

Does Social Capital Play an Important Role in Disaster Recovery?: A Qualitative Study of the 2022 Cianjur Earthquake in Indonesia

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Abstract

Social capital is an asset sourced from within the community that can be mobilized to encourage people to take collective action to achieve specific goals. If managed properly, social capital can have a positive impact on society. Social capital can be utilized to improve the community's ability to recover after a disaster through collective action, offering support and facilitating community recovery. Various studies have shown that it is not physical and structural factors but social capital that serves as the main engine of long-term recovery after a disaster. Therefore, this research aims to find out and analyze the role of social capital in the recovery process of community survivors of the 2022 Cianjur earthquake. The study used a qualitative method with the Interactive Analysis Model to process and analyze the data. The data is obtained through literature review, observation, and in-depth interviews with 16 informants who were survivors and parties involved during the Cianjur earthquake recovery process. The results showed that social capital is significant in encouraging community-based recovery, enabling financial assistance during recovery, and generating potential conflicts that can constrain recovery. Considering the critical role of social capital in the post-disaster recovery process, the government and other stakeholders need to pay attention and consider how to utilize the role of social capital in the post-disaster recovery process.

Keywords

Disaster; disaster-affected communities; recovery; social capital

Introduction

The United Nations Office for Disaster Risk Reduction (UNDRR) declares disaster refers to a severe disruption of the functioning of a community or society involving widespread human, material, economic, or environmental losses and impacts that exceed the ability of the affected community or society to cope using its resources (Bahmani & Zhang, 2022). In the World Risk Report and the United Nations (UN) Report, Indonesia is categorized as one of the countries with a very high level of disaster risk. It is included in the vulnerable countries in Asia after China and the Philippines due to the presence of the Pacific Ring of Fire (Ayuni et al., 2022). The National Agency for Disaster Countermeasures (Badan Nasional Penanggulangan Bencana) (2023) shows a yearly increase in disaster trends in Indonesia. Indonesia's high exposure and vulnerability to disasters also affects 75% of industrial infrastructure and basic connectivity, making Indonesia even more vulnerable to disasters (Ayuni et al., 2022).

The aftermath of a disaster is characterized by deep uncertainty. Those affected by a hurricane, an earthquake, or a flood must determine strategies to coordinate their recovery efforts with others in their community (Storr et al., 2017). Therefore, after a disaster event, immediate recovery management is needed to support victims and disaster-affected areas to recover quickly, including the recovery of infrastructure, economy, and housing to recover the population in the affected area (Terumoto et al., 2022). However, many disaster risk reduction measures focus solely on structural or engineering measures. A disaster also causes vast casualties and devastates society (Sanyal & Routray, 2016). In addition, local communities' perceptions of recovery are usually ignored when they should be at the center of the recovery process (Su & Le Dé, 2020).

Many studies have highlighted how disasters impact human capital and physical capital, whereas social capital can be a medium to reduce disaster risk at the community level, particularly for those living in disaster areas. Social capital can provide non-excludable benefits to entire communities after major crises, including disasters (Aldrich, 2011). While the results of post-disaster research in Mexico show that social capital is relevant for coping with hurricanes, while bonding relationships are recognized as the most pertinent for support when disasters occur, and bridging is also fundamental, especially for long-term response (Cohen-Salgado et al., 2021). As well as being positively correlated, the relationship between social capital and disasters has adverse negative effects, as it can unite and divide communities (Behlendorf et al., 2020). Social capital is vital in managing disaster relief at the community level and building and enhancing community disaster response capacity (Choo & Yoon, 2022). This highlights the importance of exploring how social capital plays a role in recovery. The immeasurable nature of social capital makes it a double-edged sword with both positive and negative impacts, including in the post-earthquake recovery in Cianjur, which showed a different result from previous research, where social capital had a significant adverse effect on the recovery process.

Cianjur is one of the areas in Indonesia that have a high level of vulnerability to natural disasters. As a developing country with cultural diversity (Aldrich & Meyer, 2014), exploring the dynamics of social capital is attractive in Indonesia, especially a deep understanding of how social networks, beliefs, and community norms play a role in the post-disaster recovery process. This study bridges the knowledge gap by highlighting how specific socio-cultural factors in Indonesia influence community resilience and recovery (Islam & Walkerden, 2014). These are essential factors that policymakers and disaster management practitioners will

consider in designing recovery strategies that are more effective and contextual (Yamamura, 2010). By exploring the role of social capital in disaster recovery, this research enriches the sociology of disaster literature. It provides valuable insights for studying community resilience, adaptation to climate change, and sustainable development in developing countries.

Literature review

Social capital

Putnam (1986) defined social capital as an enabler of collective action consisting of social networks, norms, and trust that encourage people to move together more effectively to achieve common goals (Liu et al., 2022). Bourdieu views social capital as an asset collectively held by a group, which confers upon its members status and power, providing various benefits to the group from such resources (Utsumi & Muradi, 2024). Coleman (1988) asserted that social capital emerges among closely knit social networks such as families because their trust level is very high. In short, trust is a vital measure of social capital (Akbar & Aldrich, 2018).

Social capital theory is so complex that the main discussion of social capital focuses on the dimensions or classifications within it, where social capital classification is divided into bonding, bridging, and linking social capital (Sanyal & Routray, 2016). Bonding capital is the close horizontal relationship between and among close family, friends, business associates, or individual members of the community sharing similar demographic and socioeconomic characteristics and homogeneous status (Behera, 2023). Bonding Capital also refers to the relationships and interactions within homogeneous groups or communities where individuals have similar demographic features, values, attitudes, and available resources and information (Ahumada et al., 2024). Meanwhile, bridging capital is social capital that connects people from different social groups. It is a form of network that includes more distant ties, such as people from other communities or groups (Sanyal & Routray, 2016). Linking social capital is a vertical relationship between people of different power strata and positions, and individuals and communities can develop networks and utilize social capital linkages (Behera, 2023). Linking social capital crosses group boundaries vertically, such as between international donors and communities (Hudson et al., 2020).

Social capital in disaster management

Community resilience describes the collective ability of a neighborhood or community to cope with stressors and efficiently continue functioning in daily life after experiencing a shock (Aldrich & Meyer, 2014). Social capital is considered essential for social resilience, including community. Community resilience is enhanced by the social capital that arises from increased social connections and social networks associated with community participation (Carmen et al., 2022). Utilizing social capital in disaster risk reduction and recovery is one of the critical factors to consider. However, local communities' perceptions of recovery are usually ignored when they should be at the center of the recovery process (Su & Le Dé, 2020).

Studies on the role of social capital in disaster recovery show mixed results, with most studies on the relationship between social capital and disaster resilience highlighting the positive

outcomes of social capital when functioning properly (Hassan, 2018). Social capital is described as encouraging people and communities to mobilize and access resources after a disaster so that communities with more substantial social capital can experience greater repopulation, faster recovery, and a higher percentage of successful recovery (Consoer & Milman, 2016). Research released by the Indonesian Central Bureau of Statistics (BPS-Statistics Indonesia [Badan Pusat Statistik], 2021) shows that residents who live in neighborhoods where most people have close relationships show a level of trust that their neighbors will assist if a disaster strikes them tend to be high, reaching over 84%. The condition of social capital and high trust between Indonesian people influence the recovery process after communities are affected by disasters. The results of disaster mitigation research on vulnerable community groups in Mount Merapi, Indonesia, show that social is crucial because it represents local wisdom, cooperation, and care owned by the community (Gravitiani et al., 2023). In the case study of the Palu earthquake in Indonesia, research indicates that Good social capital conditions show that people in the area can recover well without depending more on other parties outside the community (Wirawan et al., 2024). Social capital can increase the capacity to mobilize resources and a more efficient recovery process after experiencing a disaster or sudden environmental change (Kriegl et al., 2022).

Social capital has a positive impact on disaster management through several main mechanisms. First, solid social networks facilitate the rapid and effective dissemination of information during and after a disaster, allowing for better coordination in rescue and recovery efforts (Aldrich & Meyer, 2014). Second, trust between community members encourages collective action and cooperation, which is especially important in the emergency response and initial reconstruction phases (Nakagawa & Shaw, 2004). Other supporting factors include high social cohesion (Pelling & High, 2005) and norms of reciprocity that strengthen community resilience (Yamamura, 2010). and local leadership that can mobilize resources effectively (Islam & Walkerden, 2014). Another factor is that diverse social networks allow access to various resources (Hawkins & Maurer, 2010).

Utilization of social capital for disaster recovery includes resource mobilization, information dissemination, collective decision-making, and psychosocial support. Social capital facilitates the collection and distribution of material and non-material assistance (Dynes, 2006), becomes an effective communication channel for early warning and recovery information (Zhao, 2013), supports deliberation and joint decision-making (Chamlee-Wright & Storr, 2011), as well as providing vital emotional support for post-disaster trauma recovery. In the context of the Cianjur earthquake, local community social capital such as cooperation, family networks, the role of religious institutions, and community groups can be optimized for recovery through strengthening community-based early warning systems, mobilizing volunteers, utilizing religious networks, and empowering community groups.

Although most studies show a positive relationship between social capital and disaster recovery, social capital also has a negative impact on disaster recovery. Participation in a group or community often increases social control and potentially limits personal freedom (Alcorta et al., 2020). The study results also show substantial inequalities in the distribution of social capital, with better connections and assistance coming to people who already have a better socioeconomic position in society (Akbar & Aldrich, 2018). Social capital also has a negative side, potentially facilitating the spread of grievances, collective mobilization, and promoting conflict as it encourages exclusive behaviors (Lo & Fan, 2020). Linking social capital is often associated with unresponsiveness and challenges to access by the community equally (Lo & Fan, 2020). Social capital can reinforce gender inequality and exclusion (Fletcher et al., 2020). This is why policymakers and volunteers must be more cautious when utilizing

social capital in post-disaster recovery (Hsueh, 2019). This highlights the need to explore and analyze the relationship between the three types of social capital and the recovery of disaster-affected areas to support long-term recovery and increase community resilience in the future.

Post-disaster recovery phase

In the aftermath of a disaster, immediate recovery management is needed to support victims in recovering quickly, including the recovery of infrastructure, economy, and housing to recover the population in the affected area (Terumoto et al., 2022). Disaster recovery is the emergency management function by which countries, communities, families, and individuals repair or restore what has been lost in a disaster and, ideally, reduce the risk of similar disasters in the future. It is the costliest and longest lasting phase of disaster management (Coppola, 2011). When done effectively and equitably, recovery produces positive outcomes for disaster-affected communities to improve their well-being and preparedness to avoid or reduce future risks (McClelland et al., 2022).

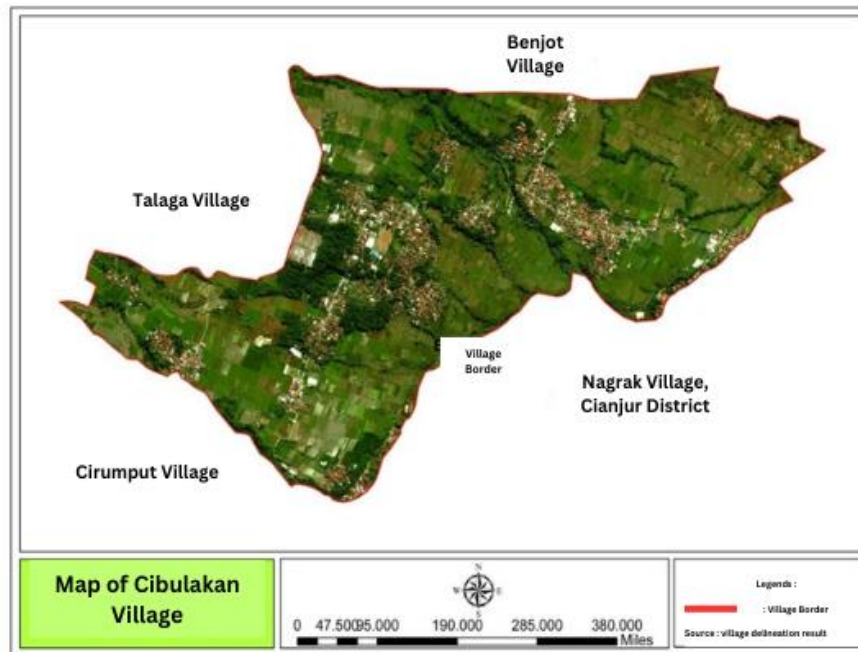
Increasing community capacity to face disasters is one of the efforts to reduce disaster risk. It enables communities to recover from disasters by investing in local capacity to adapt to uncertain changes and risks (Deasy et al., 2023). Successful disaster recovery projects should be organized based on community needs, public participation, and rapid rescue operations, significantly influencing the recovery process's success (McClelland et al., 2022). In the case of a major disaster, the long-term recovery process lasts for many years, while the economic renewal of a community may take even longer, requires more funding, and involves more parties from different sectors, requiring significant coordination and planning to promote a successful recovery (Coppola, 2011).

Case study: Earthquake in Cianjur, West Java, Indonesia 2022

On Monday, November 21, 2022, at 13:21 (UTC +7), an earthquake with a magnitude of 5.6 occurred, centered on land with a depth of 10 km Southwest of Cianjur Regency (Health Crisis Center [Pusat Krisis Kesehatan], 2022). The National Disaster Management Agency stated that the total death toll from this earthquake touched 327 people, with a total of 13 people missing. Furthermore, the number of victims with severe injuries reached 108 people, and the total number of refugees amounted to 108,720 people, with details of male victims as many as 52,987 people and 55,733 female refugees (BNPB, 2022). Ten sub-districts were affected by the earthquake, with the highest number of casualties in the Cugenang sub-district (BBC Indonesia, 2022). As a result of the quake, 56,320 houses were damaged, with 22,241 houses severely damaged, 11,641 houses moderately damaged, and 22,090 houses slightly damaged (BBC Indonesia, 2022).

Materials and methods

This research will be located in Cibulakan Village, Cugenang Sub-district, Cianjur, one of the villages situated in Cugenang Sub-district that was most affected by the earthquake and suffered the most severe damage and losses.

Figure 1: Map of Cibulakan Village

Note: Cibulakan Village Profile, 2022

This research uses qualitative approaches and methods (Bryman, 2012). It is crucial to observe the social capital that already exists or emerges organically after the community of Cibulakan Village, Cianjur, is affected by a disaster that can be utilized during the recovery process. Data in the research will be collected through in-depth interviews, observations, and a literature review. The informants were selected using the purposive sampling technique, where the choice was made deliberately based on predetermined criteria based on the research objectives. Informants in this research consisted of people affected by the Cianjur earthquake disaster in 2022 between the ages of 18 and 60 who suffered both material and moral losses, members of the local government and regional disaster management agencies involved in the recovery process after the Cianjur earthquake disaster, and other government agencies or members of non-governmental organizations and community members involved in recovery as well as vulnerable groups in the research location, other government agencies or members of non-governmental organizations and community members involved in recovery as well as vulnerable groups in the research locations. The process of selecting informants in this study adjusts the information needed and the criteria for informants that have been made in Table 1 below.

Table 1: Informant Criteria Framework

Information	Representativeness	Total
Information on Cibulakan village	Cibulakan Village Community Leaders	1
Bonding capital of Cibulakan Village community	Head of Neighbourhood and Cibulakan Village Community	2
Bridging social capital of the Cibulakan Village community	Head of Hamlet and Community leaders of Cibulakan	2
Linking social capital of the Cibulakan Village community	Village Head and Community Leaders of Cibulakan Village	2

Information	Representativeness	Total
The recovery plan in Cibulakan village	Regional Disaster Management Agency /BPBD Cianjur	1
The recovery process in Cibulakan	Cibulakan Village Community	2
Weaknesses of the Cibulakan village recovery	NGOs and communities involved in recovery	
Community involvement and participation in recovery	Regional Disaster Management Agency /BPBD Cianjur, community	2
the potential for social capital to hinder recovery	Community Leaders Cibulakan, Vulnerable community	1
Recognizing the obstacles related to community engagement and the utilization of social capital for recovery	Community, Cibulakan community leaders	3
	Regional Disaster Management Agency /BPBD Cianjur	
Total		16

Data obtained in qualitative research is usually collected from interviews, documents, or observations so that it cannot be directly analyzed and must be processed first. Data were obtained through in-depth interviews and field observations and processed through the Interactive Model Analysis method by Miles and Huberman (Miles et al., 2014), which divides the steps of data analysis: data collection, data condensation through open, axial, and selective coding, data display, and conclusion drawing. The research protocol was carried out by explaining to informants related research and directing informants to agree to informed consent personally to each informant before initiating the interview process.

This was approved by the Ethics Committee of the School of Environmental Science, Universitas Indonesia, before the commencement of fieldwork (Number: KET-022/UN2.F13.D1.KE1/PPM.00/2023).

Result and discussion

The results of open, axial, and selective coding show the results of several forms of the role of social capital, including the role of social capital in encouraging community-based recovery in Cibulakan Village, the role of social capital in encouraging financial support for the recovery process, and the role of social capital in creating conflicts and delaying the recovery process in Cibulakan Village.

The role of social capital in encouraging community-based recovery in Cibulakan village

The role of social capital in recovery plans in Cibulakan village

The findings show that various institutions have made various recovery efforts during the recovery phase. Efforts to build disaster response capacity in Cibulakan Village were carried out through collaboration with various parties.

“Along with social recovery, there were many parties involved in working together after the earthquake occurred, from various institutions and

communities to related agencies. So, there is a kind of gentle education to the residents because one of the reasons there were so many victims was because of the lack of knowledge of what to do when an earthquake occurs."

(Mr. D, Regional Disaster Management Agency /BPBD Cianjur)

In addition, the NGOs involved in the recovery process in Cibulakan Village also assisted the community to ensure that the people of Cibulakan Village were informed about the recovery process, especially regarding the reconstruction of buildings.

"If there are changes in policies made by the government, then it can confuse the community; maybe the information does not reach them. Therefore, the NGOs here are trying to accompany the community during this recovery process, assisting as much as possible."

(Mr. A, Save The Children)

Social capital was also identified as playing a role in further post-earthquake recovery plans in Cibulakan Village. The findings show that one of the recovery plans to be carried out in Cibulakan Village relates to economic recovery by utilizing the strong relationships in the community to encourage community involvement in the economic recovery process.

"So after the infrastructure, we are targeting the development of the economic sector for recovery, maybe through empowerment or capital stimulants. We tried to involve the community as much as possible so that the impact can be sustainable. So, we want to utilize its potential, especially in terms of community closeness to each other because the community relations here are quite proactive with each other."

(Mr. D, Regional Disaster Management Agency /BPBD Cianjur)

The role of social capital in encouraging collective action and community participation in the Cibulakan village recovery process

Another form of social capital that can be identified in the recovery process in Cibulakan Village relates to the role of social capital in encouraging collective action & participation in the recovery process. However, community participation decreased because people began focusing on their needs.

"...they are actively involved in the process of cleaning their houses, then in the construction process. For gotong royong activities, maybe some villages still do it often, but some have also begun to loosen. Because they have started to think about their own needs."

(Mr. R, LPBI NU dan Regional Disaster Management Agency /BPBD
Cianjur)

The government facilitated restoring public facilities and infrastructure, but unfortunately, the community was not involved in post-earthquake infrastructure development.

"...No, so the community is not involved in the construction of schools or village offices. I see that the people who built the elementary school here are all Javanese, East Javanese, Central Javanese; they are not our own people."

(Mr. Hj. Solihin, Community Leader)

The lack of government encouragement regarding community involvement in the construction of public facilities is because the construction process uses vendors, thus already having their workers.

"For school improvement, the government does not offer the community to be involved, because it is taken from the biggest CV, from Jakarta, Adikarya, maybe there are already workers too."

(Mr.ASP, Head of Neighbourhood 4 Hamlet 5)

The role of bridging and linking social capital in promoting financial support during recovery process

Another role of social capital during the recovery process is to encourage the availability of financial support. One form of financial backing found in Cibulakan Village is usually obtained from the assistance of certain foundations and direct cash assistance in the community.

"For financial assistance from other parties, what is the most, one of them is from the village, BLT direct cash assistance, there are also foundations such as from Islamic Relics, from wahana visi, from NGOs, although maybe the assistance is not all money."

(Mr. A, Village Secretary)

Financial assistance provided by foundations or institutions is usually channeled directly to the community, so it does not go through the local government because, in many cases, the assistance comes from relationships and acquaintances between disaster-affected communities in Cibulakan Village and the donors.

"Yes, financial support from foundations usually goes directly to the community or through foundations. For financial support from other parties, it is usually handed over to the local government, to the village here."

(Mr. D, Regional Disaster Management Agency /BPBD Cianjur)

Apart from organizations, financial support during recovery in Cibulakan Village also often comes from relatives or acquaintances of the Cibulakan community who are delivered directly to the community and only through a copy letter to the Village.

"There is also random financial assistance. There is also a lot of it, for example, from family acquaintances. Most usually, at least, only a copy of the letter to the village so they know. Because sometimes those who provide assistance go directly to the community."

(Mr. S, BOD Cianjur)

The role of social capital in generating potential conflict and delaying the recovery process in Cibulakan village

The role of social capital in generating potential conflict during recovery in Cibulakan village

The findings show potential conflicts in community relations in Cibulakan Village during recovery. This is partly due to the difficulty of communicating with disaster-affected communities, which tend to be more sensitive after a disaster and more prone to conflict.

"It's hard to talk to the community, especially after the disaster. It's very difficult, and I'm afraid the relationship between the community and the agency, the government, will be in conflict. So, we just focus on solving it because the community is in a sensitive condition after the disaster."

(Mr. S, BOD Cianjur)

In addition, one of the potential conflicts that arose in Cibulakan Village was also caused by the lack of organization of the parties providing assistance in the community, so the process of assisting tended to be unorganized and often caused new conflicts.

"Because those who provide assistance to disaster areas, for example, here, are not only well-organized institutions. There will be community groups that provide assistance carelessly. When they give donations, there might be conflicts in the community. The intentions are noble, but it creates new conflicts in the community."

(Mr. A, Save The Children)

The findings also showed that one of the leading potential conflicts during the recovery process in Cibulakan Village stemmed from the distribution of post-disaster assistance during recovery.

"Well, there is social jealousy in the community. The community feels that the assistance that is distributed is not evenly distributed. So, how come my house is damaged the same as my neighbor's, but my neighbor gets medium damage, and I get light damage, there is jealousy. Moreover, if the community gets heavy damage, there will be more money."

(Mr. S, BOD Cianjur)

Apart from being related to determining the category of house damage, another potential conflict is associated with the lack of community knowledge regarding the distribution of aid that cannot be disbursed simultaneously.

"The assistance is not withdrawn at the same time, and also the assessment of light, medium, and heavy damage is different. There are some people who may not accept it, feel that maybe the damage is the same as their neighbors, but their neighbors get heavy damage while theirs is moderate damage, what is it, there is social jealousy."

(Mrs. A, Vulnerable Communities)

The influence of unfair, conservative, and unresponsive nature of social capital during recovery in the Cibulakan village

In the Cibulakan case, the influence of the negative nature of social capital can be identified based on the condition of the accessibility of recovery assistance. The findings show that assisting is based on certain community connections, which are only intended for a few communities and often cause conflict.

"Sometimes housing assistance is divided only to communities with certain closeness to the aid provider, so there are conflicts, and has the potential to hamper the recovery process because it becomes a conflict within the village, the community itself. For example, one village has a connection with a group, and finally, the group provides assistance. Now the next village is jealous, accusing the assistance from the village."

(Mr. R, LBPI NU dan Regional Disaster Management Agency /BPBD Cianjur)

In addition, the decreased trust between communities has also made it difficult for the community to hire other communities due to distrust between communities.

"Of course, the recovery is delayed. The condition of the community that lacks trust certainly hampers recovery. For example, farmers are now unwilling to work. That's why you can see that many gardens and rice fields are not cultivated. Because fellow community members are no longer willing to work. Farmers are no longer willing to employ the people here too. Already distrustful so maybe it becomes a conflict."

(Mr. A, Head of Neighbourhood 1 Hamlet 3)

The weakening of relationships among the community has also resulted in a lack of community participation in community service to restore public facilities in Cibulakan Village.

"They don't want to do community service for public facilities. The people here are now focusing on their respective homes because it is not 100% complete, so this public facility is abandoned. Worsened by the crisis of trust between the community."

(Mr. A, Head of Neighbourhood 1 Hamlet 3)

The explanation above illustrates how important the role of social capital is in the post-earthquake recovery process in Cibulakan Village. To simplify the results, a summary matrix was prepared regarding the role of social capital during the recovery process in Cibulakan Village.

Table 2: Summary Matrix of the Important Role of Social Capital in the Recovery Process

Role of Social Capital in Disaster Recovery	Sub Point	Description
The Role of Social Capital in Encouraging Community-Based Recovery in Cibulakan Village	The Role of Social Capital in Recovery Plans in Cibulakan Village	Social capital is essential in connecting various parties that can support the recovery process, including the government, NGOs, and other local communities. In addition, social capital also plays a role in supporting economic recovery through the utilization of community connections.
	The Role of Social Capital in Encouraging Collective Action and Community Participation in the Cibulakan Village Recovery Process	Social capital plays a role in encouraging collective action and community participation during recovery. However, it was identified that there was a decrease in community participation when compared to the pre-disaster situation due to the community's focus on their recovery. Community collective action during recovery usually involves

The Role of Bridging and Linking Social Capital in Promoting Financial Support During Recovery Process	The Role of Bridging and Linking Social Capital in Promoting Financial Support During Recovery Process	the community in restoring the surrounding infrastructure. Social capital plays a role in encouraging the availability of financial assistance during recovery, which is provided directly to the community through the connections between the community and foundations, local institutions, and other institutions capable of providing financial assistance.
The Role of Social Capital in Generating Potential Conflict and Delaying The Recovery Process in Cibulakan Village	The Role of Social Capital in Generating Potential Conflict during Recovery in Cibulakan Village	Despite providing positive support, social capital also plays a role in encouraging the rise of potential conflicts during recovery. This is due to the condition of the community that has experienced post-disaster shocks that make them more sensitive and more prone to conflict. The uneven distribution of assistance because it is based on connections between the community and the donor is also one of the leading causes of conflict in the community.
	The Influence of Unfair, Conservative, and Unresponsive Nature of Social Capital During Recovery In the Cibulakan Village	Unfair, conservative, and unresponsive social capital emerged during the recovery process in Cibulakan, which was marked by the unjust distribution of aid because they were based on community and donor connections, the emergence of distrust between communities, and the unmet needs of the community by the assistance provider during recovery.

Discussion

Theoretical reflection on the role of social capital in encouraging community-based recovery in Cibulakan village

Previous studies have shown that the social capital of disaster survivors has a positive impact on promoting community-based recovery and resilience. This also occurred in Cibulakan Village during the recovery process. Social capital is considered to play a role in the recovery efforts that have been carried out in Cibulakan Village, especially the role of linking social capital, which is shown by the establishment of cooperation between various parties, which contributes positively to building the resilience of affected communities (Parvin et al., 2023).

Many previous studies show a positive relationship between social capital and community resilience in disasters, where social capital encourages effective action and provides the resources needed in post-disaster conditions (Partelow, 2021). Social capital significantly influences various aspects of disaster recovery, including communities' psychological health and well-being. In the context of the Cianjur earthquake, this research finds several specific mechanisms by which social capital contributes to these aspects. In the aspect of physical health, social capital, especially in the form of strong social networks, plays a vital role in maintaining people's physical health after the earthquake. This is in line with the findings of Wind et al. (2011), which showed that social capital can increase access to health services after a disaster.

Meanwhile, in Psychological Well-being, mutual assistance activities and emotional support help reduce posttraumatic stress and anxiety. These findings strengthen the argument of Hikichi et al. (2016), who found that social capital can reduce the risk of post-disaster depressive symptoms. Apart from that, Long-Term Mental Resilience is also related to active participation in community-based recovery activities, increasing the sense of empowerment and optimism of Cianjur earthquake victims.

In Cibulakan Village's case, social capital's role in encouraging collective action and community participation can be identified based on community involvement and participation during recovery. However, community participation has decreased because of the unavailability of tools for the community to be involved in recovery. The government constructed various public facilities, collaborating with several construction vendor companies and their workers. This supports the concept that the three types of social capital ideally interact with each other so that the development of one level occurs partly because there are interventions made consciously by actors at different levels as they build their network relationships to support social capital and encourage communities to be resilient (Milofsky, 2023)

Table 3: Theoretical Reflection on the Role of Social Capital in Encouraging Community-Based Recovery in Cibulakan Village

Findings	Theory	Analysis
The findings in Cibulakan Village show that the role of social capital owned by the Cibulakan Village community can be divided into several categories, namely, the role of social capital in encouraging community-based recovery and the role of capital. This relates to the role of social capital in recovery efforts and plans in Cibulakan Village.	<p>The role of social capital in supporting community resilience (Abe et al., 2023; Aldrich, 2011; Carmen et al., 2022; Hejazi et al., 2022)</p> <p>The role of social capital in building community disaster capacity, collaboration, and mobilizing communities in disaster recovery (Chan et al., 2019; Choo & Yoon, 2022; Jovita et al., 2019)</p> <p>The role of social capital in encouraging collective action and community participation (Aldrich, 2012; Partelow, 2021)</p>	The analysis results show that the availability of social capital in the Cibulakan Village community is in accordance with the theory that social capital supports community resilience, encouraging collaboration between various parties, mobilizing assistance, and increasing resilience to accelerate the community recovery process. In addition, social capital in Cibulakan Village was also identified as playing a role in encouraging collective action and community participation.

Theoretical reflections on the role of bridging and linking social capital in promoting financial support during recovery process

The findings also show that social capital encourages the availability of financial support in the recovery process in Cibulakan Village. One form of financial support found in the Cibulakan Village community is dominated by the role of bridging and linking social capital. This can be identified based on the financial support from particular institutions, which can reach Cibulakan Village due to connections between these institutions and disaster-affected communities in Cibulakan Village, which can be categorized as a form of linking social capital. In addition, there are also cases of financial support in Cibulakan Village that comes from connections between the affected community in Cibulakan Village and the aid provider. This follows the results of post-disaster research, which shows that post-disaster social capital

surpluses can enable greater access to resources, information, & funding in disaster-affected communities (Ressler, 2022). This research found that the assistance received by affected households came from various parties and was not focused on government assistance alone. This finding differs from research by Nguyen-Trung et al. (2020), which showed that the affected households in their study did not receive support from domestic or international non-profit organizations but only assistance from the government for the affected area.

However, this financial assistance is usually not comprehensive, especially in the distribution of limited financial aid, which is distributed by prioritizing people close to people who have connections with the assistance provider. Whereas households that experience more severe damage tend to take longer to recover (Dinh et al., 2021); in other words, the determining factor of which party is more entitled to receive recovery assistance is the level of damage experienced. The more inaccurate the recovery process, the slower the recovery will be and cause an increase in welfare spending. It also exacerbates economic losses and increases emotional distress.

However, the findings of this research can also focus on another side, namely that the role of social capital can encourage the emergence of financial support in the recovery process in Cibulakan Village after the earthquake. This condition follows the concept of social capital explored by Partelow (2021), which showed that linking social capital plays an important role, particularly with global connections regarding providing aid and donations during the post-disaster recovery process. This aligns with the fact that disasters considerably burden local government finances and resources. Social capital acts as informal insurance when the system is restored to its original state after a disaster (Lee & Kim, 2021).

Field findings contradict most of the results of previous studies that show that in post-disaster conditions, bonding is the most instrumental in recovery. In the case of Cibulakan, it was identified that the uneven provision of assistance triggered by the lack of coordination of aid providers during recovery ultimately weakened the condition of bonding social capital in the community. This condition follows previous research findings, which state that an optimistic view can strengthen social ties with fair and equal assistance (Shang et al., 2022). In other words, providing aid that is not fair and equitable will trigger a decline in social capital ties in society. These conditions ultimately decreased bonding social capital in recovery and significantly encouraged the role of linking social capital in recovery in Cibulakan Village. This field finding is essential to explore further because it provides a new picture of how external parties' interventions during the recovery process can significantly affect disaster survivors' social capital.

Table 4: Theoretical Reflections on the Role of Bridging and Linking Social Capital in Promoting Financial Support During Recovery Process

Findings	Theory	Analysis
The findings in Cibulakan Village show that the social capital owned by the Cibulakan Village community plays a significant role in encouraging the availability of financial support in the post-earthquake recovery process.	The role of social capital in encouraging financial assistance (Nguyen-Trung et al., 2020; Partelow, 2021)	The analysis shows that the availability of social capital in the Cibulakan Village community is per the theory that social capital drives the availability of financial support in the recovery process. which is dominated by the role of bridging and linking social capital thus under the role of social capital that contributes related explicitly to global connections for the provision of assistance during recovery.

Theoretical reflection on the role of social capital in causing potential conflict and delaying the recovery process in Cibulakan village

The social capital owned by the Cibulakan community also creates potential conflicts that may delay the community recovery process in Cibulakan Village. One of the main reasons for the emergence of possible conflict in Cibulakan Village comes from the social relations of the community in Cibulakan Village, which is influenced by the lack of organized assistance provided, as well as the vulnerable condition of the community that becomes sensitive during the recovery process in Cibulakan Village. In addition, one of the other potential forms of social capital that could cause conflict in Cibulakan Village is related to the unfair, conservative, and unresponsive nature of social capital in the recovery process. This condition is illustrated by the nature of social capital, especially regarding the benefits of social capital linking only felt by a handful of people in a disaster situation (Lee & Kim, 2021).

Apart from the potential conflicts in the community's social relations and the uneven distribution of assistance, these conditions eventually led to a decrease in the level of trust in the community. This follows one of the negative characteristics of social capital shown by strong inequality in the distribution of social capital (Akbar & Aldrich, 2018) and the challenge of accessing it equally by the community (Lo & Fan, 2020). In the case of post-earthquake Cianjur in Cibulakan Village, linking social capital also proved inaccessible during the recovery process, as indicated by the difficulty of the community in accessing recovery assistance because of administrative and bureaucratic. In addition, linking social capital proved too often to be unequally distributed, as indicated by the access to assistance being more easily accessed by people with specific connections.

Table 5: Theoretical Reflection on the Role of Social Capital in Causing Potential Conflict and Delaying the Recovery Process in Cibulakan Village

Findings	Theory	Analysis
The findings in Cibulakan Village show that the role of bridging social capital can be divided into several forms: the potential for conflict due to relationships in the community, the potential for conflict due to the lack of organization of the aid provider, and the unfair distribution of assistance and the influence of the nature of social capital that challenging to access	Potential for social capital to cause conflict and delay the recovery process (Akbar & Aldrich, 2018; Aldrich, 2011; Lo & Fan, 2020)	The analysis identified that the social capital owned by the Cibulakan Village community plays a role in causing potential conflicts that may hinder the community recovery process in Cibulakan Village due to possible conflicts due to relationships in the community, potential conflicts due to the lack of organized aid providers and unfair distribution of aid and the influence of the nature of social capital that is less responsive and difficult to access, potentially obstructing recovery in Cibulakan Village. The sensitive condition of the community during recovery, the unorganized assistance providers that cause the amount of assistance that comes in is not centralized and results in the distribution of the aid that enters the village to be unequal, which ultimately weakens the bonding social capital in the Cibulakan Village community a

Conclusion

Based on the analysis, it can be concluded that social capital plays a significant role in the recovery process in Cibulakan Village. This condition can be identified through the role of social capital in supporting community-based recovery efforts through its involvement in

recovery efforts that have been carried out and further recovery plans in Cibulakan Village after the earthquake. In addition, social capital was also identified as playing a role in encouraging financial assistance during recovery in Cibulakan Village. Social capital also generated conflict and slowed recovery in Cibulakan Village, resulting from strained community relations, poorly organized assistance providers, and unequal assistance distribution. In addition, the unresponsive and uneven nature of social capital also resulted in the potential to obstruct recovery in Cibulakan Village. The results and analysis show that social capital, including bonding, bridging, and linking, plays a role during recovery. However, the lack of integration and utilization of the three forms of social capital during the recovery process in Cibulakan Village has a positive and negative impact on social capital during recovery. The lack of orchestration from stakeholders to optimize and manage the existing social capital in the community during the recovery phase was a primary reason that encouraged the negative nature of social capital to emerge during the recovery process in Cibulakan Village. The lack of attention from policymakers in managing social capital resulted in stakeholder decisions, especially those related to the distribution and technical disbursement of aid, triggering conflict in the community. This condition can be identified as a factor that led to the less-than-optimal role of social capital during the recovery in Cibulakan. This condition is a wake-up call for stakeholders to explore the role and utilization of social capital in the recovery process.

This study has limitations since it only describes the role of social capital from one village affected by the 2022 Cianjur earthquake. However, the qualitative approach is expected to explain the social capital conditions of the Cianjur 2022 earthquake survivors in Cibulakan Village. The study's results are intended to be a reference for improving the knowledge in disaster management and developing the utilization of social capital in disaster-affected communities to support sustainable recovery. However, to support the development of research, further research can be carried out that focuses on assisting in the recovery phase in weakening the social capital of disaster survivors and research related to the formulation of recovery assistance by utilizing the social capital potential of disaster survivors. The government and other policymakers need to pay attention to the condition of social capital in disaster-affected communities, including examining the potential utilization of social capital in the post-disaster recovery process, as well as increasing awareness regarding the potential for social capital to cause conflict during the recovery process in disaster-affected communities.

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