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Research Paper

Risk Perception in Facing Post-Disaster of 'Rob' Flood in North Jakarta Coastal Using Social Network Approach

Heni Marta Diana Matita Putti[1*], Osmar Shalih[2], Andri N.R. Mardiah[3], Fransyudha Abandhika[4]

Amcolabora Institute, Depok, Indonesia[1]
National Board for Disaster Management (BNPB), Jakarta, Indonesia[2]
National Development Planning Agency (Bappenas), Jakarta, Indonesia[3]
Amcolabora Institute, Depok, Indonesia[4]

***) Corresponding author**: heni.marta@amcolabora.or.id*

Abstract

In recent times, most global disaster studies have primarily focused on protecting vulnerable groups with characteristics that pose a high risk of threat. In this study, we aim to further this research by utilizing social network analysis to study vulnerable groups in Rob Flood. Data were gathered from primary surveys (observations and in-depth interviews) and secondary sources (Internet and digital documentation) and then analyzed by field notes and content analysis using Nvivo 12+ Application. The findings demonstrated that despite being at risk of tidal flooding, they were comfortable remaining in their homes due to the ample support they received during disaster response, recovery, and adaptation. As a result, many of them were not concerned and disregarded potential future risks from the effects of tidal floods. These findings are significant for decision-makers in developing disaster risk reduction policies and strategies.

Keywords: Rob flood; Risk Perception; Social Network; Social Capital; Resilience Community

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Fax: +62 21 31928281
E-mail: journal.pusbindiklatren@bappenas.go.id

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1. Introduction

Many studies suggest that climate change will have destructive consequences, such as rising temperatures, sea level increases, and changes in rainfall patterns (Byers et al., 2018). Since 2012, the Intergovernmental Panel on Climate Change (IPCC) has warned that extreme weather events and their associated hazards are one of the most pressing threats facing the world, with the potential to cause significant harm in the coming decades (IPCC, 2012). In early 2020, Jakarta received heavy rainfall. According to the Meteorology, Climatology and Geophysics Agency (BMKG), this rainfall broke a new record for the highest amount since rainfall data was first recorded in Jakarta since 1866. While some news outlets at the time speculated about the link between this heavy rainfall and climate change, it is important to note that objective evaluation of this link requires further data. Many now expect an increase in flooding events in Jakarta in the future. Moreover, Jakarta is one of the cities in the Southeast Asia region that is considered very vulnerable to the impacts of climate change (Lechner et al., 2020; Matthews et al., 2017; Mora et al., 2017).

Rob Flood is a consequence of climate change. Sea level rise resulting from extreme weather events has led to the flooding of community settlements, particularly those inhabited by people. According to a study by Climate Central (2019), an estimated 300 million people around the world will be impacted by floods caused by rising sea levels within the next thirty years. The study revealed that Indonesia and five other Asian countries would face the greatest impact due to their coastal location and large population residing in these areas. North Jakarta in DKI Jakarta is the most vulnerable area to Rob floods due to its proximity to the sea. Meanwhile, global warming and ongoing coastal land subsidence in Jakarta can lead to an elevation in sea level rise, carrying the possibility of flooding in the North Jakarta coastline. Jakarta's flood risk is projected to rise even further in the future, given the cumulative impact of urban expansion, land subsidence, sea level rise, and climate change-related precipitation shifts (Budiyono et al., 2016; Hallegatte et al., 2013; Rahmawati Hizbaron et al., 2017). The 2007 Rob flood incident, which affected 70% of Jakarta, was the worst in history, with North Jakarta bearing the brunt of the damage. This catastrophic event had severe consequences for the coastal communities, with many residents having to evacuate and abstain from daily activities, including school and work. As documented by VICE News, some residents were traumatized by the Rob flood (VICE, 2018). The centrality of coastal areas for community activities, including trade, transportation, settlements, and industrial sector development, results in considerable losses and damages. In recent times, the government and community have implemented measures to reduce the risk of flooding. The government has constructed seafront barriers to inhibit the overflow of seawater onto the mainland. The construction of the North Jakarta wall began in 2016 and it stands at a height of 3.8 meters. The building of the Giant Seawall (GSW) is expected to prevent flooding. But the reality is that the barrier's structure only prevents seawater from entering the temporary apartment until sea levels rise again due to global warming and land subsidence. In addition to its high cost, Apart from being expensive, GSW is expected to have various negative impacts on biodiversity and ecosystem services (Kawata, 2022). In addition, Heri Andreas, the Head of the Geodesy Laboratory at ITB, analogized the barrier to painkillers because the wall being constructed collapsed due to land subsidence, while the sea level continued to rise.

The Rob flood in North Jakarta has had a significant impact on the physical, economic, and social conditions of the affected population. The disaster has the potential to directly influence the resilience of the region, which can result from various forms of endogenous tensions or exogenous pressures. The importance of affirmative policy from multiple levels of government, assistance disbursement, financial access partnership and community participation, and local culture and networks in facilitating the economic recovery process following a disaster (Mardiah & Lovett, 2021). In the case of the Rob flood, the pressure is an exogenous force originating from outside the system (Asrofi et al., 2017). Resilience is a necessary attribute of any community. Community resilience stems from its ability to adjust to external pressures. Multiple investigations have indicated that social networks, social capital, and cohesion are the key elements to boost community resilience (Aldrich, 2012; Aldrich & Meyer, 2015; Cai, 2017). Particularly significant is the robustness of social networks as they allow communities to rapidly mobilize and utilize resources both during and after a catastrophe, based on their capacity to adjust to the situation. Most studies have primarily focused on protecting vulnerable groups who are at high risk of harm during a disaster. However, there has been little examination of vulnerability based on social capital dimensions in the aftermath of a disaster, which has a close relationship with the basic needs that arise.

The objective of this research is to investigate the community's risks perception associated with post-tidal flood disasters. By utilizing social networks, this study aims to comprehend how social networks can impact individuals' choices of whether to stay or move. Various factors may influence an individual's decision-making process (Babanawo et al., 2023; Costas et al., 2015). However, this study strives to examine solely how social networks might influence people's perceived risk, ultimately affecting their decisions. Risk perception is a critical component of disaster risk management and plays a key role in determining the success of vulnerability reduction efforts (Bubeck et al., 2012). However, through communication exchanges, these perceptions eventually converge toward similarity over time. Trust is a crucial component of social networks, where individuals place their trust in others as a binding factor. The correlation between trust and risk perception is a significant topic of debate in risk perception research. Ge et al., (2021) study, surveyed participants in four European countries (Sweden, Spain, UK, and France) in 1996 to examine the relationship between trust and perceived risk, concluding that trust is a reliable predictor of perceived risk. Still, the strength of the correlation ranged from weak to moderate across different countries. According to Lechowska, (2018), factors that intervene and mediate the influence of personal experiences on risk perceptions of floods include time elapsed since the last disaster and level of trust in flood protection facilities. Factors such as communication, media networks, personal interactions, indirect experiences, and social capital can alter the effect of knowledge on risk levels.

Common aspects of social support relevant to research on disasters include exchange, reciprocity, and help-seeking (specifically informational, emotional, and tangible/material support), as well as the types of support and the individuals who provide consent (such as family members, friends, and neighbors). Disasters are closely associated with overwhelming feelings of distress. However, it is also noted that shared adversity inspires those impacted to become active and support one another. Social capital refers to the characteristics of a group, such as social networks, trust, mutual understanding, shared values, and behaviors that bind the members, while facilitating coordination and cooperation toward achieving specific goals (Jovita et al., 2019). Social capital in society is divided into three types: social capital bonding, social capital bridging, and social capital linking. Social capital bonding is typically demonstrated through the values, cultures, perceptions, and traditions or customs present within a community. The strength of an interpersonal tie can be defined as a linear combination of the amount of time, emotional intensity, closeness (mutual confiding), and reciprocal services that characterize the tie (Krämer et al., 2021).

Network analyses of disasters aim to address the patterns of relationships that either facilitate or hinder the ability of individuals, groups, or organizations to prepare for, manage, adapt to, resist, or recover from hazards, risks, and disasters (Jones & Faas, 2016). Woodcraft, (2015) reports that residents residing in social or affordable housing exhibit higher rates of neighborly conduct when compared to private residents. They have a greater propensity to communicate regularly with other neighbors, possess local support networks that cater to everyone, and believe that the community can be trusted. This phenomenon reflects the possibility of previous residents returning. Ultimately, neighborhoods with higher levels of social capital can effectively communicate and engage with authorities. Social Network Analysis (SNA) is a technique that maps and measures relationships and communications between individuals and non-human elements involved in information processing (Ujwary-Gil, 2020). SNA can be utilized to build disaster resilience within communities throughout the different stages of the disaster cycle. The implementation of SNAs possesses the capability to fundamentally transform the performance of organizations and societies at large regarding both preparation for and response to particular catastrophic events (Duchek, 2020; Kim & Hastak, 2018).

2. Methods

2.1 Study Design

This qualitative study employs in-depth interviews and secondary data collection methods to investigate the vulnerability of populations residing in tidal flood-prone areas at risk of losing their homes due to potential sea level rise and land subsidence leading to Jakarta's sinking. The research focuses on risk perception and is founded on the assumption that such changes will occur in Jakarta by 2050, as determined by existing studies.

2.2 Participant

The researcher utilized purposive sampling to conduct in-depth interviews with key respondents. The two groups consisted of 32 key respondents categorized as follows: 1) The community in RW 22, comprising 30 individuals who have resided in Pluit for a minimum of five years, and 2) the community leaders which included the Head of RW 22 and the Head of Section for Community Development and Empowerment, selected for their understanding of the community's conditions in RW 22.

2.3 Data Collection and Data Analysis

Data collection took place between June and July 2022. All informants were included in the sample. Each interview with the 32 informants lasted between 30 and 50 minutes. Data collected from informants was recorded during interviews, while interview information was recorded using a mobile phone after obtaining approval. To organize and make sense of the data collected and generate realistic conclusions, text data analysis utilizes field notes (which may prove beneficial in later studies) and content analysis (Bengtsson, 2016; Phillippi & Lauderdale, 2018). For this study, content analysis was conducted through the utilization of Nvivo 12+, a software application designed to facilitate the creation, maintenance, and control of qualitative data analysis projects. The data results and field notes, recorded as text or stories/events, are are processed using Nvivo 12+. Technical terms are defined upon first use. Each specific word or sentence is coded by researchers in a construct representing the attributes and interpretations of data for pattern detection, categorization, and theory development. In this case, the researcher categorized the words and sentences from interviews into three codes: Disaster Response, Recovery, and Adaptation. The purpose was to study the interrelationships between the actors involved in each process. The resulting relationships were analyzed to determine their impact on people's risk perception in RW 22. The researcher formulated several main questions for data collection. The primary inquiries directed toward activity participants pertain to their risk perception while handling post-disaster floods caused by Rob. These include: 1) Who are the typical parties aiding residents in constructing Rob flood? 2) How frequently do you receive support from these parties? 3) What sort of assistance is typically provided? The data collected aim to gauge public perception of the dangers posed by Rob flood disasters. For triangulation, we conducted a joint analysis by collecting and reviewing all data with previous informants. In this paper, we report the results descriptively.

3. Results and Discussions

The results can be classified into three categories: 1) The role of social networks in disaster response, recovery, and adaptation; 2) Risk perception when facing the Rob flood. Before examining the core findings, it is important to comprehend the Rob flood incident at the research site to acknowledge the disaster as it is perceived by the public.

3.1 Case of *Rob* flood in RW 22

Rob Floods occur annually on the North Jakarta coast, including in RW 22 Pluit Village, which is divided into four areas: Blok Empang, Tembok Bolong, Eceng, and Kampung Kerang Ijo. The mention of RW 22 first surfaced in 2011 when the area was still a swamp. Many residents constructed floating homes; over time, the community performed backfilling to improve road access. Until now, the region has seen the development of permanent residences, and the former swamp has been transformed into a plain and a designated location. However, despite the change in land use, the area surrounding RW 22 remains vulnerable to flooding caused by Rob. The coastal location makes it susceptible to annual floods, given its previous use as a swamp. Moreover, this area ranks among the locations with notable land subsidence in North Jakarta (Ramadhanis & Prasetyo, 2017).

3.2 Social Network in Disaster Response, Recovery and Adaptation

Risk perception in this study was evaluated through the use of social networks. In this instance, the social network is viewed across several phases following a disaster, including disaster response, recovery, and adaptation. The data collected in the field was coded using Nvivo with grouping codes across three phases to identify actors with relationships. The form of the relationship was also noted to better understand how social networks can impact risk perception and influence people's decisions to stay or move.

3.2.1 Social Network in Rob Flood Response

The flow of water from the sea to RW 22 in Pluit Village at times lasts for an extended period while at others for short periods, posing risks to the residents of RW 22. When the flow of water is high-speed, some inhabitants require additional time to transport their electronics and avoid submersion in the Rob flood waters. Consequently, residents may incur losses due to damaged electronics. During the RW 22 disaster in Pluit Village, the social network manifested as neighbors assisting in the transportation of belongings to safety. Avoiding subjective evaluations, the text provides a clear, concise, and necessary explanation in simple terms, using common sentence structure and consistent technical terms. Neighbors without electronic devices or residing in single-story homes would readily aid those with electronic equipment that required transportation to avoid damage. This supportive behavior is observed in individuals who regularly engage in friendly activities, such as gathering during the day to talk, to develop a sense of community and mutual support. The process of social interaction, in which individuals seek information and share resources, builds trust within social networks. Simultaneously, trust is incorporated into social networks, contributing to their development (Gong et al., 2020).

Figure 1. Documentation of residents gathering with neighbors

Source: Authors' Documentations

Meanwhile, 4 out of 30 families who seldom socialize with neighbors need to evacuate. Some of those households cannot anticipate assistance from neighbors, thus they receive aid from families residing in distinct neighborhoods or transporting their belongings to a secure location. This symbiotic relationship between neighbors and the environment engenders greater reluctance to relocate. Some individuals reported returning to their hometowns but subsequently returned to RW 22 due to its social comfort. Additional informants corroborated this by confirming that individuals who had previously left to return home ended up coming back to the community.

In addition, temporary mutual assistance is provided among neighbors in case of house evacuation needs. When the Rob flood occurs at night, evacuated residents are offered help by families with two-story houses that can accommodate up to ten neighbors. However, some households might refuse to evacuate due to discomfort in asking their neighbors for help and may only evacuate themselves with their children if necessary. This phenomenon occurs among individuals who seldom cross paths on the stairs, but families with adjacent homes will still offer aid due to camaraderie. Such neighborly assistance falls under the category of bonding. As previously defined, bonding social capital pertains to relationships with individuals who share certain demographic features, such as familial ties and kinship.

3.2.2 Social Network in Rob Flood Recovery

The impact of the Rob flood is evident in lots of debris both inside and outside the affected homes. During the recovery phase, neighborhoods around the world work together to clean up the waste left by the flood. External aid during this phase typically comes from community organizations, private institutions, and government agencies. However, assistance may not always arrive immediately following a Rob flood, with aid often being proportional to the severity and duration of the flood. Assistance from the government typically takes the form of temporary refugee tents provided by BPBD to prepare for severe Rob floods predicted by the BMKG. Assistance from the government typically takes the form of temporary refugee tents provided by BPBD to prepare for severe Rob floods predicted by the BMKG. This government initiative aims to proactively offer assistance before any adverse event occurs. Additionally, residents affected by the Rob flood, usually from the village, will receive aid in the form of necessary supplies and other essentials. Help from non-formal institutions or communities typically targets families in fishing communities where the breadwinners work in the fishing industry. Conversely, families with a trading background often seek assistance from the Poor community.

Linking social capital is integrally linked to vertical connections of power, whereas bonding social capital is made up of horizontal links. The strength and scope of people's interpersonal relationships have a significant impact on how much bonding capital exists in a society. Therefore, interactions between community members are the only place where bonding social capital may occur (Rubin, 2016). Meanwhile, Bridging social capital networks are looser and weaker networks that frequently include individuals from multiple networks as well as individuals with diverse origins and cultural, social, and economic resources that bring together people from other networks and people with different qualities, making them more inclusive (Vannebo & Ljunggren, 2021). Based on that, the social network serves as a source of support from formal institutions, which represents a link in social capital. In contrast, the connections between citizens and non-formal institutions create a bridge in social capital.

3.2.3 Social Network in Rob Flood Adaptation

Several adaptations to protect against flooding were made to the house of Rob Flood by residents of RW 22. These include raising the floor to prevent tidal water from entering, building a balek or bed with high legs to keep the mattress above water during a flood, and installing a high table to keep electronic items safe. The adaptations were carried out either by Rob Flood individually or by each family.

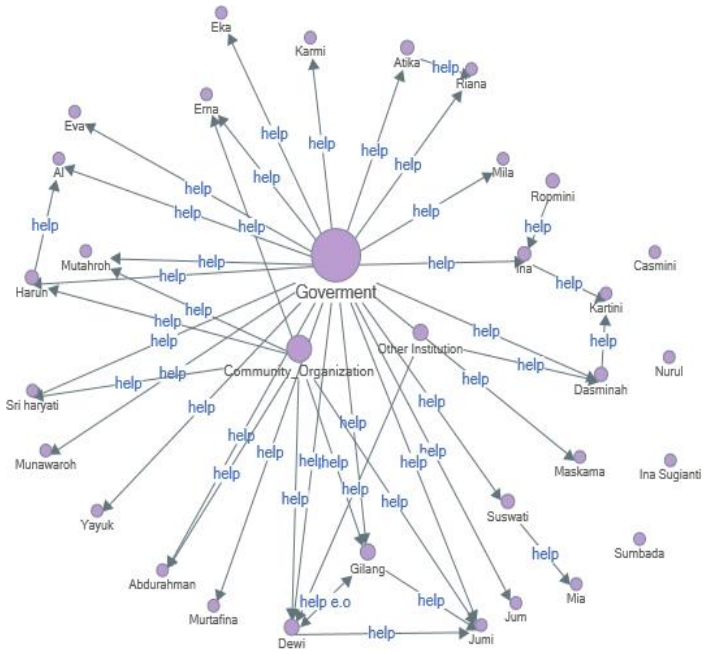

Figure 2. Network Sociogram in Rob Flood Adaptation

Source: Author's analysis using Nvivo 12+

The above figure illustrates the RW 22 community's interconnectedness. The edges represent relationships and the arrows denote the direction, showing "who helps whom." Mutual help interactions occur among those living nearby. Knots without edges represent families that have never received help, such as Casmini, Nurul, Ina Sugianti, and Sumbada. Nurul and Sumbada originate from a similar environment. According to the interview results, their surroundings have seldom received external assistance, and aiding their neighbors is also rare due to shared circumstances. Simultaneously, Ina Sugianti and Casmina hail from distinct environments, yet still receive assistance from their immediate neighbors. Gillang, Dewi, and Jumi are examples of informants originating from a common background. Gilang and Dewi have a reciprocal aid relationship during the disaster response phase. Dewi's house has a sufficiently elevated floor, allowing Gilang and Jumi to temporarily seek shelter at Dewi's place when high tidal floods occur at night. If the flooding persists during the day, Gilang assisted Dewi in moving the refrigerator, which is used to sell beverages in front of the house, to a higher location to prevent it from being submerged in tidal floodwater. In addition to the disaster response phase, they also participate in disaster adaptation efforts by cleaning up the remaining debris after the tidal flood recedes.

Table 1. Sociogram Centrality Measures processed by Nvivo 12+

Case	Degree	Degree In	Degree Out	Betweenness
Government	**23**	**0**	**23**	**672.327**
Community_Organization	**8**	**0**	**8**	**28.333**
Other Institution	**2**	**0**	**2**	**2.007**
Dewi	5	4	2	33.797
Gilang	4	3	2	4.458
Jumi	4	4	0	4.458
Dasminah	3	2	1	47.392
Ina	3	2	1	77.608
Harun	3	2	1	6.458
Suswati	2	1	1	54.000
Abdurahman	2	2	0	4.458
Al	2	2	0	0.000
Erna	2	2	0	4.458

Table 1 (cont.)

Case	Degree	Degree In	Degree Out	Betweenness
Mutahroh	2	2	0	4.458
Sri haryati	2	2	0	4.458
Atika	2	1	1	0.000
Riana	2	2	0	0.000
Murtafina	1	1	0	0.000
Eka	1	1	0	0.000
Eva	1	1	0	0.000
Karmi	1	1	0	0.000
Jum	1	1	0	0.000
Maskama	1	1	0	0.000
Munawaroh	1	1	0	0.000
Mila	1	1	0	0.000
Yayuk	1	1	0	0.000
Kartini	2	2	0	3.333
Ropmini	1	0	1	0.000
Mia	1	1	0	0.000
Casmini	0	0	0	0.000
Ina Sugianti	0	0	0	0.000
Nurul	0	0	0	0.000
Sumbada	0	0	0	0.000

Source: Authors' analysis

The table above presents the Sociogram Centrality Measures processed through Nvivo 12+. The Betweenness measure indicates the number of times a vertex lies on the shortest path between two other vertices. This provides insight into which cases serve as communication paths between different issues, which can aid in determining the points where the network would break apart. In this case, the Betweenness measure indicates how frequently a person or organization assists or is assisted during disaster response, recovery, and adaptation. In this case, betweenness is demonstrated by how frequently a person or organization provides or receives aid during disaster response, recovery, and adaptation. To evaluate the value, we have divided it into two categories: relief organizations and the community. When we examine the aid providers, the government's betweenness value is significant. This indicates that government aid is distributed almost equally among all recipients.

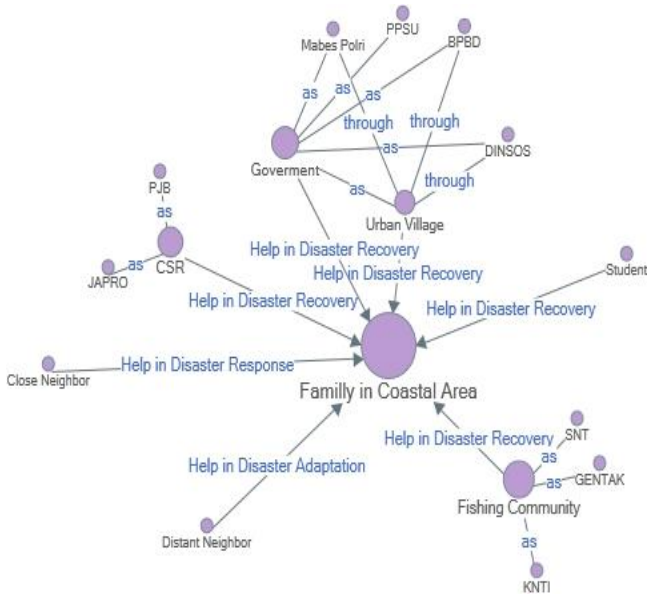

Figure 3. Network Sociogram in All Phases (Disaster Response, Recovery, and Adaptation)

Source: Author's analysis using Nvivo 12+

The analysis in Figure 3 utilized the Network Sociogram feature in Nvivo 12+ and employed the "Help" relationship type in a generalized manner to demonstrate relationship patterns. The analysis reveals that aid was provided during all phases of the disaster. Service during the disaster recovery phase involves numerous support actors, including the Regional Disaster Management Agency (BPBD), the Department of Social Services (DINSOS), the Public Infrastructure and Facilities Handling Officer (PPSU) as government agencies, the Kali Adem Traditional Fishermen Movement (GENTAK), Indonesian Traditional Fishermen Union (KNTI), Traditional Fishermen Union (SNT) as community and CSR, and students. Assistance during the disaster adaptation phase is received from the nearby RW 22 area, which is more significant than that of immediate neighbors. They assist one another provided they have sufficient funds for road backfill dues and drainage construction. A social network is formed during the disaster response phase where financial aid is provided by neighbors who reside closer to the affected homes as tidal floods arrive quicker and immediate assistance is needed.

Table 2. Social Capital in Facing Rob Flood

Form of Social Modal	Actor of Social Support	Form of Society	Type of Ties
Linking	BPBD, Police Headquarters, Social Service Volunteer, Sub-district functionary	Disaster Recovery: Food Aid and Refugee Places	Weak
Bonding	Close Neighbor and Distant Neighbor	• Disaster Response: Help move things when the flood comes fast and the tradition of *gotong royong* (Mutual assistance) to clean up trash after the tidal flood • Disaster Adaptation: Help in backfilling the roads and construction of drainage	Strong
Bridging	Non-formal institutions and fishing communities	Disaster Recovery: Food aid and money donation	Weak

Source: Authors' analysis

The social capital relationship description in RW 22 concludes with the table presented above. This paper examines the types of ties based on the presence of relationships across three phases (response, recovery, and adaptation). Weak ties are present in only one phase, strong ties in two phases, and very strong ties in all three phases. The connections established in RW 22 may need to be strengthened as the government, acting as a source of social support, only assists the community during the disaster recovery phase. Despite the strong bond between the two during the adaptation phase, field data suggests that government aid is only given during the recovery stage, resulting in an overall weak relationship. If disaster victims are unable to independently cope with their difficulties, they typically rely on their social network for assistance. Formal service providers are usually only considered as a last resort. Furthermore, a tradition of gotong royong exists within the community, which involves cleaning up the garbage left by tidal floods to aid in recovery efforts. This bonding can be categorized as strong because it often occurs in multiple phases, such as during disaster response and disaster adaptation. Additionally, the word cloud image results further support the robustness of this bond.

Figure 4. Word Cloud Based on NVivo 12+ Analysis of Coded Nodes

Source: Authors' analysis

The term 'neighbor' is frequently cited by informants regarding who provided aid during flooding. Furthermore, bridging ties form through non-formal institutions and communities, strengthening assistance in times of severe floods."

3.3 Risk Perception in Facing *Rob* Flood

Disaster is the convergence of a threat (hazard) and vulnerability, signifying that the threat need not necessarily manifest if vulnerable elements are absent. When regarding flooding, irrespective of the inundation's height, if the water resides on a suitable plain (such as a swamp), it would not qualify as a disaster since inundation is a natural occurrence in such an area. Problems arise only when the water recedes or dries up, causing the plains to be appropriated and repurposed for human activities such as settlements. This occurred with regards to RW 22, which had previously been a swamp area, about a decade ago (at the time of this writing). Many residents initially constructed floating houses before converting them to non-floating structures. Their choice to remain in the area was not due to ignorance of the risk of flooding from the Rob River but was influenced by several factors, including an inability to secure land for construction through the 'first come, first served' system, low rent rates, and proximity to their means of livelihood. Most of the participants were unaware of any research indicating that the northern region would sink due to land subsidence and rising sea levels. This lack of knowledge is likely due to their low educational background and limited access to information.

Flood risks present a significant and increasing danger to the health and well-being of individuals residing in urban and rural areas worldwide (Fox Gotham et al., 2017). However, they differ from the Rob Flood in RW 22, as the residents of RW 22 are accustomed to and opt to reside alongside the floods, despite knowing that the area will eventually submerge.

Figure 5. Word Cloud for 'reasons to stay' based on NVivo 12+ Analysis of Coded Nodes

Source: Authors' analysis

The term 'comfortable' is consistently mentioned by each informant concerning their work. Here, comfort refers to the overall environment. One informant reported attempting to relocate to their hometown but quickly returned to reside in RW 22 due to feeling more comfortable there. This supports the assertions of multiple other interviewees who reported feeling more lonely due to a lack of social interaction and activities in their hometown. They feel more comfortable socializing with their neighbors in their current residence due to its proximity. Moreover, this is further facilitated by the numerous cooperative activities among neighbors as previously described. However, their responses and behaviors during the robbery contradicted their self-perception as weak victims. Remove subjective evaluations unless marked as such.

In conclusion, the residents of this flood-prone area acknowledge the risk associated with Rob Flood and place-based memory, recognizing that their location is vulnerable to inundation. They draw comfort from their community's shared experiences, as well as assistance from external parties during severe flooding caused by Rob Flood. Although they are aware of the potential sinking of Jakarta in the future, it is not their primary concern. This is a common occurrence in flood-prone regions, as shown by the residents' focus on seeking logistical aid instead of dwelling in their flooded houses In most severe cases, some communities have expressed dissatisfaction over the delay in receiving logistical assistance rather than the actual extent of damage caused by flooding or loss of property (Akuntono, 2013; Simarmata, 2018). This indicates that risk perception is closely linked to disaster preparedness and place attachment (Putti et al., 2022). In the context of post-disaster recovery efforts, the function of social capital at the community level is highly significant. To reduce future disaster risk, efforts should focus on disaster mitigation and adaptation that are well-suited to local factors. Social networks, social trust, and systems all contribute to enhanced resilience and disaster risk reduction (Shalih et al., 2020). There is proof that values and norms, trust, networks, knowledge-sharing, and commitment that naturally developed in society have affected improved public awareness, social solidarity, and community understanding of the post-disaster (Mardiah et al., 2022).

Conclusions

According to the study's findings, the community's perception of the risk of flood in RW 22 is linked to the role of social capital in residents' lives. The bonding, bridging, and linking associations among RW 22 residents influence their decision to remain because they perceive a social support mechanism that aids their livelihoods as long-term residents. This leads individuals to consider that "it doesn't matter if they will lose their homes after the flood," since they are not alone and there are people who can help them when needed. Even if the community's bonding and bridging relationships are weak, the community can still benefit significantly from the social support system provided by bonding connections during the response and adaptation phases of the flood. Therefore, residents are unwilling to move and accept the constant possibility of flooding. The community does not necessarily view the Rob flood as a high-risk

event. Despite several impacts from the Rob flood, they can continue to live because they are not alone and some individuals will assist in the event of losing their dwelling due to the Rob floods.

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