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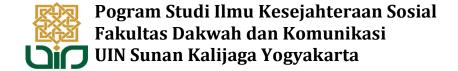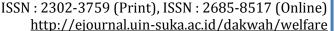
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TRUST AND NETWORKS IN CLIMATE CHANGE ADAPTATION STRATEGIES: EXPERIENCE OF ACEH AND YOGYAKARTA IN EARTHQUAKE INTERVENTION

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Abstract

Indonesia is one of the most disaster-prone countries where 1,782 disasters occurred between 2002 and 2007. The devastating impacts of the disasters, particularly the earthquake in Aceh and Yogyakarta, attracted public participation from various institutions. The highparticipation of the institutions to some extent caused program ineffectiveness as many of those institutions have overlapping roles and fight over funding and beneficiaries. This paper will critically examine why networking is important in climate change adaptation based on the lessons learnt of disaster response in Aceh and Yogyakarta earthquake. This paper argues that the participation of stakeholders needs an effective networking. Networks are certainly becoming necessary in disaster intervention to avoid overlapping roles and conflict of interest between institutions involved in disaster response. Networks in community levels also become social capital that increases community's resilience upon disaster.

Keywords: disaster, intervention, social capital

A. INTRODUCTION

Indonesia is one of the most disaster-prone countries in the world. It is recorded that 1,782 disasters occurred between 2002 and 2007 in Indonesia. The number of victims is estimated at 137,959 people had lost their lives; 37,066 were missing; 152,421 were injured, and 8,307,679 had been displaced during the period. A series of major disasters in Indonesia were the earthquakes and tsunami in 2004, which devastated the cities of Banda Aceh and Meulaboh, and Central Java earthquake in 2006 destroyed Yogyakarta and Klaten [1].

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[1] Kusumasari, B., &Alam, Q. "Bridging the gaps: the role of local government capability and the management of a natural disaster in Bantul, Indonesia". *Natural Hazards, 60*(2), pp. 761-779, 2012

According to the Indonesian government's disaster coordinating agency, BAKORNAS, 128,645 people had lost their lives; 37,063 were missing, and 532,898 had been displaced in Aceh by the end of March 2005[2]while 4,659 people had lost their lives and around 50,000 were injured in Yogyakarta[3]. The devastating impacts of the earthquake in Aceh and Yogyakarta attracted public participation from various institutions including local and international Non-Government Organizations (NGOs), emergency services, religious groups, corporate bodies, associations, voluntary organisations, social activists, political parties and universities. The involvement of NGOs in Aceh, for instance, was accounted for more than 200 aid agencies in 2005, mostly NGOs registered with the authorities and documented by the United Nations Humanitarian Information Centre (UN HIC) and just over 100 organizations in Yogyakarta. The huge number of institutions in some extent cause program ineffectiveness as noted that many of those institutions have overlapping roles and fight over funding and beneficiaries[4].

This paper argues that the participation of stakeholders needs effective networking to implement emergency response as well as recovery programs effectively. Effective networking can be achieved if trust ties the network. A body of evidence in literature shows networks is part of social capital. Putnam for instance, defines social capital as networks, norms and trust[5]. Nan Lin[6] insists that people can access resources through network ties. For some people, networks provide social support since people can obtain financial support or access to schools, jobs, and economic opportunity. However, little known why networks are important in climate change mitigation and adaptation strategies particularly in disaster intervention program. In this paper, networks can be

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[2]Rofi, A., Doocy, S., &Robinson, C. "Tsunami Mortality and Displacement in Aceh Province, Indonesia".*Disasters*, *30*(3), pp. 340-350, 2006.

[3] National Development Planning Agency, National Action Plan for Disaster Reduction2006-2009, Office of the State Minister for National Development Planning Agency andNational Coordinating Agency for Disaster Management, Jakarta, 2006.

[4]See : Steinberg, F. "Housing Reconstruction and Rehabilitation in Aceh and Nias, Indonesia—Rebuilding Lives". *Habitat International*, *31*(1), pp. 150-166, 2007 and MacRae, G., & Hodgkin, D. "Half Full or HalfEmpty?Shelter after the Jogjakarta Earthquake".*Disasters*, *35*(1), pp. 243-267, 2011.

[5] Putnam, R. "The ProsperousCommunity: SocialCapital and PublicLife", *AmericanProspect*, Vol. 4 No. 13, pp. 35-42, 1993.

[6] Lin, Nan. *Social Capital: A Theory of Social Structure and Action*, Cambridge UniversityPress, New York, NY, 2001.

defined as "the enduring exchange relations formed between local government, community groups and other organisations"[7].

This paper will critically examine why networking is important in disaster intervention based on the lessons learnt and experience of disaster response in Aceh and Yogyakarta. There are two main reasons why networking is significant in emergency response. These include the limited capacity and resources of government or any single institution to meet various needs of affected people and to achieve program effectiveness and efficiency.

B. VARIOUS NEEDS OF AFFECTED PEOPLE AND LIMITED CAPACITY AND RESOURCE OF GOVERNMENT

The problems faced by the earthquake-affected population are multifaceted. These include loss of family members; loss of homes; assets; livelihoods; damaged community and government infrastructure; displacement and relocation in temporary homes and shelters[8].Those problems emerge the needs to be fulfilled including foods, temporary shelters, counselling, reintegrate separated families, education, health, water and sanitation, homes, livelihood recovery, physical and psychological security, and public infrastructures[9].To solve the problems and to fulfil the needs of affected people need active networks since the Indonesian government as the primary stakeholder has limited capacity and resources.

Those limitations are caused by the fact that the disaster also affects many government officers and infrastructures. The local government of Aceh is an example where many government officers had lost their lives, and many government facilities are damaged. As a result, the local government were heavily dependent on outside assistance from Central Government and international aids. However, central government ministries had limited capacity also in becoming operational on the ground[10].This situation was exacerbated by

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[7]Kusumasari, B. "Network organisation in supporting post-disaster management in Indonesia". *International Journal of Emergency Services, 1*(1), pp. 71-85, 2012.

[8]Rofi, A., Doocy, S., & Robinson, C. "Tsunami Mortality and ...."
[9]Kennedy, J., Ashmore, J., Babister, E., &Kelman, I. "The Meaning of 'Build Back Better': Evidence From Post-Tsunami Aceh and Sri Lanka",*Journal of Contingencies and Crisis Management, 16*(1), pp. 24-36, 2008.
[10]Steinberg, F. "Housing Reconstruction an...".

the weak of established National Coordinating Board for Disaster Management (Bakornas PB) mainly Satkorlak PB (Provincial Coordinating Board for Disaster Management) Satlak PB (District or Municipal Implementation Unit for Disaster Management). Yogyakarta earthquake is an example where the roles of Satkorlak PB at the provincial level and Satlak PB at district level were weak[11].Those institutions were only institutional formality because there was no standard operating procedure or guidance in confronting disaster as well as there is no training and education of those officers in the institutions on disaster management. As a result, there were almost no programs undertaken by the local government to identify disaster prone areas in sub-districts in Bantul Yogyakarta even though Bantul is located in a prone area to disasters such as landslides, tornadoes, drought, flood, fire and earthquake[12].

Networking is necessary in this situation to fulfil the needs of affected people through mobilising participation from all stakeholders from NGOs, universities, companies, religious and community associations. Any single institution might not be able to fulfil the need of affected people, as their needs are various requiring professional intervention to solve the devastating impacts of disaster effectively. Based on this situation, the Bantul Mayor involved international and local agencies in delivering services directly to victims[13].Those international aid agencies play a significant role in providing technical and financial assistance for the disaster-affected populations. The participation from Universities and local NGO is also pivotal in Yogyakarta disaster intervention. Jogjakarta is known as a centre of higher education, with dozens of universities and technical institutes, which contribute considerable technical, cultural and management expertise. In addition to these intellectual resources, Jogjakarta has the largest and strongest civil society resources in Indonesia, in the form of hundreds of LNGOs[14].Those institutions can fill the gaps in delivering services conducted by other agency mainly government as any single organization which has limited capacities. The local government of Yogyakarta, for instance, tended to ignore livelihood programmes, which were very important for the community.

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[11]Kusumasari, B., &Alam, Q. "Bridging the gaps:..."
[12]Ibid
[13](Kusumasari, B., &Alam, Q. "Bridging the gaps:..."
[14]See : Steinberg, F. "Housing Reconstruction and Rehabilitation..." and MacRae, G., & Hodgkin, D. "Half Full or HalfEmpty?".

Therefore, many international agencies came to Bantul to fill this gap.[15]Filling the gap to meet the needs of affected people require networks as a network will lead those institutions to work together which will have a tremendously larger impact than any one organisation can handle.

C. NETWORKS AS EFFECTIVE STRATEGY TO ACHIEVE DISASTER PROGRAM EFFECTIVENESS

A body of evidence in literature shows that the huge number of institutions particularly NGOs (both local and international) involved in disaster intervention in Aceh and Yogyakarta cause problem of trust, overlapping roles, funding competition and fight over beneficiaries between NGOs. Mac Rae and Hodgkin, for example, describes how distrust for foreign aid become an issue in local NGO forums and Government agencies in Yogyakarta by providing limited translations for non-speakers of Indonesian in their meetings due to scarce resources, nationalistic sentiments and general distrust of foreign aid. On the other hand, the criticism also addressed to INGOs meeting conducted in hotels and other upmarket places rather than government offices as the legitimate authority. Using English in INGOs meeting was also criticized because not everyone can contribute to the discussion. Although interpreters were often available, it was not effective since it slows down already long and arduous meetings. Therefore, many agencies chose not to use this service. As a result, few expatriates attended Local NGO (LNGOs) forum meetings, and few local people actively participated (although many attended) at International NGO (INGO) meetings[16].

The practice of distrust among NGOs also manifested in implementing program services where some International NGOs declined to work with local partner organisations (local NGOs) by recruiting local staff into their own institutions and used them as the frontline workers. This practice can be caused by the distrust of INGO on LNGOs capacities to implement program services. It is widely known that INGOs require a high qualification of local partners regarding qualified staffs working in the LNGO and the LNGOs to some extent are expected to have a similar experience in delivering services which will be

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[15] Kusumasari, B. "Network Organisation in Supporting"
[16]MacRae, G., & Hodgkin, D. "Half Full or HalfEmpty?

provided by INGO. On the other hand, INGOs claimed that to be 'local' by having a local office and local staff. Therefore, the partnership with local partners is not needed. This practice provides international agencies with local experience and cultural understanding, but on the other can seriously undermine LNGO capacity[17].

Another issue emerged at unwell organized network coordination is overlapping roles between NGOs, funding competition and fight over beneficiaries. Massive reconstruction demands in Reconstruction program in Aceh for instance, led to competition among NGOs for limited construction resources such as timber, bricks, cement and labour, causing a sharp increase in construction costs and huge funding gaps[18]. This competition is created by funding interest as many of the NGOs have expanded their initial commitment from emergency aid to reconstruction, as they met an unprecedented flow of grant funds from the public or their governments[19].The estimated amount of funds in reconstruction program in Aceh was USD 13.5 billion recorded as the most generous and immediately funded in international humanitarian response ever[20].

This condition is exacerbated by the fact that many of those NGOs doing reconstruction program were not their traditional area of specialization such as Red Cross, Oxfam, Care, German Agro Aid and Muslim Aid. Some of them have failed to come up with a good quality house, regarding permanent construction materials, earthquake-resistance, and complementary services of water, sanitation and roads. As a result of poor construction, local communities were not being willing to receive and occupy these houses and remained many of those houses were empty. As a consequence, many of those poorly constructed houses were destroyed. Save The Children, for instance, had to demolish more than 300 homes. This situation led to fighting over beneficiaries as many NGOs intended to achieve their program objectives. One of the indicators of a successful project is quantitative indicators such as how many houses built and

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[17]Ibid

[18] Nazara, S., &Resosudarmo, B. P. *Aceh-NiasReconstruction and Rehabilitation: Progress and Challenges at the End of 2006* (No. 70). ADB Institute Discussion Papers, 2007. See also: Steinberg, F. "Housing Reconstruction and Rehabilitation"

[19]Steinberg, F. "Housing Reconstruction and Rehabilitation"

[20]Telford, J., & Cosgrave, J. "The InternationalHumanitarianSystem and the 2004 Indian Ocean Earthquake and Tsunamis".*Disasters*, *31*(1), pp. 1-28, 2007.

occupied by affected communities. If the house built were not held by affected communities, the project can be claimed as a less successful project. As a result, fight over beneficiaries become negative impact of limited networking coordination[21].

Moreover, the enormous funding for reconstruction caused some needs of affected people was overlooked such as livelihood recovery. Many NGOs focused their programs on reconstruction. The number of non-governmental organizations having the program on house construction in Aceh, for instance, was accounted for around 120 NGOs. It is noted that adequate livelihood support programs do not cover communities in Aceh. This might become the biggest problem when communities move back into their reconstructed or rehabilitated villages and when the food aid stopped. The limited livelihood support programs (for instance by Mercy Corps and ADB) will not be sufficient to cover all communities in need[22].

Those problems would not occur if strong network established between NGOs.Once an effective disaster management network is established across all sectors, the response and recovery programs will be much more efficient and effective because it could increase the number of resources needed to deal with multiple problems relating to emergency management[23].Despite many criticisms of inadequate coordination among NGO networks in Yogyakarta, it is claimed that network coordination in Yogyakarta for shelter response program in May 2006 is widely regarded as a success story, especially when compared with the response to Aceh disaster response 16 months earlier[24].Kusumasari and Alam (2012), for instance, insists that the government has successfully managed resources in implementing network coordination with national and international NGOs, as well as donor agencies to help affected people in Yogyakarta through humanitarian aid program services to the community. The better network among NGOs in Yogyakarta contributes in helping people in needs effectively and efficiently.

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[21]Steinberg, F. "Housing Reconstruction and Rehabilitation"
[22]Ibid
[23]Kapucu, N. "Non-profit Response to CatastrophicDisasters", *Disaster Prevention andManagement*, Vol. 16 No. 4, pp. 551-61, 2007.
[24]MacRae, G., & Hodgkin, D. "Half Full or HalfEmpty?"

Strong networking among people in the community also has a positive impact on effective disaster intervention. Kusumasari and Alam (2012) maintain that secure network and relationship in the community supported the success of recovery management in Bantul. The characteristics of people in Yogyakarta, who mostly lived in rural areas, included holding in high regard values of cooperation within and between their social networks called as "gotong-royong". This cultural behaviour, as well as solidarity and tolerance, constituted significant social capital in these areas. The role of social capital in Yogyakarta's disaster recovery programme can be described from voluntary participation from the community to build houses. They started first with the houses of the neediest family with any materials available. In many cases, the community used their own roof tiles or doors found in the debris in order to avoid buying new materials and speed house building. This process was faster compared to a house built by house contractor[25].

The high participation of the community in a recovery program in Yogyakarta indicates that the community has high levels of social capital[26].The existence of social capital is tremendously significant in disaster because it helps solve problems of coordination and facilitates information flow between and among individuals[27]that usually becomes an obstacle in disaster management conducted by local government. Government tend to have a formal network which is based on recognition of critical interdependencies across sectors and organisations. These networks require effective mobilisation [28].In contrast, informal networks existing in the community are based on strong working relationships on a daily basis. These informal networks function better in emergency situations because of increasing trust between communities[29].

According to a body of evidence in the literature,[30] trust is at the very heart of the problem of social order and is vital to everyday life. It has been claimed that life is severe and social order risky when there is no trust in

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[25]Kusumasari, B., &Alam, Q. "Bridging the gaps:.."
[26]Putnam, R. "The ProsperousCommunity:"
[27]Lin, Nan. *Social Capital: A Theory..*"
[28]Kapucu, N. "Non-profit Response.."
[29] Kapucu, N. "Interagency communication networks during emergencies", *AmericanReview of Public Administration*, Vol. 36 No. 2, pp. 207-25, 2006.
[30]See: Barber, B. *The Logic and Limits of Trust*. New Brunswick, NJ: Rutgers University Press, 1983 and Hardin, R. *One for All: The Logic of GroupConflict*. Princeton University Press, 1997.

communities. Trust plays an important role in the community, as it will maintain the relationship between the member of communities and its networks. For this reason, in a community who are shared trust and values are unlikely to harm those we trust or to take advantage of them[31].

The existing social capital in Yogyakarta's daily life has become what Field states as intangible resources in a community in sharing value and trust[32]. Putnam maintains that trust, norms and networks can further increase the efficiency of society by facilitating coordinated actions[33]. The establishment of the Self-Reliant Housing Community Group and the Bantul Revival Forum (Yogyakarta) as discussion forums where the community could provide their inputs for recovery management have also become social capital in the way that the community develops their networks base on trust and local norms. This social capital increase communities' resilience to cope with disaster as stated by Aaron and Wildawsky who defines resilience as "the capacity to deal with unexpected dangers after they have become manifest, learning to bounce back"[34].

D. CONCLUSION

Networks are certainly becoming necessary in disaster intervention to avoid overlapping roles and conflict of interest between institutions involved in disaster response. Overlapping roles and conflict of interest between agencies are often caused by the absence of networks. Lesson learnt from disaster intervention in Aceh and Yogyakarta show the need of networks both inter agencies or people in communities. These networks in emergency response and recovery program are effective to meet the various needs of affected communities due to the fact that any single institution including government and international agencies have limited capacities and resources. Networks are developed and tied to a common objective, norms and trust. Networks in community levels become social capital that increase community's resilience

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[31]Cook, K. S. "Networks, Norms, and Trust: The Social Psychology of Social Capital". 2004 Cooley Mead Award Address. *Social Psychology Quarterly, 68*(1), pp, 4-14. 2005
[32]Field, J.*Social Capital,* Routledge, London, 2008.
[33]Putnam, R. "The ProsperousCommunity:.."
[34]Kapucu, N. "Non-profit response to catastrophic disasters", *Disaster Prevention andManagement,* Vol. 16 No. 4, pp. 551-61, 2007.

upon disaster. Networks in institutional level need effective mobilization from the government as main stakeholders. Effective mobilization needs strong leadership from the government as primary stakeholders. Ignoring strong leadership in developing networks might lead to program ineffectiveness.

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Steinberg, F. "Housing Reconstruction and Rehabilitation in Aceh and Nias, Indonesia—Rebuilding Lives".*Habitat International, 31*(1), pp. 150-166, 2007.

Telford, J., & Cosgrave, J. "The InternationalHumanitarianSystem and the 2004 Indian Ocean Earthquake and Tsunamis".*Disasters, 31*(1), pp. 1-28, 2007.