bencana/Satlak PB*) that was tasked with carrying out disaster and emergency response activities at the district/municipal level, while Pusdalops was established as a part of a collaborative program between the National Development Planning Agency (Bappenas), the National Coordinating Agency for Disaster Management (Bakornas PB), the Ministry of Home Affairs (Depdagri) and the United Nations Development Program (UNDP) namely Safer Community through Disaster Risk Reduction (SC-DRR).

Pusdalops in West Sumatera Province and Padang Municipality were one of the first established Emergency Operating Centers in Indonesia. Pusdalops PB West Sumatera, previously known as the Crisis Center, received a grant from the French Government complete with advanced equipment e.g. Risk frame software and CCTV that supported them to develop a local early warning system called WS TEWS. Pusdalops PB Padang did not receive such equipment and they just had standard equipment such as radio internet (ranet) and computers. Unfortunately, the Crisis Center building suffered heavy damage destroying its equipment including a control room at the time of the September 30, 2009; meanwhile, Pusdalops PB Padang office remained sturdy with slight damages on its walls and equipment.

The Pusdalops Padang personnel were mired in confusion with the slow response to the emergency situation even when they had finally fixed the problems with their equipment: *"our problem the other day was in dealing with communication devices...We could not reach the Mayor to report about the recent situation."* Quarantelli (1988) states that emergency agents mostly focus on what to be communicated and devices to be used; forgetting about how communication should take place including its flow. An organization is actually full of human resource, equipment, and knowledge which often could not be transformed into tactics and strategies while facing a hazard or disaster. It is almost commonplace to see the key person disappearing during a critical time due to an overload of duties; no capable individual to take over his responsibility due to the limited knowledge one has to implement substantial authority.

The disaster agency had limited competency to operate beyond the routine, instead the operator was able to mobilize scientific information for countering every option (Nohrstedt, 2013) such as by improvising (Mendonça, Webb, Butts, & Brooks, 2014). "...did the mayor have knowledge about tsunamigenic earthquake? PUSDALOPS provided information for him. Issuing an evacuation order is not a simple matter, it's full of risks. We stand by his order. [If we take that task] and the tsunami does not hit, PUSDALOPS will become the target of public anger." PUSDALOPS worried about information and knowledge affordability that held them back in indecisiveness; they forgot to engage in heuristics and improvisation which usually become effective when responding to disasters.

Indecisiveness opt to maintain public trust

The relevant emergency actors in Padang also dealt with public distrust. They would have been seen as public enemy once they make a mistake or fail, particularly without careful consideration for matters such as science, rules, etc. This is one of the reasons for letting the public design their own choice. This may sound irresponsible but it may have been the safest option and the most publicly accepted: "*In Padang we do not obey Fauzi Bahar or Gamawan Fauzi. Let's be honest, we don't want to be regulated by the government... Try to ask the people of Padang, they will say that our destiny depends on God.*"

Although an official evacuation order is better than information provided by the masses, Kakimoto and Yamada (2016) make a note about the 'boy who cried wolf' effect. In the aftermath, the impact of a near-miss disaster will be blamed on the decision maker who instructed the people to evacuate when they were actually unsure about the threat. Local communities often rely on particular signs of upcoming calamities and stand for their self-protective behavior which is not easy to deconstruct using government rules. They could have well-perceived risk but it is not directly associated with evacuation.

A study conducted by Thomalla and Larsen (2010) describes individual and communal disregard to InaTEWS since they were excluded from the program. In the case of Padang, escalating tension between provincial and municipal authorities had resulted in an ambiguity that confused the people. It affected their obedience to official evacuation order. The locals did not leave the beach even after they felt the tremors or received official warnings (Spahn, Hoppe, Vidiarina, & Usdianto, 2010). Hall et al., (Hall et al., 2017) underlines that the intent to evacuate in some communities in Indonesia is most likely

driven by the local leaders rather than through government orders. Consequently, the government remained caught either in indecisiveness or non-decisive act as long as they are unable to present plausible arguments to win the public's trust. It is going to be a setback for the disaster preparedness program.

Conclusion

A high dependency on techno-rational measures has limited actors' capacity to deal with non-procedural strategy in the September 30, 2009 earthquake. When the official warning system was unable to present any information for the issuance of an evacuation order, actors also experienced a deadlock of asserting intuitive strategy. They failed to assess the dynamic surroundings as if unable to develop a mental simulation of the oncoming catastrophe due to a shortage of experiences and initiatives. Thus, people who were highly at risk decided to take autonomous measures: most of them initiated self-evacuation while others stayed around their settlements. Tracing the actor's indecisive choice leads us to an argument concerning high compliance to standard operating procedures, barriers on organizational resources, and a strategy to maintain public trust. The main factor deals with the ambiguous procedure of Pusdalops responsibility in the mayor's absence. Pusdalops could not take over the mayor's role which will have implications relating to administrative and political affairs. To sum up, the decision makers managing the 2009 Padang earthquake hazard were neither experts nor experienced actors.

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