LACK OF COLLABORATIVE GOVERNANCE IN BUILDING COMMUNITY DISASTER RESILIENCE

Oscar Radyan Danar
Faculty of Administrative Science
University of Brawijaya, Malang, Indonesia
oscar@ub.ac.id

Tommy Anggriawan
Faculty of Administrative Science
University of Brawijaya, Malang, Indonesia
tommyanggriawan@gmail.com

Atsushi Suzuki
Department of Architecture and Building Science
Tohoku Univerity, Sendai, Japan
a.suzuki.gsic.tohoku@gmail.com

Asti Amelia Novita
Faculty of Administrative Science
University of Brawijaya, Malang, Indonesia
asti@ub.ac.id

Muhammad Rizki Pratama
Faculty of Administrative Science
University of Brawijaya, Malang, Indonesia
pratamarizkim@ub.ac.id

ABSTRACT

Many deaths and victims caused by catastrophic natural hazards that occurred in Indonesia have proven the weakness of the government to create a community disaster resilience among society. Under this circumstance, any efforts of the government are expected to be the solution to stop or at least reduce the nightmare of society when the disaster occurred. This paper elaborates on the discussion about building community disaster resilience through collaborative governance performed by Banyuwangi local government in Indonesia. Furthermore, the discussion about community disaster resilience and collaborative governance will be tied up by institutional and Socio-Ecological contexts. Therefore, this paper will highlight the role of actors, collaborative process, and organization performance rather than any technical attributes from disaster resilience. The finding of this study reveals that there are some inhibiting factors influencing collaboration among actors to build community disaster resilience. The failure to manage these factors has resulted in a lack of collaboration and lead to weak community resilience in Banyuwangi.

Keywords: *Collaborative governance, disaster management, community resilience, Socio-Ecological system*

A. INTRODUCTION

Indonesia, the archipelago country in Southeast Asia, is one of the countries ever struck by a tsunami with devastating damage in 2004. In the last month of the year 2004, a massive earthquake happened in the west part of Sumatera Island with 9.0 magnitude has generated a giant current that was flattening the coastal area by more than 800 km (Danar, 2016; Guarnacci, 2012). Three months later, another quake with almost similar magnitude (8.7) occurred around Nias and hit the western part of Sumatera Island. Both of these resulting in a high number of deaths and damage, the statistical Agency of Indonesia (BPS) reported more than 128,728 people were killed and more than 179,312 houses destroyed, then around 500,970 civilians were displaced with an estimated US $ 4270 million of economic losses (Seng, 2013).

Both of the catastrophic events above are the biggest tsunamis that occurred in Indonesia within the last 2 decades, during this time at least more than 10 earthquakes followed by tsunami occurred in various places in the Indonesian region for instance, in Alor (1992), Banyuwangi (1994) or Biak (1996). Until the biggest tsunami in 2004 occurred, there was no preparedness of society regarding this phenomenon caused by no early warning system (Clarke et al., 2010). Although the frequency of tsunami in Indonesia tends to be less common rather than other disasters; however, the impact of tsunami commonly leads to devastating losses (Seng, 2013).

It is important for the government of Indonesia to put more awareness by considering its location which is close to the ring of fire with vulnerabilities to natural hazards including tsunami (Nguyen et al., 2017). The United Nations for Coordination of Humanitarian Affairs (UN-OCHA, 2009) illustrates more than half part of the coastal area in Indonesia has a high potential toward tsunami as shown in figure 1.

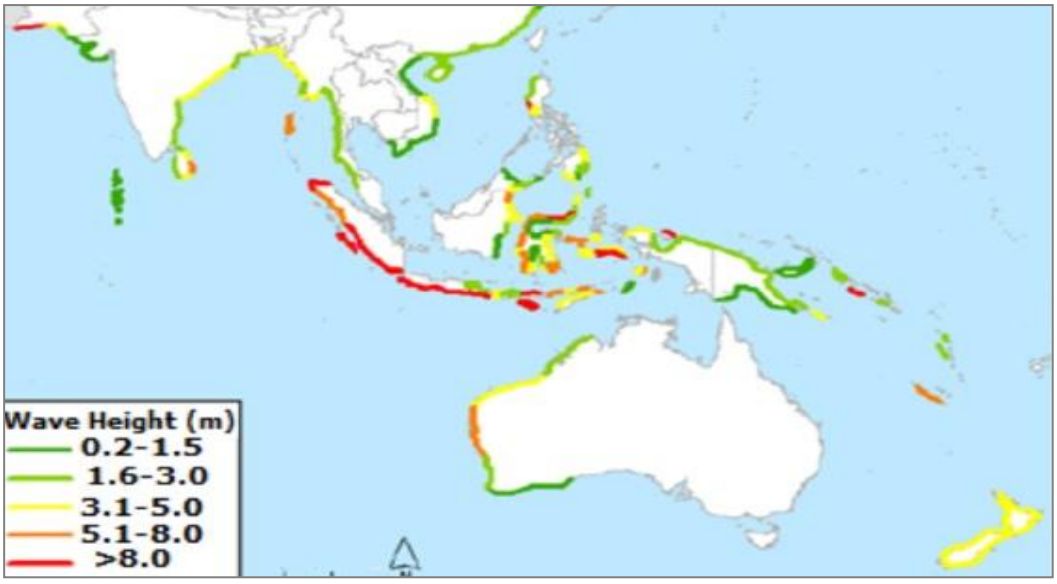

Figure 1. Tsunami height in Indonesia and Asia-Pasific (UN-OCHA, 2009)

Figure 1 indicates the vulnerable area of Indonesia with various levels of the tsunami threat in the future. Therefore, there should be more efforts to handle this phenomenon by such as adopting the international framework of disaster risk reduction (Bae et al., 2016; Danar, 2016).

Roughly one year after the emergence of the Tsunami in Aceh, the policymakers around Southeast Asia consider implementing the Hyogo Framework for Action that is becoming the global framework for Disaster Risk Reduction (DRR) within 2005-2010 (Seng, 2013). However, the implementation of an effective DRR framework will require a platform to sustain the capacity and political commitment among stakeholders (Basher, 2006). This platform denotes the institutional context and collaboration among them as one of the requirements to apply the effective framework of DRR (Seng, 2013).

In developing countries, the situation is more complicated since the institutional context has become a major problem. At the same time, the asymmetric development among them also emerging the barrier for the government especially at the local level to apply the appropriate DRR (Anggriawan & Swanita, 2017). Regarding this condition, the collaboration among government, non-governmental organizations, the private sector as well as international organizations is important as the option to deal with the limited capacity of institutions.

This paper examines the collaboration process among actors to build community resilience as one of the requirements of DRR implementation in Indonesia. The research of this study was held in Pancer Hamlets, Banyuwangi District, Indonesia as one of the regions struck by a Tsunami in 1994 (Danar, 2016). Unlike Aceh, Nias, or other regions that attract the massive attention of media, government, or NGO when the tsunami occurred, in Pancer hamlet there were fewer of them (Guarnacci, 2012). Therefore, it is interesting to seek how the collaboration among actors builds community resilience. In the discussion section, this paper will elaborate on the finding on how the collaboration which is coming from the governance literature to deal with community resilience is one of the attributes of the socio-ecological system (Akamani. 2015).

B. LITERATURE REVIEW

Collaborative Governance

Collaborative governance uses the capacity of the organization, stakeholders, and community to attain collective decision-making that is transformed into real policy implementation. On this occasion, it becomes the trajectory for community resilience to be more attainable for local society (Kapucu & Sadiq, 2016). In addition, it will help them to adjust their position into the dynamic condition when the disaster occurred. In a more detailed look, this paper is highlighting the collaborative approaches (Ansell & Gash, 2007) that are sufficient to sustain the multiple agencies or institutions in both multilevel (vertical) and broader (horizontal) collaboration. The vertical pattern will examine coordination among multilevel institutions within the decentralization sphere in Indonesia while the horizontal will be closer to local society (Walsh et al., 2016).

The model of collaborative governance (figure. 2) stresses four broad variables before gaining the expected outcome. These variables consist of starting conditions, institutional design, leadership, and collaborative processes. Figure 2 shows that starting condition, institutional design, and leadership variable take their role as context and critical contributors toward the collaborative process as the central. The starting condition envisages how multiple actors, organizations,s or institutions blended together with mutual respect by considering three elements consist of power or resources imbalances, incentives of every actor to participate, and prehistory of cooperation (Ansell & Gash, 2007).

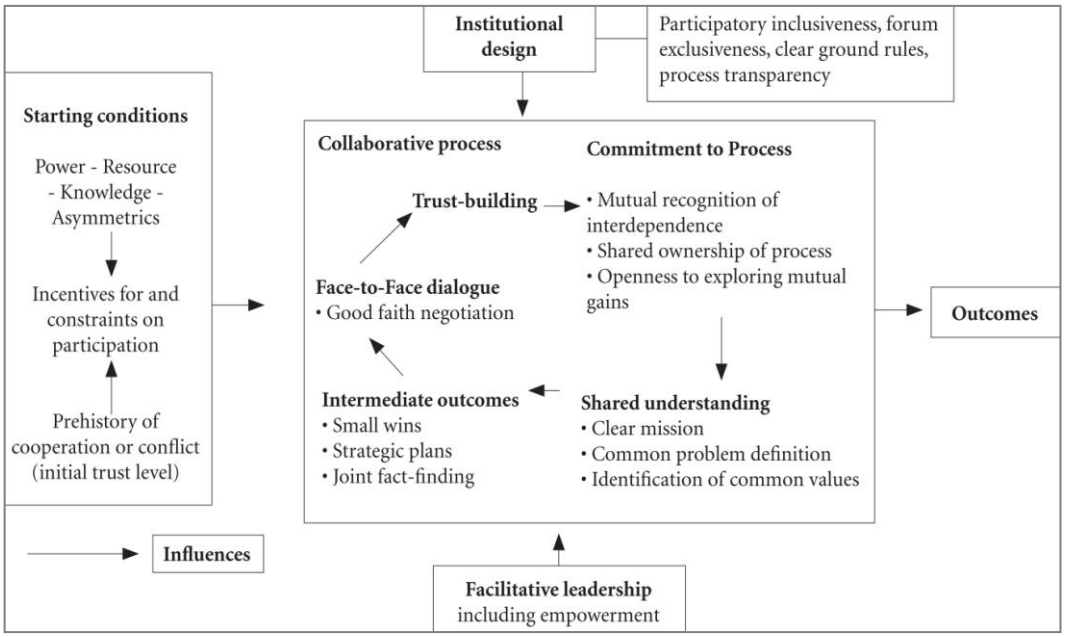

Figure 2. Collaborative Governance model (Ansel & Gash, 2007)

The institutional design stressed the usage of bureaucratic approaches such as regulation, law, or rule of the game that ensure the visible track for each stakeholder to sustain their role within the collaboration process. This transparency may ensure a clear definition of roles and keep the collaborative process is away from private deals (Alexander et al., 1998). In addition, the institutional design also provides assistance for every execution into a certain timeframe within a collaborative governance framework.

The leadership or facilitative leadership 'on its original reference' is one of the required variables or collaborative governance, particularly due to the consensus-building process (Suskind, 1987). It has been acknowledged that some "unassisted" negotiations are sometimes possible in collaboration. However, other unexpected conditions may occur for example where the negotiations are failed to gain the solution or when the discussion does not reach a consensus. Under these circumstances the role of facilitative leadership is increasingly important, for instance, to accommodate the building trust, facilitating the dialogue, or exploring mutual gains (Ansell & Gash, 2007).

All the above three variables will provide context and critical contribution toward the collaboration process. The main discussion will discuss the collaborative process as the core of collaborative governance. Numerous literature defines the collaboration process through various ways such as three steps collaborative process that is consisted of the problem setting, direction setting, and implementation (Gray, 1989) or another three steps process that comprised preparation, policy development, and decision making and its stages in every step (Edelenbos, 2005). Although numerous literature has different perspectives regarding the steps within the collaboration process most of them have similar patterns which tend to be cyclical rather than linear. It is because of the existence of integration among the implementing agency based on communication, trust, commitment, understanding, and outcome (Huxham, 2003; Ansel & Gash, 2007).

Building Community Resilience within Disaster Risk Reduction

Many perspectives have defined the resilience concept into various meanings and interpretations (Danar & Pushpalal, 2014). Holing defined resilience as the persistence of relationships within a system and it is a measure of the ability of these systems to absorb the change of state variables, driving variables, and parameters, and still persist (Holing, 1973). In another discussion, the term resilience has largely been applied in socio-ecological literature as the capacity to cope, adapt and transform in response to drivers of change without compromising its critical attributes (Folke et al 2002; Akamani et al, 2015). In addition, some of the international organization has a certain interpretation of resilience including IFCR (2004) conveying 'the resilience is a capacity to survive, adapt and recover from natural disaster'. While UNISDR (2009) 'the resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to recover from the effect of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structure and functions.

Yet, the policymakers have their own interpretation regarding the resilience concept such as the Japanese government stated through CAS argues 'the resilience as a strong movement against any large disasters under the following basic principles: prevent human loss by any means; avoid fatal damage to important functions for maintaining administration as well as social and economic systems; mitigate damage to property and facilities and prevent the expansion of damage and achieve swift recovery and reconstruction'. On another occasion, the Indonesian government through its national board of disaster management (BNPB) stated the resilience terms commonly associated with 'the vision of disaster management that is in line with Hyogo Framework for Action (Danar & Pushpalal, 2014).

In this paper, the resilient nation will be possessed into the local community as the attributes of the socio-ecological system. In addition, it will draw the society's awareness toward the natural hazard including tsunami or embracing the insight of the relationship between the local community of Pancer hamlets and its potential of the tsunami.

The Study Context

This paper envisages collaborative governance to build community resilience for reducing tsunami impact in Pancer hamlet, Banyuwangi. It will mainly discuss both institutional and socio-ecological aspects through the finding of qualitative inquiry conducted on societies living around the coastal area of Pancer Hamlets. In addition, the discussion will be started by providing an exposure about the effort, the role of actors, and the collaboration process by using the Ansel and Gash (2007) collaborative approaches as the backbone. Then, it will be followed by the analysis of barriers and issues associated with the failure of the efforts.

The institutional aspect denotes the governance design to build community resilience, including the efforts undertaken by stakeholders to establish community resilience and also analyze their role. Furthermore, the discussion will be continued by expanding the collaboration mechanisms among stakeholders and try to find the best practices that enable to create effective community resilience. This discussion also becomes a preliminary conversation before revealing the community resilience in Pancer Hamlets.

On the socio-ecological aspect, this paper will review community resilience as one of the attributes of socio-ecological literature. In addition, the role of society will become the main highlight of this discussion, including; participation, social awareness, the community involvement will become an important factor in determining the success of policy implementation. Both of these discussions above will be like two edges that cannot be separated from each other. They will affect simultaneously the effectiveness of community resilience.

The Pancer hamlet was selected as the case study due to its suitability of vulnerable areas in the southern part of Indonesia. According to its tsunami risk map of Pancer Hamlet (see. Figure. 3), about half part of its area is identified as the high potential risk of tsunami, while the rest is categorized as medium risk and only a small part of them can be classified as a higher place with minimum risk of tsunami potential risk.

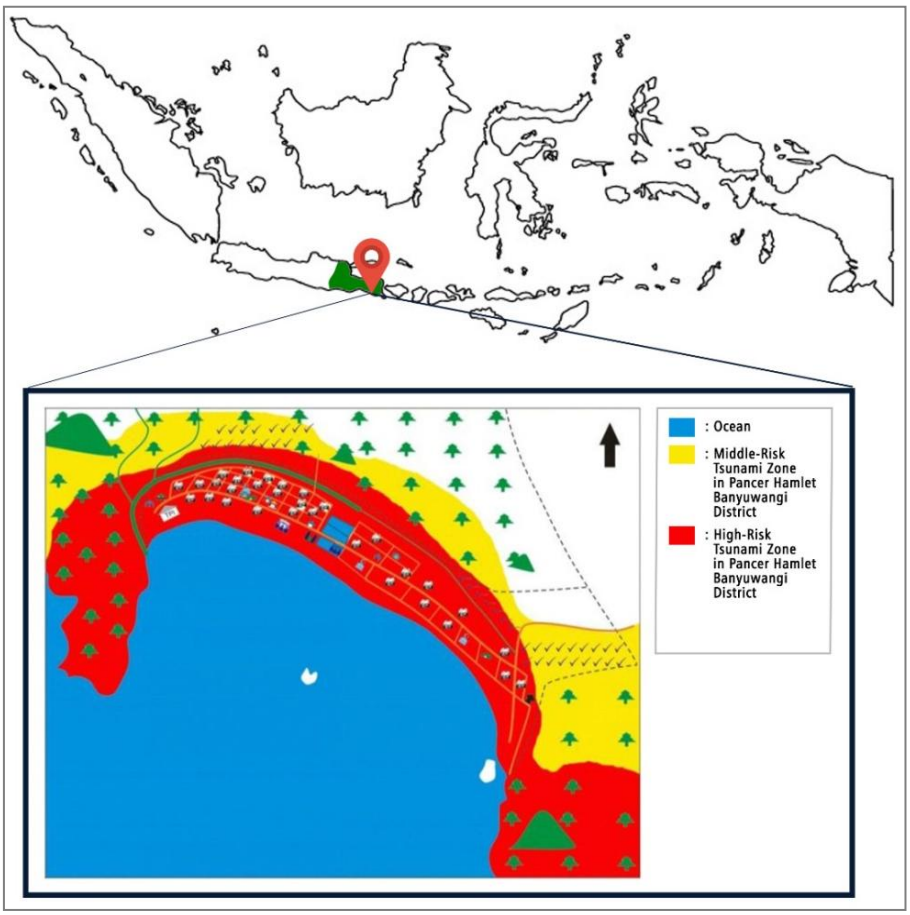

Figure 3. Site of Study and Tsunami Risk Map of Pancer Hamlet

C. METHOD

This study applies a qualitative approach as the main research approach. In addition, this study uses a case study research design as an attempt of investigation to a particular phenomenon. In the study field, this will be useful for answering the question 'how' and 'why' (Yin, 2003). This case study research design will move aligned with the design of qualitative research that aims to closer observation toward the reality in accordance with a phenomenon. It is common when both case study and qualitative research design associated to get closer to reality, emphasize the episode, and understand the context (Denzin & Lincoln, 2003)

The process of the field study in this research is conducted in two stages. The first stage is the initial stage of the study. The main aim of the first stage is to conduct a preliminary study. Furthermore, the researcher also tries to gather supporting data that is expected to be useful for research consideration. Moreover, the purpose of this initial study was to determine the suitability of the research site with the aim of the study and it was conducted as a preliminary semi-structured interview with key actors, namely local government officers and the Pancer Hamlet community to make better components and questions of a semi-structured interview.

The second stage is the main stage of this research. This phase of the study seeks to conduct semi-structured interviews with multiple stakeholders that are divided into four categories, namely: (1) community facing tsunami risk in Pancer Hamlet; (2) Local Government Officers; (3) Non-Government Organizations; (4) Private Sectors and; (5) International organization. Semi-structured interviews with community-facing risk were conducted by random selection in Pancer Hamlet communities. The semi-structured interview was also conducted with key informants such as the head of Pancer Hamlet and the people who have directly been affected by the tsunami in 1994.

Semi-structured interviews with local government officers were conducted in particular with the Local Disaster Management Agency (BPBD) which in this case is represented by the head of prevention and preparedness as well as the head of the program formulation. In addition, interviews were conducted with the Head of the Pesanggaran sub-district as the head of the sub-district who oversees Pancer Hamlet. Semi-structured interviews with NGOs were carried out to non-governmental organizations which focus on disaster issues such as BAFFELS (Banyuwangi's Forum for Environmental Learning) and the tourism community in Pancer Hamlet. Besides, this study also conducted semi-structured interviews with private sectors which in this case were represented by organizations and fishing communities in Pancer Hamlet.

The data analysis performed on this research refers to the analysis technique by Powell and Renner (2003) which is comprised of five phases as described in figure 4.

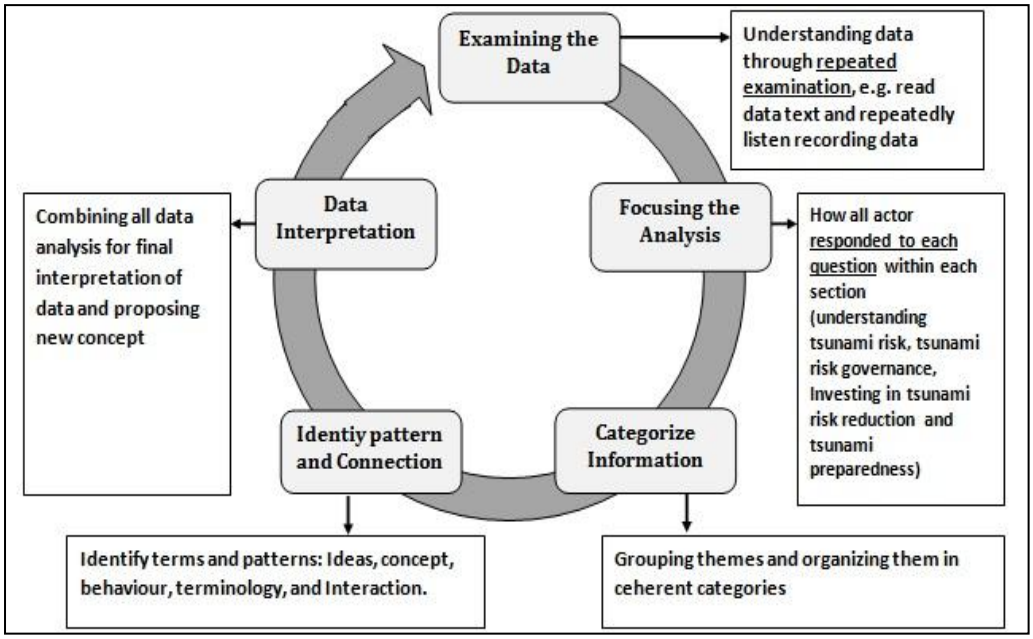

Figure 4. The data analysis (Powel & Renner, 2003)

The figure 4 illustrates five phases of data analysis according to Powell and Renner (2003), it is comprised of; the first step which is to do an examination of the data that have been obtained. Followed by the second phase is focused on the

data in accordance to the research focus and objectives. At this time, the most important thing is to examine how all actors responded to each question within each section that becomes the research focus of this study. The third phase is categorization and grouping that are conducted through the focus and incoherent categories. Once this phase is over then the researcher will try to identify the pattern and connection. Finally, the interpretation processes through the data that have been examined, categorized, identified, and try to find the pattern and its connection. In a qualitative study, this step is a critical step because the interpretation of the researcher regarding the data is determining the research result. Interpreting the data means combining all data analysis for the final interpretation of data and proposing new concepts. All of these five processes are continually repeated.

D. EXPLANATION

Result of Semi-Structured Interview

This section describes the result of inquiry undertaken by semi-structured interviews with multiple stakeholders across the sectors. On this part, the result has been analyzed through Powel and Renner (2003) data analysis technique. Furthermore, in order to describe some highlighted information regarding efforts and collaboration mechanisms, this section will elaborate on the role of each actor that is involved to build community resilience in Pancer hamlet. By describing the role of each actor, it is expected to reveal the disposition among them within collaboration mechanism and policy implementation.

One of the requirements to build strong coordination regarding community resilience is the existence of a regulator that will ensure all components of coordination are settled and work properly. Under this circumstance, the role of local government could be divided into three main categories, comprised of coordinator, regulator, and executor. The role of the coordinator on this occasion reflects the main initiator that initiates any movements or efforts to establish community resilience. It also synergizes various actors coming from multiple sectors intended to minimize asymmetric perspective, goal, and action.

The next role performed by Banyuwangi local government is a regulator which enables them to formulate, develop and review any policy related to disaster risk reduction. In other words, it can be said that the local government of Banyuwangi is an actor who creates a set of rules of the game on building community resilience in Pancer hamlet. The last category of Banyuwangi local government is an executor which is giving the authority to execute or implement the DRR policy. The term of executor on this paper will closely relate with an implementing agency equipped with their instruments and attributes such as an agency or division. Therefore, the local government of Banyuwangi holds a strategic position with pivotal roles around.

The first role is undertaken by the private sector. It has been acknowledged that the local government is the main actor who is responsible for creating community resilience in Pancer hamlet, but the responsibility toward DRR should be shared with other relevant stakeholders, including the private sector. However, the finding of this inquiry reveals the lack of contribution of private sectors to

participate within building community resilience around Pancer hamlets society. This finding is contrary to the ideal contribution of the private sector such as increase the awareness of their employees regarding the disaster risk, deliver training or provide technical assistance through their corporate social responsibility program (UNDP, 2015).

Although the lack of participation of the private sector does not become a barrier or inhibiting factor for building community resilience it may prolong the effort for other parties because building community resilience will require strong coordination among stakeholders. Therefore, a lack of contribution from the private sector will be the missing point and lead to inefficiency within the collaboration process.

Secondly, perhaps the most important stakeholder after the government who takes a strategic position related to building community resilience is the non-governmental organization. The finding of this inquiry stated that there are at least five types of non-governmental organizations that are giving they're participating in building community resilience in Pancer Hamlet. The first NGO is the faith-based organization "ulama" which is referred to Islamic leader or council. Although many cases have indicated the importance of the ulama's role to mobilize a group of community for their participation, in this case, the ulama has minimum influence since the DRR is not the major topic discussed in the religious forums.

The second type of NGO found in this inquiry is an international organization such as the Japanese International Cooperation Agency (JICA) or United Nations International Strategy for Disaster Reduction (UNISDR). These international organizations have famously known for their participation to improve human resources capacity regarding the DRR in Indonesia. In Pancer hamlet, however, the lack of interaction between the local government of Banyuwangi and international organization resulting in an inefficient contribution of both NGOs above to maximize their participation to strengthen human resource capacity.

The third type of NGO is a philanthropic body that mostly engages its participation as one of the financial resources. In semi-remote areas like Pancer, it is sometimes said that philanthropic bodies can move faster rather than official institutions because they have a large scattered number of members. While the rest two NGOs are women-based organizations and youth-based organizations. The women-based organization commonly conducts activities related to DRR in their community and the youth-based organization is responsible for strengthening the insight or DRR in the children or teenager community.

The third role is undertaken by other actors. The term of other actors in this article will be directed to the actor outside the government, private, or NGO context such as academician, research institution, and media as well as an indigenous community. Unlike the participation of NGOs which tend to move separately according to each path of the organization, the other actors above tend to be more integrated with each other. It can be explained when the academician and research institution invite the indigenous people who use their past experience of tsunami to be a key informant of their research, related to this in the mass

media also providing assistance to share the information through newspaper, television, or internet. Overall, this cooperation still becomes the main action of Pancer hamlet society.

Collaborative Governance of Community Disaster Resilience in Banyuwangi

Derived from the previous chapter, this discussion will adopt the collaborative governance scheme as the backbone sustaining every attribute of data collected by structured interviews. Therefore, the starting condition, collaborative process, facilitative leadership, institutional design, and the outcome will be the main focus of this discussion.

1. Starting condition

The nature of successful coordination will be influenced by starting conditions (Ansel and Gash, 2007). In Pancer hamlet, this starting condition will be used to describe the period after the tsunami in 1994 and before the collaborative was established. The reason why this section highlighted the tsunami in 1994 regardless of other tsunamis that occurred previously or after 1994 is that the society has compiled much information from the 1994 tsunami as their guidelines to take any action, make a collaboration, or initiate community resilient in Pancer hamlet. This part is particularly aimed to discuss the power-resource knowledge asymmetries, incentive for and constrain on participation as well as the prehistory of cooperation or conflict. All of these discussions will illustrate the starting condition before the collaboration is established.

After the 1994 tsunami, the local government of Banyuwangi has put more awareness regarding a similar threat in the future. Therefore, they were the first initiator of collaboration to build community resilience for people living around the coastal areas including Pancer hamlet. The local government of Banyuwangi involves the participation of some institutions including the society, NGOs, or private sector that reflect their limited capacity of power, resources, and knowledge. However, this effort was not supported by a sufficient budget from the local government and lead to the limitation of incentives for all participants.

The private sector under their capacity as one of the expected institutions that will contribute the financial assistance from its corporate social responsibility program also seems reluctant to do so. The limited incentive has also affected the participation of local society to join the collaborative program since they ask for remuneration for their participation. Perhaps, because most of them are poorly educated and have limited earnings for their daily life, thus the compensation will be a solution once they spent their time participating in the collaboration.

This starting condition is also weakened by a lack of collaboration experience among them. The data indicates that there is no prehistory of collaboration before the tsunami of 1996. In other words, the Pancer hamlet was a remote area at that time and even some civilians did not recognize the potential risk around their living environment. Therefore, it can be inferred that the starting condition was not settled appropriately according to several matters, although the local government still attempt to create a good collaboration.

2. Facilitative Leadership and Institutional Design

Although the starting condition has failed to meet the consensus among stakeholders due to the limited budget of the Banyuwangi local government as the

facilitator Banyuwangi local government plays a better role. The facilitative leadership of the Banyuwangi local government performs well where the incentive to participate is weak. The role of the Banyuwangi local government that is comprised of three main categories as coordinator, executor, and the regulator has proven that they have a central position in this collaboration. The first two of these roles indicate the strong facilitative leadership brought by the local government of banyuwangi while the rest tend to reflect the institutional design. It is true that the local government of Banyuwangi seems to be a solo agent because of their domination within this collaboration but it might be the best way to do so because there was no prehistory of collaboration before. Thus the local government of Banyuwangi as the main initiator will be required to bring strong facilitative leadership and institutional design.

The effort of the local government of Banyuwangi to provide general protocol and procedure for the collaborative process has opening access for any actor to participate in the future. At the same time, this protocol and procedure also strengthen inter-governmental cooperation in both vertical and horizontal structures. The governmental pattern of Indonesia which was shifted from centralization toward decentralization in 1998 has enabled Banyuwangi local government to strengthen its collaboration with the central government of Indonesia. This cooperation has given an opportunity for the local government of Banyuwangi to learn about DRR since they have limited capacity and experience regarding DRR. One of the central government programs that are aimed to increase the capacity of disaster-resilient villages is called DESTANA.

Besides the vertical cooperation with the central government of Indonesia, the local government of Banyuwangi through their local disaster management agency (BPBD) also build a network with other local governments in Bali province that reflects the horizontal cooperation within disaster management. Thus both of these cooperations have given valuable contributions to the development of DRR in Pancer hamlet from an institutional perspective.

3. Collaboration Process

The global economic crisis that happened in 1998 has become a trigger for the collapse of Soeharto's regimes and it was the beginning of the implementation of the decentralization era in Indonesia through law number 22 the year 1999. Five years later the law number 32 the year 2004 has talked about local autonomy for the local government of Indonesia and followed by law number 23 the year 2014. All of these laws have given the authority for local government to make their own policy for their region. This authority has also enabled the local government to maximize their performance through any cooperation, partnership, as well as collaboration with other sectors including the private sector, NGO, international organization, or local community.

The collaboration process among actors to build community resilience in Pancer hamlet has been initiated by the local government of Banyuwangi. The early stages of collaboration are conducted by face-to-face dialogue and building trust among the local government of Banyuwangi, the local community around Pancer hamlet, representatives of the private sector, and some NGOs to meet the consensus about building community resilience. Overall, this dialogue has

fulfilled the trust-building and shared understanding among them but it failed to reach the commitment to the collaboration process among them. This failure has been triggered by the demand of the society about remuneration as the replacement for their time to involve in community resilience programs.

Although the local government of Banyuwangi has successfully established a strong connection in both vertical and horizontal institutions this program was weakened by low participation from local society. An only a small number of societies indicate their willingness to participate in this program and they had joined in Banyuwangi Forum for Environmental Learning (BAFFELS) once they know this program has a fragile structure. In addition, both of JICA and UNISDR and the private sector are also reluctant to deliver their assistance because of the low participation of society. It also explains that the effort of the Banyuwangi local government to promote the great collaboration has a lack of success due to their failure to eliminate the existing barrier.

E. CONCLUSION

This paper analyzes the process of collaborative governance to create the community disaster risk resilience around coastal society in Pancer Hamlet, Banyuwangi. The finding of this research has revealed the role of stakeholders involved within the collaboration effort. The Banyuwangi local government on this occasion has become the main initiator who has initiated the effort to create community resilience. However, several shortcomings such as lack of government budget, incentives, participation of society, and a minimum contribution of the private sector have lead this effort to be unsuccessful. In addition, the limited experience of the Banyuwangi local government has also become an inhibiting factor since there was no prehistory of collaboration regarding the community resilience there.

REFERENCES

Abhas, K.J., Todd, W.M., Zuzana, S.G. (2013). *Building Urban Resilience: Principles, tools, and Practice*, Washington DC: The World Bank.

Akamani, K., Wilson, P.I., and Hall, T.E. (2015). Barriers to Collaborative Forest Management and Implications for Building the Resilience of Forest-Dependent Communities in the Ashanti Region of Ghana. *Journal of environmental management*, Vol.151, pp 11-21.

Alexander, J.A., Maureen, E.C., Weiner, B.J. (1998). Governance in public private community health partnership: A survey of community network: SM demonstration sites. *Nonprofit management & leadership*, 8,231-232.

Anggriawan, T., Swanita, D. (2017) The strategy to make the quadruple helix (QHIS) works in ASEAN. Indonesian Association of Public Administration (IAPA) Conference Proceeding 2017, University of Airlangga.

Ansel,C., Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration and Theory*, 18.543-571.

Bae, Y., Joo, Y.M., Won, S.Y. (2016). Decentralization and Collaborative disaster

governance: Evidence from South Korea. *Journal of Habitat International*, 52,40-56.

Basher, R., 2006. Global Early Warning System for natural hazards: systematic and people-centered. *The Royal Society*, 364, 2167-2182.

Clarke, M., Fanany, I., Kenny,S.(Eds). (2010). *Post-Disaster Reconstruction: Lesson from Aceh*. Earthscan, London.

Danar, O. R. (2016). Building Community Resilience in Tsunami Risk Area: Evidence from Pancer Hamlet, Banyuwangi District, Indonesia. PhD Dissertation, Tohoku University, Japan, (Retrieved in 16.09. 2017).

Danar, O.R., Pushpalal, D. (2014). Building community resilience: Conceptual framework and its application in post-tsunami resettlement, 18.489-496.

Denzin, N.K., Lincoln, Y.S. (2003). *Introduction: The discipline and practice of qualitative research*. In N.K. Denzin & Y.S. Lincoln (Eds.), *The Landscape of qualitative research: Theories and Issues*. London: Sage Publication.

Djelante, R. (2012). *Adaptive and Integrated Disaster Resilience Framework*. Macquarie University, Australia.

Edelenbos, J. (2005). Institutional implications of interactive governance: insight from Dutch practice Governance: *An International Journal of Policy, Administration and Institutions*, 18:111–34.

Folke, C., Carpenter, S.R., Elmqvist, T., Gunderson, L., Holling, C.S., and Walker, B. (2002). *Resilience and sustainable development: building adaptive capacity in a world of transformations*. Ambio 31, 437e440.

Guarnacci, U. (2012). Governance for sustainable reconstruction after disasters: Lesson from Nias, Indonesia. *Journal of Environmental Development*, 2.73 -85.

Gray, B. (1989). *Collaborating: Finding common ground for multi-party problems*. San Francisco, CA: Jossey-Bass.

Huxham, Chris. (2003). Theorizing collaboration practice. *Public management reviews*. 5:401-23.

Holling, C.S. (1973). Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*, 4, 1-23.

Kapucu, N., Sadiq. (2016). Disaster Policies and Governance: Promoting Community Resilience. *Journal of Politic and Governance*, Vol. 4(4). 58-61.

Nguyen, D.N., Imamura, F., Iuchi, K. (2017). Public Private Collaboration for disaster risk management: A case study of hotels in Matsuhima, Japan. *Journal of Tourist and Managemen*t, 61.129-140.

Pisano, U. (2012). *Resilience and Sustainable Development: Theory of resilience, system thinking, and adaptive governance*. European Sustainable Development Network, Austria.

Powell, E.T., Renner, M. (2003). *Analyzing Qualitative Data*. Wiconsin: University of Wiconsin.

Powell, W. W., Douglas,R.W., Kenneth, W.K., Jason, O, S. (2005). Network dynamics and field evolution: the growth of international

collaboration in the life of sciences. *American journal of Sociology*, 110.1132-1205.

Seng, D.S.C. (2013). Tsunami resilience: Multi-level institutional arrangements, architectures and system of governance for disaster risk preparedness in Indonesia. *Journal of environmental science and policy*, 29. 57- 70.

Susskind, L., Cruickshank, J. (1987). *Breaking the impasse: Consensual approaches to resolving public disputes.* New York: Basic Book.

UNDP (United Nations Development Programme). (2009). *Lesson Learned: disaster management legal reform, the Indonesian experience*. Retrieved from http://www.undp.or.id/pubs/docs/Lessons%20Learned%20Disaster%20Management%20Legal%20Reform.pdf. (01.09.2017).

UNDP (United Nations Development Programme). (2015). *Strengthening Disaster Risk Governance: UNDP support during the HFA implementation period 2005-2015*. UNDP: New York.

UNISDR (United Nations International Strategy for Disaster Reduction). (2008). *Indigenous Knowledge for Disaster Risk Reduction: Good Practices and Lesson Learned from Experiences in the Asia-Pacific Region*. UNISDR Asia and Pacific, Bangkok. Retrieved from http://www.preventionweb.net/files/3646_Indigenous Knowledge DRR.pdfS> (09.09.2017).

UNISDR (United Nations International Strategy for Disaster Reduction*). Hyogo Framework for Action 2005–2015. Building the Resilience of Nations and Communities to Disasters.* World Conference on Disaster Reduction (WCDR). Retrieved from http://www.unisdr.org/2005/wcdr/intergover/ official-doc/L-docs/Hyogo-framework-for-action-english.pdfS>. (27.09.2017).

UNISDR (United Nations International Strategy for Disaster Reduction). (2009). *UNISDR Terminology on Disaster Risk Reduction*. Geneva, UNISDR.

UN-OCHA Regional Office for Asia and the Pacific Bangkok. (2009). Risk Assessment and Mitigation Measures for Natural and Conflict-Related Hazard in Asia-Pacific.

Walsh, D.S., Madden, M., Purcell, S.M. (2016). *Enhancing Community Resilience: Practical Resources in Addressing the Collaboration Gap*. IRGC. EPFL: International Risk Governance Center. V29 Jul.2016.

Yin, R. K. (2003). *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications.