

# Social Media Strengthens Social Capital in Dealing with Disaster on the Riverbanks

**Irwan<sup>a\*</sup>, Lala M. Kolopaking<sup>b</sup>, Pudji Muljono<sup>c</sup>, Yonvitner<sup>d</sup>, Sriwulan Ferindian Falatehan<sup>e</sup>,** <sup>a</sup>Doctoral Program Student in Department of Communication Science and Community Development, FEMA, Bogor Agricultural University, Indonesia, <sup>b</sup>Corresponding Author and Teaching Staff of the Department of Communication Science and Community Development, FEMA, Bogor Agricultural University, <sup>c,e</sup>Teaching Staff of the Department of Communication Science and Community Development, FEMA, Bogor Agricultural University, <sup>d</sup>Teaching Staff for Coastal and Marine Resources Management, Faculty of Fisheries and Marine Science, Bogor Agricultural University, Indonesia, Email: [irwan7001@gmail.com](mailto:irwan7001@gmail.com)

Floods and landslides have affected communities' life and the environment. Various technical and non-technical efforts have been made by the government together with the community to minimise the impact of flooding through strengthening social media participation as the social capital as they believe the existence of social media can strengthen household social capital in dealing with disaster in the areas. The purpose of this study was to analyse social media utilities to strengthen the social capital of disaster along the Ciliwung River, West Java, and DKI Jakarta. This study used a mixed of qualitative and quantitative approaches. Data collection was done by survey and non-survey techniques through observation and in-depth interviews with several local communities. The results showed that social media strengthened social capital in households in the affected areas. That power is driven by the strength of social relations, fostering solidarity that shapes behaviour, and the achievement of shared goals. Solidarity is fostered by an act of cooperation, mutual assistance, a spirit of mutual cooperation, care, trust, and sensitivity. The presence of social media in the midst of floods and landslides has become a social networking site and an instrument of trust and social relations. Social networks are able to bind communities affected by disasters with unlimited connection. The existence of social media in the midst of a disaster has embodied the values of cooperation, mutual assistance, caring, trust, and shared sensitivity to disasters.

**Key words:** *Social Media, Social Capital, Flood and Landslide Disasters, Ciliwung Riverbanks.*

## Introduction

Ciliwung River is an area that often experiences disasters in the form of floods and landslides (National Disaster Management Agency, 2018). The Ciliwung River flows from the province of West Java, namely Bogor Regency, Bogor City, Depok City to Jakarta Province. The presence of the Ciliwung River often results in floods and landslides — floods and landslides caused by natural factors and social factors. The natural factors are related to soil conditions that experience movement and weather that is high rainfall along with human factors associated with behaviour that is not friendly to the environment (Lasinta Megafirmawanti 2017). Around the Ciliwung River, there are a number of densely packed houses and difficult living conditions. (Yudo Satmoko 2010). This also encourages vulnerability to disasters and brings threats to households and the lives the community.

The rainy season conditions in the Ciliwung River cause overflowing water and flooding in the homes of residents (Irwan, Lala M. Kolopaking 2019). The high intensity of rain in the Ciliwung River area caused a landslide that resulted in dozens or even hundreds of damaged houses (Rosyidie Arief 2013). Various efforts have been made by the government and the community to deal with flood disasters along the Ciliwung Riverbanks. Technically, the government has designed and carried out the Ciliwung River normalisation program.

The form of the program carried out is land acquisition for the normalisation of reservoirs and rivers. However, these efforts were unsuccessful in solving the problem of floods and landslides (Irwan et al 2019). Despite frequent disasters, households and communities remain resilient; they live and carry out life activities and strengthen social capital. Strengthening social capital is done through social media (Fathy and Rusy, 2019). Social media encourages households and communities to cope with disasters in the Ciliwung Riverbanks. The emergence of social media fosters social awareness, dependency, and builds social values for survival along the Riverbanks (Irwan et al 2019). Facing disasters needs maintenance of social value in order to maintain system stability. Systematic efforts and household actions are needed to build the strength of social capital that is still maintained through social media (Steinfeld C, 2008).

Social media can indeed be used as a power to increase participation, openness in conveying messages or information, and interconnected conversations. Some of the social media include WhatsApp, Facebook, and Instagram (Mayfield A 2008). Social media is seen as a decline in social capital and causes of conflict (Alviani Sisi Renia 2018;). The strength of social media in

disaster-prone areas is expected to be able to increase social capital. Social capital is built by collaborating and building social care to achieve common goals (Fukuyama 2002). In addition, there is also the ability of households and communities to deal with adverse impacts of disasters at the Ciliwung Riverbanks. The aim of this research was to analyse the existence of social media in an effort to strengthen household social capital in dealing with disaster areas on the banks of the West Java River and Jakarta, the capital city of Indonesia.

## **Literature Review**

### ***Theories and Dimensions of Strengthening Social Capital***

The 20th-century examinations of social capital have seen a rapid increase in studies, research, and scientific publications. According to Durkheim (1893), social capital is interesting to be analyzed with various social ties between humans in analysing society. Social capital was discovered by this concept from 1916-1920 through writings from Lyda Judson Hanifan (Woolcock M, 2001). According to Schuckit MA (1998), social capital prioritises ideas in sociological studies on the understanding of social order forms. Social capital provides understanding to the community to reduce the impact of life imperfections as a policy in organising roles, trusts, and responsibilities (Keane 1998). The development of social capital was brought about by four sociologists, namely (Putnam RD, 2000). Social capital is a project of success in development related to institutions which include community networks, the commitment of civil society, local community identity, mutual and norms of cooperation and trust in a community (Lin Nan. 2009).

Social capital provides benefits to the community, especially improvement in people's welfare and trust in taking action (Grootaert C. 1998). Social capital is more concerned with the process of inter-community relations by embracing the power of resources related to the network that is formed, the norms that are built, and the trust that connects coordination and cooperation in obtaining profits. Social capital is more about cooperation in the community to achieve a better life capacity in the future. Some theories of social capital above, that social capital is more inclined to society which is characterised by beliefs, networks, and norms (Moser C 1998).

Social capital has an aspect of trust because the formation of cooperation and social networks within the community itself (Scout 1976) describes the networks formed as social capital into future inventions to be able to resilient in life. According to (Woolcock M, 2001) social capital as information, trust, and norms that are always attached to social networks so as to create collective action. Social capital is formed by having a network of choices in individual relationships that are vertical, such as authority, patron, boss, or politician and horizontal as voluntary (Dharmawan AH, 2006). Social capital as a power possessed by households to survive through social media against shocks or pressures experienced such as disasters (Lesser E, 2000). According to Lesser the importance of social capital consists of several aspects,

namely solidarity, mobilisation of household resources, forming togetherness and organisational behavior in the household, mutual achievement in the household, ease in accessing information, and power-sharing tools in the household. According to (Dudwick N, 2006) social capital consists of groups and networks, trust and solidarity, joint action and cooperation, information and communication (information and communication), social cohesion and inclusion and empowerment and political action, number of members, level of diversity of members, the intensity of meetings, level of taking decisions, the level of contribution, money and energy, and community orientation. Social capital in disaster-prone areas is also influenced by the value of beliefs, norms, and networks (Muhamad R, 2017). According to (Ruslanjari 2018) social capital in the disaster area is strong with mutual cooperation, culture, leadership influence, and local beliefs. Moreover, (Ganapati 2009) clarified that disasters in the form of earthquakes in Turkey have prompted the development of social capital, such as victim search teams and cooperatives. According to (Gill, D. A., J. S. Picou 2012) describes the residents of the U.S. who became trapped by the Katrina Hurricane disaster resulting in the lack of social resources and subsequent improvements in social wealth.

### ***Social Media Strengthens Social Capital in the Face of Disasters***

The rapid development of social media in society facilitates growth and easy access to information. Social media as a means of communication can accelerate and expand the information conveyed. The function of social media is to form profiles in a public, social relationship and see a list of connections that have been informed by others (McIntyre K 2014). Social media influences people to easily retrieve information, communicate and participate, and create various kinds, blogs, wikis, forums, social networks, and virtual worlds (Burke Peter, 2000; Cahyono, 2016). Social movements will be formed with the presence of social media to provide information widely to the public. Public movements can be established through the help of social media to educate the population at large.

According to (Donohue, 1973) and (Nasrullah Rulli, 2015), social media is related to a system that can control and share knowledge with the public at large. The use of social media absorbs transparent information both covertly and overtly so that it can support strength in networks, trust, and normalcy (Azizan Hafidz, 2016). Social media makes it easy to map and find out broadly about the location of disasters and is useful in disaster recovery that occurs (Rudianto, 2015). Social media provides a space for openness for someone to provide feedback and participation, such as voting, giving comments and various information by providing files containing information that can be accessed by anyone; and Connectedness: social media are able to develop their connectedness through the use of links from sites, resources and others (Mayfield A, 2008). The power of social media is able to expand and strengthen social relations and lead to community integration (Ali Maged 2019; Jung Lee, 2017).

Social networking influence is capable of widening and improving social ties, and contributing to group cohesion (Ali Maged, NahedAzab 2019; Jung Lee 2017). social networking contributes to social capital convergence by providing many variables, including linkages, partnerships and confidence and networks (Chow W. S 2008). Relationships are established through contact and social media engagement. wide social networking impacts the creation of social resources in order to improve relationships in community and to be able to collaborate together together to build mutual ties (DijckVan 2013; Matthews Peter 2015). Social media use includes theory of social capital, which has elements of trust, shared participation, networking, partnership and others (Nurdiarti Rosalia Prismarini 2018).

Social media leads to the integration of social capital by having several factors, namely ties, relationships, and trust and networks (Chow W. S, 2008). Relationships are developed through communication and interaction with social media. Broad social media has an effect on the development of social capital to enhance partnerships in society and be able to collaborate online in strengthening social relationships (DijckVan, 2013; Matthews Peter, 2015). The use of social media contains social capital theory, which has elements of trust, mutual cooperation, networking, collaboration, and others (Nurdiarti R, 2018).

Social capital is the result of using social media (Sun Yuan and Shang Roang-An, 2014). According to (Steinfeld C, 2008) states that the use of social media such as Facebook is one to bridge the construction of social capital in the community. Developing social media certainly increases trust between people (Cao X et al 2012). Social networking is a social dimension in developing social capital and there is a relationship between social activities (Ellison 2007). The use of social media can increase participation and accumulation of social capital in society (Jin C.H, 2013).

## **Method**

Research used a mixed approach of qualitative and quantitative method. Data collection was done by participant observation, in-depth interviews and survey techniques. The technique of determining informants and respondents, qualitatively using purposive sampling techniques, with 31 informants and quantitative using proportional random sampling techniques with 126 respondents. The unit of analysis in this study was households at the sub-village level. The study was conducted in two provinces, West Java Province and capital city of Jakarta. West Java Province was carried out in the area of Bogor Regency, Cisarua District, North Tugu Village and Bogor City, in North Bogor District, Kedung Halang Village. DKI Jakarta Province in Jatinegara District, East Jakarta, Kampung Melayu Village. The reason for choosing the location was the consideration that the area above is crossed by the Ciliwung River, which is a disaster-prone area in the form of floods and landslides that cause loss of property, lives and even psychological residents (Statistics Indonesia 2018a, 2018b, 2018c, 2018d, 2018e, 2018f,

2018g, 2018h). Bogor Regency, Bogor City and DKI Jakarta are among the high class potential disasters in Indonesia and West Java, the number three occurrence of disasters in Indonesia with 2,016 events (2018 National Disaster Management Agency; Bogor City Regional Disaster Management Agency 2015, 2017). Qualitatively analyze data using models (Miles B Matthew 1992). Quantitative analysis uses descriptive statistical analysis.

## **Results**

### ***Social Media Strengthens Social Relations***

This research used digital technology as an instrument and social action in dealing with disasters, especially before, during, and after disasters. The instruments used are able to exchange information individually or collectively as social networks, trust, and social relations. Social media shapes actions and behaviors in social relations in the handling of floods and landslides in the Ciliwung Riverbanks. Social relations that occur they are able to have joint discussions through social media and exchange ideas. The use of social media as a means of information in exchanging information about early warning systems, preparedness, and disaster management. Before digital technology, information handling disasters were old, compared to the digital technology used today. Before the technology was digital, social relations at the Ciliwung Riverbank explained the lack of information regarding upstream, middle, and downstream disasters. This has an impact on coordination between upstream, middle, and downstream not yet maximally intense. This also encourages high casualties and losses faced by households and between households, especially downstream.

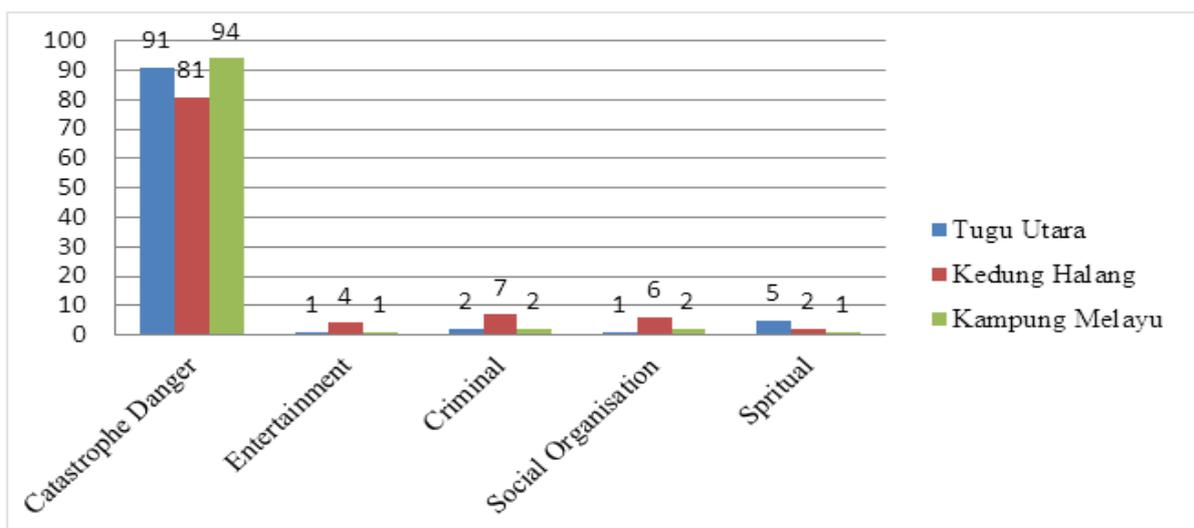
Finding in the field also shows that before using digital technology relations and actions taken are limited and the information obtained is certainly not accurate between upstream, middle, and downstream. This encourages both households and households to fail to find out about disasters, especially how to deal with disasters. The data obtained is certainly limited to all levels of society, especially the intensity and frequency of upstream, middle, and downstream flood disasters. Using digital technology through household social media and between households can build strong and easy social relations that are acceptable to all levels of society. This is proven by the existence of groups and activities carried out collectively. The era of digital technology provides opportunities for households as well as between households along the Ciliwung Riverbanks to exchange information, communication, and interaction through social media. Social media strengthens wider social relationships in households and between households in disaster areas. The results showed that social relations as a potential synergise with values in households and communities. Social relations are built because of the trust, values of solidarity, and sensitivity among fellow disaster victims. This is also encouraged by the trust in information obtained through social media and shared suffering. They receive activities such as disaster training, disaster safe schools, and disaster response training in the

areas they live. Social media that are built in the household and between households form social relationships with household members and between households.

Social relations are built by exchanging information as a form of caring, equality, protection, disaster risk reduction, rescue, and recovery. This shows that there is an encouragement to help each other. A sense of caring, mutual attention and mutual help to form social relationships, trust, and social networks that are not only households or between households but outside such as government and non-government. Conversation or dialogue through social media forms stronger social relationships within the household and between households. This information provides a platform to raise and build the values of togetherness, care, strengthen cooperation, and change in household behavior and between households in the disaster area. There are several conversations that are usually done on social media such as disaster risk reduction information, information to find out where to save, recovery after a disaster, entertainment news, crime, social and spiritual organising.

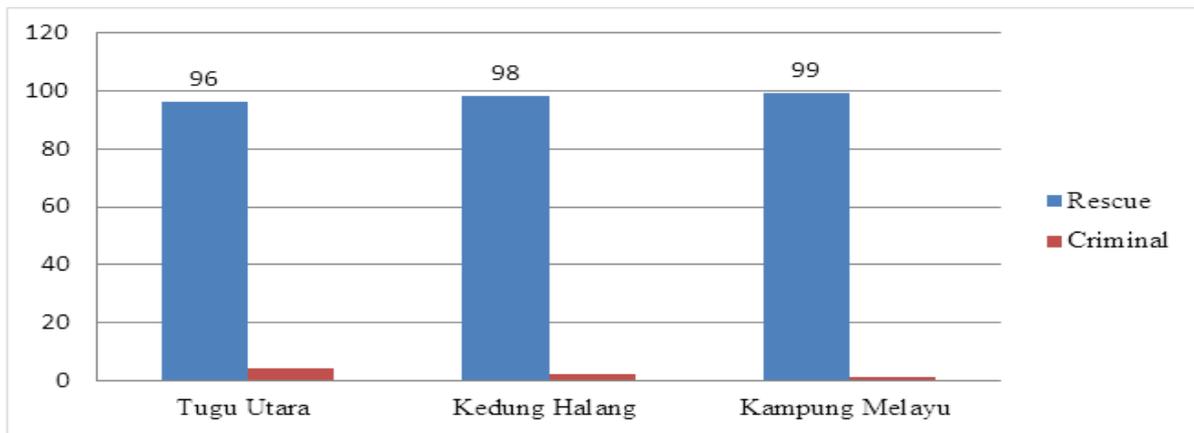
Before the disaster, the percentage in Desa Tugu Utara talked about reducing disaster risk by 91 percent, compared to other information such as entertainment by 1 percent, crime by 2 percent, social organising by 1 percent and spiritual by 5 percent. Kedung Halang Village talked about reducing disaster risk by 81 percent. While talking about entertainment by 4 percent, criminal 7 percent, social organising by 6 percent, and spiritual 2 percent. Kampung Melayu Kelurahan, which talks about disaster risk reduction by 94 percent, when compared with other information such as entertainment by 1 percent, criminal by 2 percent, social organising by 2 percent, and spiritual by 1 percent. This can be seen in the following figure:

**Figure 1.** Dialogue or Conversation Through Social Media Before the Disaster at the Ciliwung River (2019)



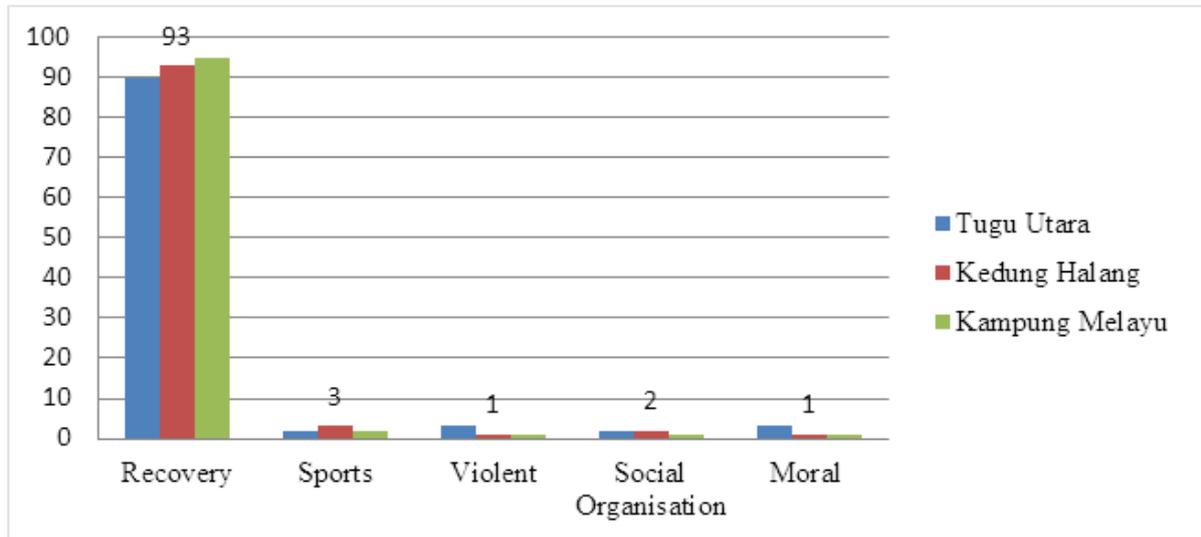
During the disaster, the northern Tugu village talked about rescuing by 96 percent, when compared with other criminal information 4 percent. Kedung Halang Village talked about rescuing by 98 percent and talking about crime by 2 percent. Kampung Melayu Kelurahan which talks about rescuing is 99 percent, compared to other information such as criminal 1 percent. This can be seen in the following figure:

**Figure 2.** Dialogue or Conversation Through Social Media Throughout the Disaster at the Ciliwung River (2019)



After the disaster, North Tugu Village talked about recovery by 90 percent, compared to other information such as entertainment by 2 percent, criminal 3 percent, social organising by 2 percent and spiritual 3 percent. Kedung Halang Kelurahan talked about recovery of 93 percent. While talking about entertainment by 3 percent, criminal 1 percent, social organising by 2 percent and spiritual 1 percent. Kampung Melayu Kelurahan, which talks about recovery of 95 percent, compared to other information such as entertainment by 2 percent, criminal 1 percent, social organising by 1 percent and spiritual 1 percent. This can be seen in the following figure:

**Figure 3.** Dialogue or Conversation Through Social Media After the Disaster at the Ciliwung River (2019)



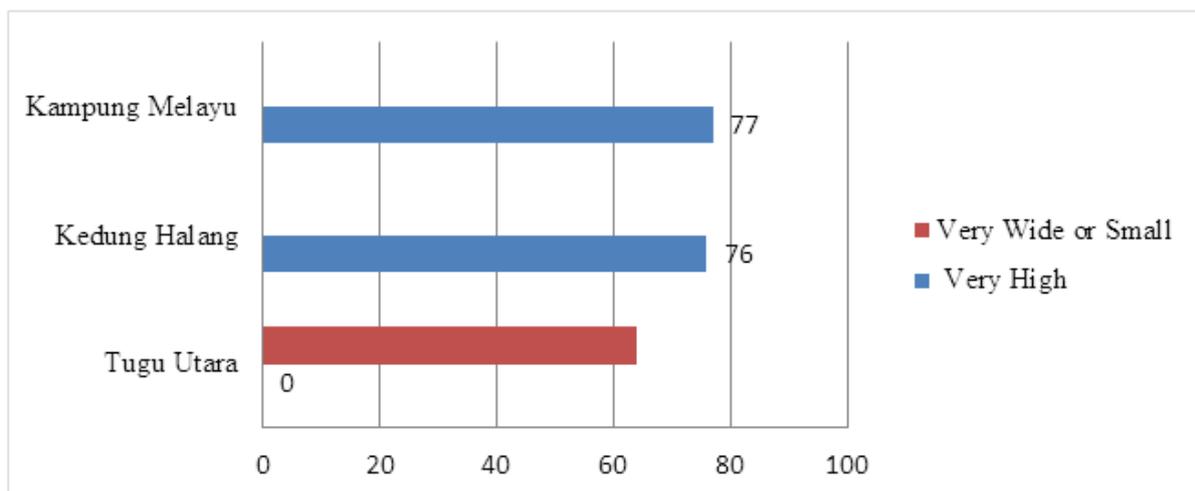
Social relations within the household and between households support the process of disaster risk reduction, rescue and recovery. Social capital gives rise to broader trust, networks, and social relations such as households with government and non-government. North Tugu Village has a number of beliefs, networks, broad social relations, especially in the government that formed the Disaster Response Village (DESTANA), Youth Organisation (KARTA), and Eco-Friendly Village (KRL). The non-governmental level includes Eco Village and Community-Based Disaster Preparedness (SIBAT). Kampung Melayu Kelurahan at the government level includes the Kedung Halang Village Communication Forum, Kelurahan level Risk Reduction Forum, Bogor Disaster Response, Bogor Ciliwung River Naturalisation Task Force, Bogor Disaster Response Village, DAS Forum and East Bogor Village. The non-governmental level is the Ciliwung Care Community and CSR. Kampung Melayu Kelurahan at the government level includes the DKI Jakarta Disaster Risk Reduction Forum, the Disaster Education Consortium (KPB), the AKB Champions, and the Disaster Response Village. The level of non-governmental jumantik Malay kampung, MACPECI, Ciliwung Concern Community (KPC), Clean Ciliwung Movement, Friends of the River, Wahana Fisi, SIBAT (Community Based Disaster Information System), LPBNU (Institution, Nahnatul Ulama Disaster Management) and Indonesia's core PLANT (school disaster safe: related to school infrastructure, school management, and disaster socialisation). Activities undertaken by government and non-government agencies reduce disaster risk by volunteering during disasters. Trust and social networks form strong relationships in the affected areas on the Ciliwung River. The role of social capital is to establish social relations within the household and between households.

### ***Solidarity in Dealing with Disasters***

The study found that household solidarity at the Ciliwung Riverbanks was able to be solid because of the role of social media used as a source of information and communication. Solidarity is not only developed at the household or inter-household level but rather arises outside of the household in the disaster area. Solidarity is built on the values of trust, equality, and a shared sense of unity. The strength of solidarity brings collective values in the household to help one another. Solidarity within households as well as between households in the three research locations can be categorised into three, namely the power to provide information on disaster aspects, mutual assistance in resolving emergency situations and activities that support the activities of disaster areas and the sensitivity of the situation in the area where they live.

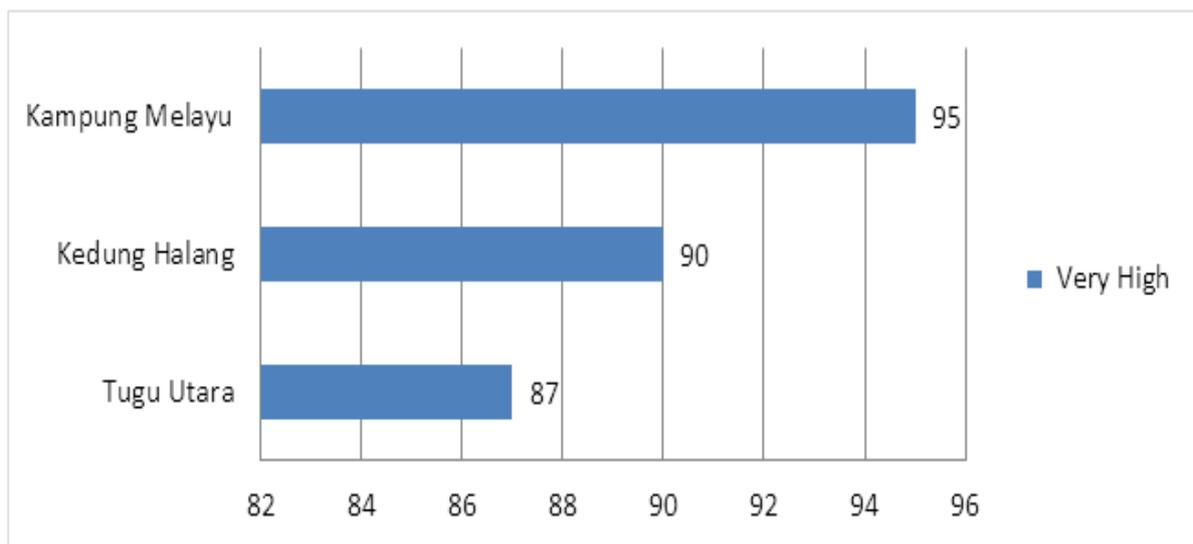
The use of social media fosters a sense of responsibility for households as well as between households in the Ciliwung Riverbanks. The three research areas have a relatively unequal role in generating feelings of unity in the same condition as victims of disasters. The form of a sense of security is realised by helping to move things, helping in providing information for a place of escape, and helping to guide other family members or neighbors who are unable to reach the evacuation site independently. Before the regional disaster which the category of the role of social media was very large in generating similar feelings of unity was Kedung Halang Village 76 percent and Kampung Melayu Village 77 percent. This shows that both households and between households gave rise to a sense of unity in the Kedung Halang Village and the Kampung Melayu Village, which was very high. While the category is quite large or high, namely North Tugu Village with a percentage of 64 percent. This can be seen in the following figure:

**Figure 4.** Before the Regional Disaster, the Function Group of Social Networking



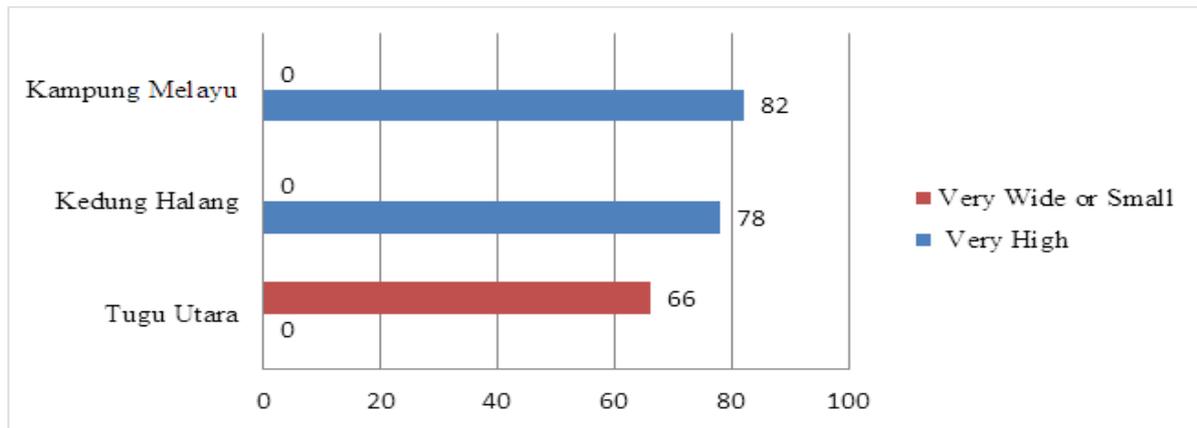
When experiencing a disaster, the role of social media in creating a sense of unity in harmony is very high in the region of Kampung Melayu Kelurahan by 95 percent, North Tugu Village by 87 percent and Kedung Halang Kelurahan by 90 percent. Figure 5 shows that when a disaster occurs, areas that have a sense of unity, including being in the high level are in Kampung Melayu Kelurahan, then followed by Kedung Halang Kelurahan. The two villages are located in the middle and downstream along the Ciliwung River and the city area to the big city. This can be seen in the following figure:

**Figure 5.** The Role of Social Media in Creating a Sense of Solidarity Among Members in a Disaster



After the regional disaster which has a very large role in the social media role in generating a sense of unity in the area of Kampung Melayu Village by 82 percent and Kedung Halang Village by 78 percent. This shows that both households and between households gave rise to a sense of shared destinies, including the very high of the three research sites. The role of social media in generating a feeling of unity in the high or high category is in the Village of North Tugu by 66 percent. This can be seen in the following figure:

**Figure 6.** The Role of Social Media in Building a Sense of Cohesion



Solidarity between households and between households on the banks of the Ciliwung River gave rise to the habit of cooperating with other parties and actions taken for change. The form of cooperation that is built up joins the community in the context of preserving the environment and utilising waste into useful or useful goods. Collective awareness shows a high level of solidarity between households and between households that are homogeneous and heterogeneous sentiments.

Households and between households that live on the Ciliwung Riverbank have a high level of concern in disseminating information as a form to help each other. Collective awareness of the three research sites provides information about the events they experienced. Solidarity between households and between households that live on the banks of the Ciliwung River is characterised by a high level of solidarity. Social capital that is built with solidarity has shaped the value of willingness to help, including high, sensitivity among fellow disaster victims, including high, having an obligation to help, carry out activities for the common interest, have the value of togetherness, getting to know each other, mutual understanding, mutual sympathy and empathy, mutual dependency and have a collective awareness that is not only within the household but outside the household.

### ***Forming Behavior and Achieving Common Goals***

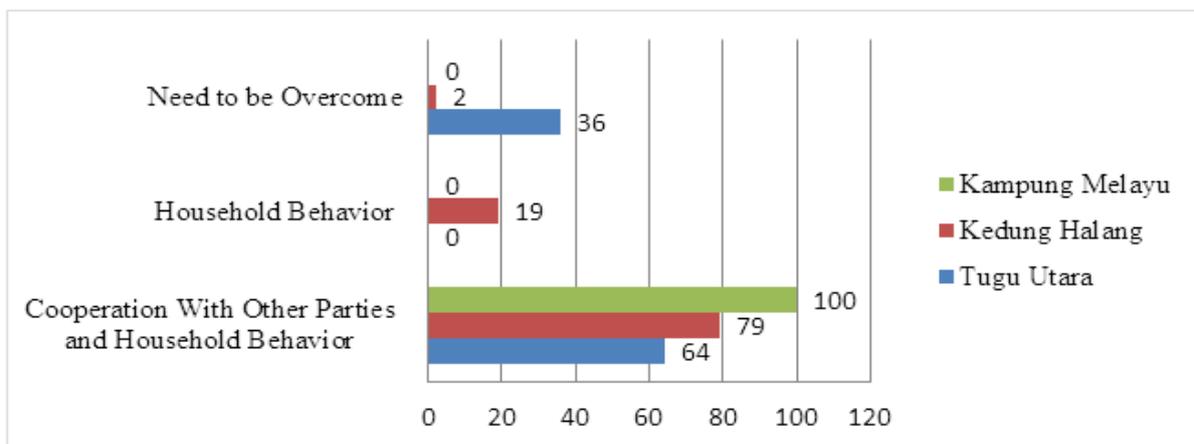
The findings revealed that the pattern of relationships within households as well as within households is reinforced by shared activity and efforts to improve social networks, reciprocal confidence, and social ties among victims of disasters. Such activities and acts are practiced as adhesives and reinforcements to promote a sense of concern, solidarity, and social help. A feeling of love is expressed by supporting each other, in the family as well as within households. Collaboration is often formed by practices such as mutual cooperation, the cleaning of houses together, the planting of trees, and the practice of disposing of trash in its position. Social assistance is offered by loans granted to fellow catastrophe papers in the groups

before, after, and after the catastrophe. Such activities and acts contribute to concerted action inside and amongst households.

The results show that joint behavior and actions emphasise the pattern of relationships within households as well as between households to strengthen social networks, mutual trust, and social relations among disaster victims. These behaviors and actions are carried out as adhesives and reinforcement to foster a sense of caring, cooperation, and social support. A sense of caring is manifested by helping one another, both in the household and between households. Collaboration is also established by carrying out activities such as mutual cooperation, cleaning houses together, planting trees, and making it a habit to dispose of garbage in its place. Social support is carried out by providing loans to fellow disaster papers in the categories before, during, and after the disaster. These behaviors and actions result in collective action both within households and between households.

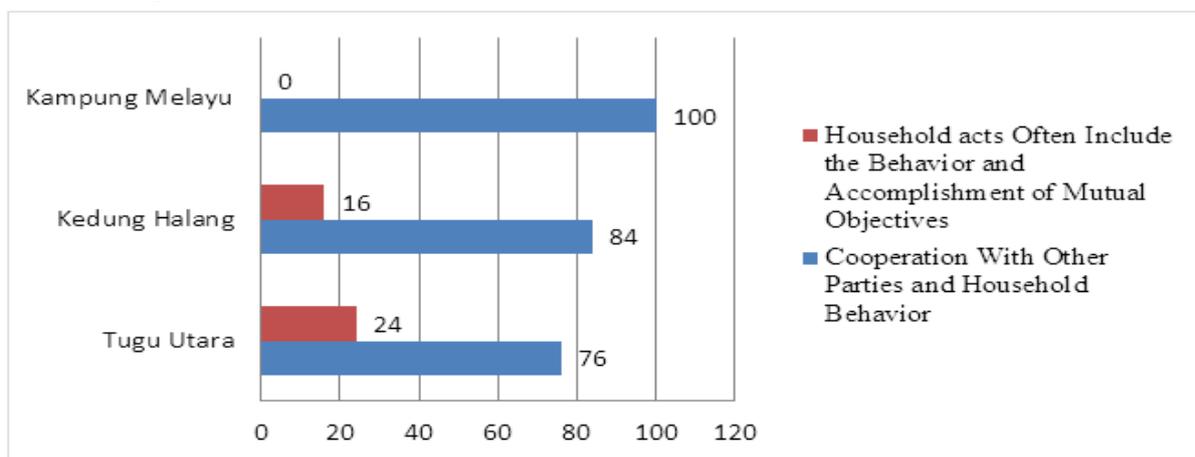
Before the disaster, the dependency to cooperate with outside parties and household action was high. The area that gave rise to always working together was the Kampung Melayu Kelurahan, then followed by the Kedung Halang Kelurahan. The percentage that stated that they collaborated with outsiders and joint actions was 100 percent in Kampung Melayu Kelurahan, 79 percent in Kedung Halang Village, and 64 percent in North Tugu Village. This shows that both households and between households in Kedung Halang and Kampung Melayu Kelurahan worked together with outsiders and the actions of households were very high in shaping the attitudes and attaining shared goals. Whereas Desa Tugu Utara is categorised as high to shape behavior and achieve common goals in terms of collaborating with outsiders and household actions. The dependence of the two research sites, namely Kedung Halang and Kelurahan Kampung Melayu, towards external cooperation and action in the household category is very high, compared to North Tugu Village. This can be seen in the following figure:

**Figure 7.** The Reliance on Cooperation With Other Parties and Household Behavior Prior to the Catastrophe



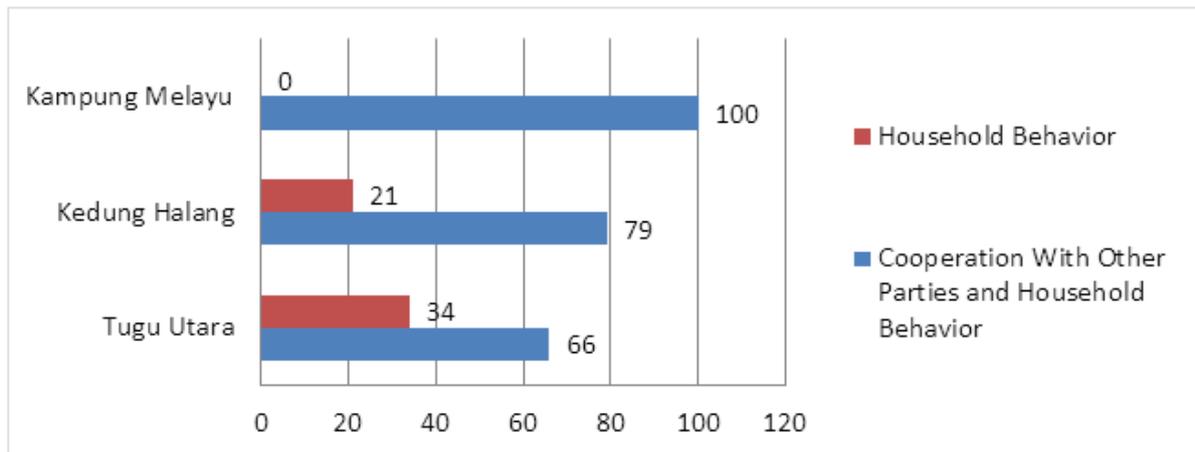
The findings in the field show that when the disaster cooperated with outsiders and household actions, Kampung Melayu Kelurahan was high by 100 percent, Kedung Halang Kelurahan by 84 percent and North Tugu Village by 76 percent. Behavior and achievement of shared goals are also seen in household actions. A high percentage is in the area of North Tugu Village by 24 percent and Kedung Halang Village by 16 percent. This illustrates that the Kampung Melayu Kelurahan and Kedung Halang Kelurahan depend on information and assistance that are very high because their area is very high affected by disasters. North Tugu Village is a very high category, but the percentage is below Kedung Halang and Kampung Melayu. This can be seen in the following figure:

**Figure 8.** The Reliance on Cooperation with Other Parties and Household Behavior Prior to the Catastrophe



After a disaster, actions to collaborate with outsiders and actions in the household indicate that it is important to take action in achieving attitudes and achieving shared goals. After a disaster, households as well as between households take action as before, such as earning a living, cleaning the yard, and following government and non-government activities. The area that was considered important explained that in cooperation with outside parties and household actions was the Kampung Melayu Kelurahan, then followed by the Kedung Halang Kelurahan. Collaborating with outsiders and household actions including very high in Kampung Melayu Kelurahan by 100 percent, Kedung Halang Kelurahan by 79 percent, and Desa Tugu Utara in the high category by 66 percent. This supports that the two research sites are highly dependent on outsiders. This can be seen in the following figure:

**Figure 9.** The Reliance on Cooperation with Other Parties and Household Behavior Prior to the Catastrophe



Strengthening information, increasing social capital, shows the consolidation of households or between households affected by disasters through social media groups. Household or inter-household activities make it easy to coordinate especially complaints faced by households before disasters, during disasters, and after disasters. Social media groups are able to move households to take action together and raise awareness in the affected areas. Being with a group on social media makes it easy to get information quickly and accurately or can be trusted. Behavior and achievement of shared goals as movements or actions to consolidate in the disaster area. Households and between households take action as social networks, social relations, and social trust. Social media groups have emerged to work together in disaster management and develop social relations that strengthen mutual disaster risk reduction, rescue, and recovery. Providing information through social media, making public kitchens, guiding neighbors to evacuations, helping to move goods, lending to one another, and forming groups as social networks, trust, and social relationships in shaping behavior and achieving common goals. Behavior and achievement of shared goals can be integrated with through social media. Households and between households have mutual assistance and build relationships. A sense of help is realised by providing loans to households in need of family needs. Expanding the network as a form of behavior and achievement of common goals, households join groups formed by households or between households, communities, and government. Behavior and the achievement of shared goals as an element to build social relations within family members and other family members.

## Conclusion

The use of social media as a social networking site can strengthen social capital in disaster areas. When coping with crises, social media has been a tool of faith, social networking, and international interaction. Social media has become an instrument of trust, social networking,



and social relations in dealing with disasters. Social media play a role in social behavior and actions as well as social networks. Social networks are able to tie and connect without space and time restrictions. The power of social media embodies the values of cooperation, mutual assistance with a spirit of mutual cooperation, care, trust, and sensitivity to disasters. Social media is used as a material for discussion and information about before, during, and after a disaster. The use of social media builds values of solidarity that have a sense of common sense and an attitude of help and togetherness, awareness, and dependence in obtaining information along the Ciliwung Riverbanks. Solidarity is not only built at the household level but at the outside household level. Social media shapes behavior and achieves common goals by doing joint activities, thereby reducing disaster risks, collaborating with outside parties, and household actions. The form of joint activities carried out is to build higher household foundations, elevate household equipment, clean gutters, and plant trees. A sense of support is felt by loans to households and through forming communities to extend the network. Conduct and accomplishment of common objectives as an item for establishing social ties between family members and other members of the society. A sense of help is realised by lending to households and expanding the network by joining groups. Behavior and the achievement of shared goals as an element to build social relations within family members and other family members. The government must construct public wifi at the village or district level and improve disaster response districts or disaster response villages and risk management platforms at the village level.

## REFERENCES

- Ali, M., Azab, N., Sorour, M. K., & Dora, M. (2019). Integration v. polarisation among social media users: Perspectives through social capital theory on the recent Egyptian political landscape. *Technological Forecasting and Social Change*, 145, 461-473.
- Alviani, S.R. and Chazisah, G. (2018). Analisis media sosial sebagai pembentuk konflik sosial di masyarakat. Pp. 221–41 in *Proceeding Open Society Conference*.
- Azisan H. (2016). pengaruh kepercayaan diri terhadap ketergantungan media sosial pada siswa di smk negeri 1 bantul the influence of self-confidence in social media dependence on students at smk negeri 1 bantul. *Jurnal Bimbingan Dan Konseling* 6(5):1–10.
- Badan, P. S. (2018b). *Jatinegara dalam angka*. Badan pusat statistik kota administrasi Jakarta Timur
- Badan, P. S. (2018a). *Jakarta Timur Dalam Angka*. Badan Pusat Statistik Kota Administrasi Jakarta Timur.
- Badan, P. S. (2018c). *Kabupaten bogor dalam angka*. Badan pusat statistik kota administrasi Kabupaten Bogor.
- Badan, P. S. (2018d). *Kecamatan Bogor Utara Dalam Angka*. *Badan Pusat Statistik Kota Administrasi Kota Bogor*.
- Badan, P. S. (2018e). *Kecamatan cisarua dalam angka*. Badan Pusat Statistik Kota Administrasi Kabupaten Bogor.
- Badan, P. S. (2018f). *Kota bogor dalam angka*. badan pusat statistik kota Administrasi Kota Bogor.
- Badan, P. S. (2018g). *Provinsi DKI Jakarta dalam angka*. badan pusat statistik Kota Administrasi Provinsi DKI Jakarta.
- Badan, P. S. (2018h). *provinsi jawa barat dalam angka*. Badan Pusat Statistik Kota Administrasi Provinsi Jawa Barat.
- Balai Besar Wilayah Sungai Serayu Opak. (2008). *Revitalisasi Sungai Code Dan Anak Sungai*nya Provinsi DIY. Laporan Akhir Penelitian. Yogyakarta.
- Burke P. (2000). *Sejarah sosial media*. Jakarta: Yayasan Obor Indonesia.



- Burt R. (2000). The network structure of social capital in R.I. Sutton B.M Staw (Edt) Research in Organisational Behavior. Greenwich: Jai Press.
- Cahyono, A. S. (2016). Pengaruh media sosial terhadap perubahan sosial masyarakat di Indonesia. *Jurnal Publiciana*, 9(1), 140-157.
- Cahyono, B. (2014). Peran modal sosial dalam peningkatan kesejahteraan masyarakat Petani Tembakau Di Kabupaten Wonosobo. *EKOBIS* 15(1):1-16.
- Chow, W. S, L. S.dan Chan. (2008). Jaringan sosial, kepercayaan sosial dan tujuan-tujuan bersama dalam berbagi pengetahuan organisasi. *Informasi Manajemen*, 45(7):458-65.
- Dharmawan, AH., Agustina, M. dan Purnamo, (2006). Strategi nafkah dan kegagalan investasi 'modal sosial bentukan: pelajaran dari model pengelolaan hutan bersama masyarakat di kabupaten kuningan. Bogor (ID): Institut Pertanian Bogor.
- Donohue, G A, P. J. Tichenor, C. N. dan Olien. (1973). Mass media functions, knowledge and social control. *Journalism & Mass Communication Quarterly*, 50(4):652-59.
- Dudwick, N., Kathleen, K., Veronica, N. J. dan Michael, W. (2006). Analyzing social capital in context: A guide to using qualitative methods and data. The International Bank for Reconstruction and Development/The World Bank.
- Durkheim, E. (1893). The division of labour in society. New York: Free Pers.
- Ellison N. B, Steinfield, C.dan Lampe. (2007). The benefits of facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4):1143-68.
- Fathy Rusydan. 2019. Modal Sosial: Konsep, inklusivitas dan pemberdayaan masyarakat. *Jurnal Pemikiran Sosiologi*, 6(1):1-17.
- Fukuyama, C. (2002). The great disruption, hakekat manusia dan rekostruksi tatanan sosial. Yogyakarta (ID): Qalam.
- Fukuyama. (1995). Trus: The social virtues and teh creation of prosperity. New York: Free Pers.
- Gill, D. A., J. S. Picou, L. A.dan Ritchie. (2012). The exxon valdez and bp oil spills: a comparison of initial social and psychological impacts. *American Behavioral Scientist* 56(1):3-32.



- Grootaert C. (1998). *Social Capital: The missing link*. Working Paper. Washington: The World Bank.
- Grootaert C. (1999). *Social capital, household welfare and poverty in Indonesia*. Social development department. The World Bank.
- Irwan, Lala M. Kolopaking, Pudji Muljono dan Yonvitner. (2019). *Strengthening the solidarity through social media networks in communities at the ciliwung riverbank*. Komunitas: International Journal Of Indonesia Society and Culture, 11(2):188–94.
- Jin, C.H. (2013). *The Perspective of a Revised Tram on Social Capital Building: The Case of Facebook Usage*. *Information & Management*, 50(4):162–68.
- Keane, M. dan Robert, M. (1998). *A structural model of multiple welfare program participation and labor supply*. *International Economic Review*, 39(3):53–89.
- Lasinta, M. (2017). *Pola komunikasi komunitas dalam membangun perilaku ramah lingkungan Di Bantaran Sungai Ciliwung Kota Bogor.* IPB University.
- Lesser, E. (2000). *Knowledge and social capital: Foundation and application*. Boston: Butterworth-Heinemann.
- Lin, N. (2009). *Social kapital and research*. New York: Aldine De Gruyter.
- Matthews, P. (2015). *Social media, community development and social capital*. *Community Development Journal* 51(3):1–17.
- Mayfield, A. (2008). *What is social media?* Amerika Serikat (US): iCrossingebook.
- McIntyre, K. (2014). *The evolution of social media from 1969 to 2013: A Change in Competition and a Trend Toward Complementary, Niche Sites*. *Journal of Social Media in Society*, 3(2):5–25.
- Miles, B. Matthew, A. and Michael, H. (1992). *Analisis data kualitatif: buku sumber tentang metode-metode baru*. Jakarta: UI-Press.
- Moser, C. O. N. (1998). *The asset vulnerability framework: Reassessing urban poverty reduction strategies*. *World Development*, 26(1):1–19.
- Muhamad, R.A. Tachya, B S dan Yusar. (2017). *Modal sosial dalam penanggulangan bencana banjir (kasus di kabupaten bandung, jawa barat)*. *Jurnal Pemikiran Dan Penelitian Sosiologi*, 1(2):101–14.



- Nasrullah, R. (2015). *Media sosial: Perspektif komunikasi, Budaya Dan Socioteknologi*. Jakarta: Simbiosis Rekatama Media.
- Nurdiarti, R. P. (2018). Media sosial, pola interaksi dan relasi sosial pada grup whatsapp alumni sdk. st. maria blitar. *ETTISAL Journal of Communication*, 3(1):49–61.
- Paldam, M. (2000). Social capital: One or many? Definition and measurement. *Journal of Economic Surveys*, 14(5):629–653.
- Putnam, RD. (2000). *Bowling alone: The collapse and revival of american community*. New York: Simon & Schuster.
- Rosyidie, A. (2013). Banjir: Fakta dan dampaknya, serta pengaruh dari perubahan guna Lahan. *Jurnal Perencanaan Wilayah Dan Kota*, 24(3):241–49.
- Rudianto. (2015). Komunikasi dalam penanggulangan bencana. *Jurnal Simbolik*, 1(1):51–61.
- Ruslanjari Dina dan itis Puspita Dewi. (2018). The Social capital in community preparedness towards the landslide disaster in pagerharjo Kulonprogo. *Kawistara*, 8(3):213–309.
- Scoot, J. (1976). A Theory of Optimal Capital Structure. *Bell Journal of Economics*, 7(1):33–54.
- Steinfeld, C., Ellison, N. B. and Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29(6):434–45.
- VanDijk, J. (2006). *The network society*. Thousand oaks. California: Sage Publications.
- Woolcock, M. (2001). The place of social capital in understanding social and economic Outcome. *Canadian Journal of Policy Research*, 2(1):1–27.
- Yudo, S. (2010). Kondisi kualitas air sungai ciliwung di wilayah dki jakarta ditinjau dari paramater organik, amoniak, fosfat. *Deterjen Dan Bakteri Coli*. *JAI*, 6(1):34–42.