How does Post Disaster Social Communication Catalyze Community Resilience and Education?

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Abstract. Palu multi-disasters in 2018 caused life crisis. Many infrastructures and social structures were destroyed. Many people suffer from calamity. This life-threatening situation left bitter experiences. After disasters, they engage in social interaction to survive and re-develop. They are gradually adapting, rebuilding, and learning from experiences. This study aims to examine how social communication may catalyze community resilience and be self-educated community. The data are collected through direct observation by examining physical environment and direct disaster experiences. The data are analyzed using analytic induction. The study indicated that daily social communication can potentially facilitate Palu's community learning and resilience in four primary ways. Firstly, through communication, the people could share their disaster emotional experience which allows them to relieve their anxiety, insecurity, fear and panic. Secondly, they could disseminate local knowledge on problem-solving. Thirdly, social communication facilitates social actions to recover. Fourthly, it allows the young generation to learn.

Keywords: communication, community resilience, community education

Introduction

Social communication is inseparable from human's social live. It bridges information, expressions of human heart experiences, ideas and knowledge. Moreover, it connects individuals to community. Daily social communication enables people to do their regular activities. Communication also allows people to make friends, build networking, partnership, and engage in community activities. Appropriate and effective communication can influence and generate social emotion and cognition to respond to an event in particular reactions and do social actions in particular ways.

Natural disasters generate painful experiences, especially for the impacted society. They are frequently suffering from massive loss and destructions. They are losing their houses, all of their properties, families, relatives and friends. Their regular activities of working and schooling are impeded. Their routines are changed. Moreover, after great natural disasters, many remained people suffer from calamity following massive disasters: hunger, uncertainty, diseases, riot, criminals, and anxiety that the disasters will soon come back again. Many of the victims should even start their life from the beginning, while many of them choose to evacuate and never come back.

Social communication is also established by the impacted society. However, soon after disasters, they tend to develop different and particular communication from before disasters. This study aims to examine local people social communication during post natural disasters: what they communicate, how their communication may potentially contribute to resilient community building, and what they learn from their disaster experience. We focus the examination on Palu disasters which occurred in September 2018, based on two main considerations. Firstly, Palu city is located on vulnerable zone of earthquake disasters since it is passed by Palu-Koro fault. Secondly, Palu earthquake in September 2018 induced two other great natural disasters: tsunami and liquefaction.

Other studies on communication and disasters focus on planned disaster mitigation programs from top to down. Differently, this study focuses on local people real communication, indigenous and experience knowledge to save their lives. We believe that it is also significant to hear, observe and analyze how the local people communicate, learn, and share their disaster experience for preparing themselves to face the recurrent disasters. Local people's knowledge and experience can be invaluable sources for disaster mitigation and management. In spite of their significant roles, there are only a few studies explores disaster from local people perspective.

Local knowledge of how people respond to a disaster is still reserved (Juliana, Amin, & Idrose, 2017, p. 900). Resilience in this study refers to the resilient concept of Driver Project in 2017 (Davis, 2017). It defines resilience as individual as well as community and systems to resist, recover, and adapt from disruptions that disturb their 'normal' functioning (Davis, 2017, p. 6).

The study examines several theoretical frameworks from the areas of disaster communication and community education as its grounds to understand the social phenomena. Natural disasters can be unpredictable. It can occur everywhere, anytime, and frequently bring about massive destructions. Disasters are big threats for development since it can destroy many infrastructures and community wellness which are built year by year. One of many development concerns and needs should be directed into responding disasters (Ranjan & Abenayake, 2014, p. 88). This is because disasters cause loss in many aspects: live, supplies, communication, power, water services, social services, business, structures and functions of society (Davies & Davies, 2018, p. 746). Impacts, risk, and threats of disasters can be reduced by increasing people's capacity to be more self prepared and resilient (Jabareen, 2012, cited in Ranjan & Abenayake, 2014). Principally, community resilience is defined as capacity of community to face disasters. Ranjan and Abenavake (2014, p. 89) designate disaster resilience as community conditions in which people can withstand from disaster effects, adjust to quick changes and return to normal condition from disruptive situation. Similarly, McCaul and Mitsidou (2016, p. 10) identify community resilience as community and household's ability to predict, adapt to consequences, accept, react and recover from disaster adversity in a certain time

and effective ways without sacrificing long-term potentials, especially their wellbeing. Community resilience is also defined as community capacity to survive and develop within short as well as long term by evolving their environmental, economic, and social sustainability (Lerch, 2015, p. 10).

Community resilience requires the integration of various associating aspects and agents. Community resilience includes recovering social functioning systems, minimizing impacts, bouncing back in timely and effective ways, and learning from experience (Give2Asia & IIRR, 2017, pp. 9–10). Gorin, Junghardt and Stal (2015, p. 8) recommend three main capacities: absorptive (coping shock and stress), adaptive (adjusting to what happens), and transformative (changing social identity, structure, systems). Differently, Davis (2017) mentions that community resilient capacity can be built by strengthening people's capability to continue their system functioning despite disruptions, recover the system, and adapt to changes. Specifically, community resilience is divided into several types: physical, social, economic, organizational, and environmental resilience (Ranjan & Abenayake, 2014, p. 90). Moreover, there are several aspects contributing to community resilience: education, economic, environment, governance, health, infrastructure, social/cultural, and disaster risk management (McCaul & Mitsidou, 2016, p. 12). Community resilience capacity is indicated by several indicators: social, economic, institutional, infrastructure and community capital (Davis, 2017). Furthermore, behaviorally, community resilience is specified by community response efficacy, community participation, collective efficacy, place attachment, empowerment, trust and intentions (Davis, 2017).

Natural disasters can be a stimulant for impacted community to learn and educate themselves. Education can significantly contribute to community resilience and empowerment. Education enables process of creating personal and group/social identities which are able to determine their own lives (Educar en tiempos dificiles, cited in Ceballos, 2006, p. 321). This enables society to learn to develop their-own regional potential. Community empowerment requires educational process which help individual or community understand what they have already learned (Ceballos, 2006, p. 328). Moreover, community education is an education for life that tends to be self-directed

and learners-centred (Government of Ireland, 2000). This implies that community needs to actively learn together to develop. From educational process, individuals acquire knowledge. Knowledge has power and the transmission of knowledge from one people to others is basically the empowering process (Hannon, 2019, p. 166). Education plays significant roles in disaster management. As mentioned by Vaughter (2016, pp. 1–2), education helps to prepares kills, knowledge, and character of community to decrease risks of disasters. Many studies find that education caters community resilience from disasters in several ways: education shapes community response towards disasters (Vaughter, 2016), ICT learning/education can contribute to disaster management (Tarhan, Aydin, & Tecim, 2016), developing disaster education program by collaborating school and community (Oktari, Shiwaku, Munadi, Syamsidik, & Shaw, 2018; Parkash, Begum, & Rita, 2013), being more knowledgeable and are able to use their local knowledge for disaster preparedness (International Organization for Migration, 2015).

Many studies on disaster communication analyze communication functions to reduce disaster risks and impacts. Information is the most needed element during crisis and emergencies and helps the impacted society by spreading visible condition and trustworthiness (East Asia Summit (EAS) & Earthquake Risk Reduction Centre (ERR), 2014; Juliana et al., 2017). One of several keys towards community's resilience is developing communication to inform during and soon after disasters since reliable communication can connect victims, impacted people/communities with rescuing teams, support systems and other families (East Asia Summit (EAS) & Earthquake Risk Reduction Centre (ERR), 2014). Developed communication systems and technologies can spread emergency messages (Juliana et al., 2017) and reach remote areas (East Asia Summit (EAS) & Earthquake Risk Reduction Centre (ERR), 2014). Effective communication also assists disaster mitigation and community preparedness by disseminating government's information and getting information from local people (Robinson, 2017). Effective communication facilitates the post-disaster reconstruction process by allowing two-way communication among government, impacted community, and reconstruction agents/teams (Jha, Phelps, Pittet, & Sena, 2010). Communication allows community to

participate in recovery by socially-directly share information as well as through social media (Linardi, 2016; Teo, Goonetilleke, Ahankoob, Deilami, & Lawie, n.d.; Yang et al., 2019). Information from disaster site is essential for knowing damages, and need assessment process which provides inputs for coordination and decision making (Pan American Health Organization, 2009, p. 13). Moreover, disaster management requires communication planning which involves collecting, organizing, producing, and disseminating data to inform decision-makers and prepare resources to help (Pan American Health Organization, 2009, p. 26).

Research Methodology

As the capital city of central Sulawesi province, Palu is a unique region and is vulnerable to disaster. Geographically, Palu is bordered by Donggala regency at north, Sigi regency at south, Donggala and Sigi regency at west, and Parigi Moutong and Donggala regencies at east (BPS Kota Palu/Palu Central Bureau of Statistics, 2018, p. 3). Palu is extended between 0º,36" - 0º,56" South latitude and 119º,45" - 121º,1" Eastern longitude (BPS Kota Palu, 2018, p. 3). Palu is located under equator with altitude of 0-700 meter above sea level (BPS Kota Palu, 2018, p. 3). Uniquely, Palu city is categorized non-zone season region which has its own season characteristics, which is different from other two season areas (BPS Kota Palu, 2018, p. 7).

In spite of its beautiful natural landscape and rich natural resources, Palu is located on dangerous zone. It is vulnerable to earthquake disasters since it is crossed by Palu-Koro faults and surrounding several small faults (Rusydi, Effendi, & Rahmawati, 2017). Earthquakes can occur/not in Palu Valley, including Palu city, in minor intensity (≤ 3 Mw) not less than 5 times a day (BMKG, 2012, cited in Rusydi et al., 2017, p. 137). Palu is very sensitive to several natural disasters, including earthquake, tsunami, landslide, and liquefaction (Pinem, cited in Tim CNN Indonesia, 2018). Disaster historical record shows that from 1927, there have been 8 major earthquakes hit Palu (Rusydi et al., 2017, p. 137).

Again, on 28 September 2018, earthquake in 7.4 magnitude hit Palu. Until 9 October, 2018, it was reported that the disasters caused 2,037 fatalities, including over 4,084 injuries, 671 persons lost, 152

needed quick rescue and over 74,044 persons were evacuated in 120 sites (BNBP, cited in World Health Organization, 2018a, p. 8). The earthquake happened wasn't the only disaster, since it triggered other following disasters: tsunami and liquefaction. Figure 1 shows many houses destructed by liquefaction at Balaroa. It is predicted that the earthquake is resulted from active movement, strike-slip faulting of Sesar Palu-Koro fault (Syifa, Kadavi, & Lee, 2019, p. 1). Consequently, several areas are under crisis, including clean water, shelter/houses, health, food, education and protection (Acaps, 2018, pp. 2–3). Several aspects become concerns, including health, water and sanitation, telecommunication, shelter, electricity and medical services (World Health Organization, 2018b).

Figure 1. Ruined houses at Balaroa, as impacted by liquefaction following Paluearthquake

The study is grounded on a qualitative research and aims to examine communication at local people-community level after Palu disasters in 2018. Several characteristics of qualitative study are it explores life situation, records perceptions of local people 'from the inside,' and captures people's understanding, thinking and daily behavior (Punch, 2011, p. 142). Qualitative researchers examine spoken and written data picturing human experience by employing various methods and sources of data (Punch, 2011, p. 168).

The data of the study are collected from several sources. The first method is direct observation. The authors examine and analyze real social-physical situation in Palu after natural disaster, especially during the emergency situation until the Indonesian government announces the end of the emergency situation. During this period, the authors engage in daily activities with Palu community: at the traditional markets, visit the impacted areas, at *warung* (some

sort of food stall), friends visit, and in the rescue tents. The authors take notes on daily situation. The second method is by using short communication. Some local people who can save themselves and their families are asked to tell stories on their feeling and experience when the disasters come and after the disasters. Both of the participants are civil servants. The third method is examining several photographs. They are taken in natural environments after natural disasters, especially the official emergency situation. The pictures cover community daily activities, impacts of disasters or posters/billboards. The fourth is through natural conversation/ dialogues. This includes a spontaneous conversation with local people. Frequently, they tell spontaneously their surprise and lingering emotion on disasters.

The data are collected by using several research instruments. The direct observation data are collected by using field notes which are written after observing several impacted places, including Balaroa, along Pantai Talise, posts of emergency tents, and several roads used by community to put posters and emergency notifications. Pen, paper, and mobile phone camera are used as research instruments to capture the natural data. The personal communication data are collected by asking several open questions to local people. The questions are not rigidly used to allow them to feel free to tell their disaster lived experiences. Thus, the questions are used as a flexible guideline. Those questions are: What do you tell others after disaster? Why do you communicate it? What information should be communicated to anticipate the increased victim after the potential recurrent disasters and how to best communicate it? and what did you do when disaster occurred to save your own and your family's life?

The collected data are analyzed by employing analytic induction. It is started with reading, comparing, and contrasting all the data, finding meaningful statements from all types of collected data, classify and develop them into several themes, build textual and structural descriptions, interpreting the data, and comparing/contrasting with previous research findings or theories relevant to the analysis/findings.

Results and Discussion

Communication and Resilient Catalyst

The study finds that after the disasters,

local people develop social daily communication which potentially contributes to disaster resilience and self-education through several ways:

Social sharing and emotional resilience

After disasters, many local people engage in spontaneous communication. They engage in expressive dialogues on many occasions at many places: when they meet their friends on the streets, in emergency tents, when they visit the highly impacted areas such as Balaroa, when they search for food, when they wait for medical services, when they help other victims or when they trace back some areas which they usually visit, when they go around their houses to check the situation (roads, facilities, neighbor houses, damaged shops/*warung* or when they see the evacuation and recovery processes.

Through social interaction, they communicate their disaster experiences to each other. They share on how they can survive or how their family or neighbors can escape the tragedy. Many of them tell their experience expressively. Through this social interaction, they communicate their feelings: mixture of sadness, worry, afraid, empathy for those who lost their family members, even angry and blame for late/slow rescue or the one who is suspected to be the cause of disasters. This social sharing may relieve their emotion tension. This is as indicated by the following interview excerpt:

"…when I follow …we are asked to form some groups and share…that's a psychosocial. I tell my experience because some people want to know. Also when I tell my experience, I feel relieved. I feel I can release my emotional burden through sharing…" (Local People Participant 1)

"I tell to the other victims first, usually they tell what happens…and certainly we respond because we also experience (the same thing)how is the situation when the earthquake occurs and after earthquake. Because both (situations) and (particularly) after are very critical condition. After earthquake, many infrastructure damages…no electricity, no phone…we tell to each other because of three factors. Firstly, it relieves our emotional burden. Secondly, it shows that we can survive because doing certain

actions and lastly, is for being actively responding to other people's stories…" (Local People Participant 2)

The data also indicate that social sharing may make the local people/victims have shared-feeling, they listen and respond to each other and feel being heard and cared. This may potentially give feeling of comfort. However, social sharing may also dangerously infect negative emotion, such as anger when they are debating on who should be accused for the tragedy or choice between changes or remain which can ignite conflict. Conflict can be one of building blocks that hinder resilience since it can stir people emotion and cause more destruction (Gorin et al., 2015, p. 9).

Social sharing on emotions-related disasters can build social cohesion through communication. Community members' communication, information and cohesion build adaptive capacity to resile (Combaz, 2014, p. 14). Telling emotional experience can be relieving (Pennebaker, Zech, & Rimé, 2001, p. 7). Physical and mental wellness of community members is one of several characteristics of resilience (Los Angeles County Community Disaster Resilience Project (LACCDP), n.d., p. 16).

Problem-solving and collective learning

The other function of communication is catering problem-solving initiative and transfer knowledge among victims/impacted community members. After disasters, some people can learn from stories/dialogues/conversations with other victims. They learn from their own as well as other people experiences. There are three main things that they learn: what are the indicators or signs that disasters will occur, what they can do to quickly save themselves or other people around them and what they can do in the future if the disasters are occurring again. They learn to reflect by tracing back their own experience, comparing and contrasting with other people experiences and then conclude. The data excerpt below shows what a participant learns after Palu disasters.

"…when the earthquake occurs, I actually want to anticipate. I browse on how we can anticipate earthquake because this earthquake cannot be predicted, cannot be determined when, what time, where it may happen. It's very unpredictable…

but there may be a way...because I am interested in technological things, up to date technology, gadget...so I try to find the technology, a gadget (aplication) which can inform us before earthquake occurs. At least it can reduce numbers of victims or to know what happens. But, actually, all buildings should be well-designed because even though there is warning, when the houses fences are not designed to anticipate earthquake like this, we can be trapped inside the house..." (Local People Participant 2)

The above data show that after disaster, the local people (number) 2 learns and searches technology which may potentially give early warning when earthquake occurs. The local people 2 informs this to his colleague, relatives, and neighbors.

This indicates that earthquake triggers individual learning and knowledge transfer to other people through daily communication. The local people 2 performs adaptive learning to mitigate/prepare himself and other people when the earthquake is recurrent. Learning is one part of processes to be adaptive (Combaz, 2014, p. 14). Furthermore, adaptive capacity enables the impacted people to choose among choices to prevent or minimize more risks/disasters impacts in the future (Combaz, 2014). Adaptive capacity may enable community "to bounce forward" and to do this, the people need resourcefulness, flexibility, and ingenuity (Gorin et al., 2015, p. 8). Technology and science can assist mitigation process since it can provide understanding of disasters: when, where, how, and level of intensity (James, 2007, p. 8).

Adaptive capacity in disasters relates to structure and process allowing adjustment which is achieved through learning, transformation and adaptation (Parsons et al., 2016). It requires effective roles of leadership and disaster policies and engaging response of social as well as community (Parsons et al., 2016). Community learning and improved disaster knowledge is one of several paths towards an integrated disaster-resilient community (Djalante, Holley, Thomalla, & Carnegie, 2013). The local people 2's learning and sharing can benefit others to identify, prepare, and understand process of disaster. Process of identifying and understanding disaster involves activities and instruments for obtaining more knowledge (German Committee for Disaster Reduction (Ed.), 2011,

p. 15). Safer and adaptive disaster resilience is determined by disaster preparedness, mitigation and prevention, response and recovery, and rehabilitation (ndrrmc, n.d.). Disaster knowledge can be obtained through community-based approach, both from local disaster histories and traditional behavior (German Committee for Disaster Reduction (Ed.), 2011, p. 15). It is also shown that the Local people 2 performs aggregation and emergent behavior. Aggregation and the emergent behavior are several basic elements of complex adaptive system which allow the individuals to build interaction after disaster and perform certain behavior in aggregation with other people (Coetzee, Van Niekerk, & Raju, 2016, p. 2015). Moreover, local people 2's initiative to learn and share shows his local initiative to participate in disaster risk reduction. Local people participation is vital since each disaster area has its' own uniqueness and context. Each natural disaster can be effectively understood by developing certain disaster culture which may vary from region to region (Twigg, 2015, p. 11). Disaster risk reduction needs triple-loop learning, knowledge production and sharing through social interaction at both tacit as well as implicit knowledge (Weichselgartner & Pigeon, 2015, p. 115).

Communication of Warning

The other function of local social communication is communicating emergencies and warning, especially local emergencies, such as damage of small bridge or damage of roads at local levels. Frequently, these types of damages are not informed or communicated by government or rescuing teams since they may not focus on too detailed damage due to limited energy, personnel and time. Thus, Palu people initiate to inform the damage and communicate the hazard to other people to minimize negative impacts or reduce more victims. This warning communication may potentially foster community resilience since it may reduce risks. Moreover, it may evoke feeling of security since it informs others which areas are still dangerous and may hurt them.

To communicate the emergency warning, the local people use any media and brief language/message. Early warning systems are urgently required to disseminate alerts and preparedness (James, 2007, p. 8). In spite of the vital role of warning communication, how local people develop

their unique warning communication is still inadequately researched. This is as described by figure 2, where Palu people communicate spontaneously using any available communication media to warn others and reduce more victims.

Figure 2. Local people communication using emergency media

Indigenous communication of warning may lessen the number of victims or injured people. Minimizing loses and being able to "bounce back" are the primary aims of community resilience (Give2Asia & IIRR, 2017, p. 4). Saving live in disasters should not only be focused on pre-disaster risk management, but also when it occurs. The data show that during disaster, risk management is significant. Local people contribution and initiatives to save others are needed, especially because they know their areas well, better than the rescuing agents and volunteers. Knowing disaster risk and minimize the risk are the elements of community resilience (McCaul & Mitsidou, 2016, p. 13).

Social action, efficacy, and motivation

Any community resilient programs may not be successful without the active participation and involvement of the impacted community. Local community is genuinely invaluable and primary resource for disaster recovery for the short term and sustainable development for the longer term. Thus, it is significant to generate social action, efficacy and motivation of the local community itself to collectively develop their damaged areas. Public communication may generate collective emotion of efficacy to wake up and motivation to develop. One to one communication may less effective than public communication to move the people. Public messages using effective language can generate social emotion and cognition.

Soon after earthquake, tsunami and liquefaction, there are motto of "Palu bangkit, Palu kuat" (*Palu wakes up, Palu is strong*) or Bangkit for Palu (*wakes up for Palu*) are widely spread locally in Palu, such as represented in figure 3. Figure 3 represents one of awakening slogans, *Bangkit untuk Palu* (raise for Palu), which provides and strengthens emotional support for Palu community. This motto is put at billboards, backdrops, or any posters appear at the strategic sites. This verbal message aims to generate feeling of confidence of Palu people and also motivation to recover and develop. This recovery and development need Palu community capacity and active efforts. Local people can be capable developers in their areas since they have local/traditional knowledge which helps them to prepare, mitigate, and recover from disasters (Ngwese, Sato, Boafo, & Jasaw, 2018). Since disasters are multidimensional events and affecting community and its' vulnerabilities, it needs willingness and cooperation of all community elements (Lucini, 2013). Social resilience can be achieved by developing collective social relationship and communication (Lucini, 2013, p. 63).

Figure 3.One of awakening slogans

Communication and Community Education

The earthquake, tsunami, and liquefaction may bring destructive experiences which endanger Palu people and the city's long development. However, the disasters may not calamitous only, but also beneficial if Palu community can learn from it. The study indicates that there are several things they learn after disasters. The first is indicators/signs of when disasters will come. The second is how to save themselves and their families: what they should and should not do and where they should evacuate themselves to.

The third aspect is learning to accept what has happened, what they can do to save their life and their family lives in the future, and how to recover. Palu community can develop their local knowledge and be self-learned from disasters. Because everything has changed, they must learn to adapt to the current situation. Adaptive learning occurs when an individual/group of people absorbs information from their surrounding, react, and change their behavior (Sessa & London, 2006, p. 20). Community social sharing on disaster experiences builds their institutional memory as parts of adaptive learning. The capacity to learn adaptively is determined by institutional memory (capacity to memorize and recall), innovative learning (implement institutional memory to adapt and change) and connectivity (build a network among individuals, inside and outside communities (Davis, 2017, p. 15). Education is closely related to community self capacity to resile (Ginsberg & Hunt, 2015; Heijmans, n.d.; Shih et al., 2018; Twigg, 2015). Education is the basis of resilient communities which provides the foundation for other resilient components: strong network among organizations, preparedness and quick response among organizations, sufficient volunteers, and mutual support among neighbors (Shih et al., 2018, p. 1).

The study indicates that disaster learning occurs inter-generationally. After disaster, Palu children are also learning from their childhood experience. They are telling their experience to other relatives or within/outside people about what happens to them and their families. From their early phase of life, they already learn how to mitigate, feel the emotion, observe, and help activities in emergencies tents and witness their damaged environment, houses or schools. This may potentially provide disaster learning from childhood. Disasters may allow young generation to learn from their experience (Lerch, 2015).

Communication facilitates knowledge transfer from individuals to others/community and vice versa. Moreover, it caters the intergenerational learning. This means by way of communication, disaster learning is sustaining through experience stories interpersonally and inter-generationally. Local people social connection through disaster experience stories at the post-disaster can assist local community to recover (Matheson & Jones, 2016). Communication allows the impacted community to re-start their livelihood by building network and mutual support from which they share knowledge, make sense of what has happened, and discuss official decision (Matheson & Jones, 2016, p. 1623). The disaster experience-gained knowledge should be transferred, especially among the impacted community since community resilience is built from all community elements capacity (individuals, families, neighbors) to acquire knowledge for saving themselves from recurrent disasters (Shih et al., 2018, p. 1). The communication ecology perspective also highlights the significant function of disaster communication through stories retold by neighbours, families, friends and community environment as a way towards disaster preparedness (Spialek, Czlapinski, & Houston, 2016). Disaster education should be given across generations. Disaster education is vital for children at high risk area since it increases children's risk perception and actions to reduce impacts (Torani, Majd, Maroufi, Dowlati, & Sheikhi, 2019).

This study indicates that survival disaster communication at local community level can potentially minimize victim numbers and help to the impacted community to prepare themselves for the potential recurrent disaster across different generation. Disaster local knowledge disseminated through sharing and stories also help their children to understand what is going on and how is the disaster history in their areas. Government or up-down communication is not sufficient for community disaster recovery and it should be balanced with peer communication to communicate disaster warning, especially through stories and disaster simulations (Linardi, 2016).

Conclusions

Communication furnishes all types of human/community activities. It bridges social interaction in any situations. In disaster circumstance, communication may positively support community resilience through several ways: healing emotional adversity, communicating risk and emergencies, deciphering experience-based problem solving and generating social action, efficacy and motivation. Through communication which is embedded in everyday interaction, experiences are told and knowledge are transferred from one people to other individuals or groups. Through communication, inter-generational learning also occurs. This learning allows the

next generation to absorb knowledge from their parents and direct experience. Thus, communication can catalyze community resilience, even more disaster learning sustainability.

Acknowledgment

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