

DISASTER RESILIENCE THROUGH SOCIAL CAPITAL AMONG INDONESIAN MIGRANT WORKERS IN TAIWAN

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Received: 17th July 2025/ Revised: 5th November 2025/ Accepted: 5th November 2025

How to Cite: Zulianto, M., Herlindawati, D., Triyono, B., Sari, N. D., & Masduki, D. (2026). Disaster resilience through social capital among Indonesian migrant workers in Taiwan. *Humaniora: JICS*, 17(1), 37-49.
<https://doi.org/10.21512/humaniorajicas.v17i1.14044>

ABSTRACT

This research examines how Indonesian Migrant Workers (IMWs) in Taiwan build disaster resilience by mobilizing social capital, particularly in contexts where formal institutional support is limited or absent. Using an interpretive qualitative approach, the study adopts a case study design that includes semi-structured interviews and participant observation. The findings reveal that bonding and bridging social capital, developed through informal community connections, digital platforms, and shared religious and cultural practices, serve as critical assets for disaster preparedness and response. These networks enable mutual aid, timely information exchange, and collective action among IMWs during disaster situations. However, linking social capital appears weak, indicating limited engagement with formal institutions and restricted access to public resources and legal protections. Informal leadership structures and culturally rooted coping strategies continue to play a significant role in fostering grassroots resilience. Nonetheless, systemic challenges such as language barriers, precarious legal status, and digital exclusion continue to impede broader institutional integration. By highlighting the experiences and agency of IMWs, this research contributes meaningfully to the discourse on disaster governance. It underscores the importance of inclusive frameworks that acknowledge the capabilities of migrant communities as active disaster actors rather than passive recipients of aid. It advocates for the inclusion of community-based organizations in national disaster policies and recommends comparative studies across different migrant-receiving contexts to deepen understanding of transnational resilience dynamics.

Keywords: migrant workers, disaster resilience, social capital, informal networks, Taiwan

INTRODUCTION

Disaster resilience among migrant populations emerges as a key issue in global discussions on

disaster risk reduction. This concern highlights how transnational mobility affects labor markets and the distribution of risk in areas prone to hazards. In many destinations, migrants often hold essential yet

precarious jobs, which can increase their vulnerability to disasters and limit their access to formal protection. This trend is particularly evident in East and Southeast Asia, where rapid economic integration and circular migration intersect with seismic, meteorological, and hydrological hazards.

Comprehensive disaster risk reduction strategies within many urban resilience frameworks in the Northern Hemisphere explicitly aim to enhance migrants' resilience to climate impacts. However, similar commitments are less consistent in other regions. Understanding how these strategies are implemented in different contexts, and where they fall short, remains a pressing issue. In this regard, non-governmental organizations play a vital role as intermediaries, promoting mutual understanding and collaboration among migrants, host communities, and state actors (Maksum et al., 2021).

Taiwan serves as a valuable case for understanding regional disaster risk and migration dynamics. The island is highly vulnerable to earthquakes, typhoons, and flooding (Collier, 2025). Additionally, its economy relies significantly on Indonesian Migrant Workers (IMWs), who contribute to sectors such as caregiving, manufacturing, and construction.

IMWs in Taiwan face a complex intersection of environmental risks and socio-political marginalization. They tend to work in high-risk industries that continue operating during disasters. Many live in crowded dormitory-style housing that is also prone to hazards. Moreover, they often struggle to access information and assistance, which is typically not available in their native language. Their employment status, language barriers, and restrictive policies further heighten their exposure to risks while limiting their access to institutional support and political representation.

Despite their vital contributions to the economy, IMWs often remain on the periphery of state-level disaster preparedness and response frameworks (Vanderhorst et al., 2021). This situation creates gaps in protection, leaving many workers without adequate support during emergencies. It also reflects broader structural barriers that continue to limit their inclusion in formal resilience planning and long-term disaster governance processes.

Relocation strategies vary among women and evolve over the course of their reproductive lives. This means that the opportunities and challenges that arise after relocation also vary across different life stages (Banerjee, 2021). From a sociological perspective, migrants actively gather and organize social, cultural, symbolic, and economic capital to secure meaningful employment (Alkilani et al., 2025). Thus, the contributions of migrant workers extend beyond their economic participation; they also shape social and cultural realms.

Building on labor migration theory and Indonesia's external policies for migrant protection, this analysis examines how normative interpretive processes develop within international discourse

(Collier, 2025). While many urban resilience frameworks in the Northern Hemisphere incorporate comprehensive disaster risk reduction strategies to enhance migrants' resilience to climate impacts, similar commitments in other regions remain inconsistent. Understanding how these strategies are disseminated and where they fall short continues to be an urgent concern. In this context, non-governmental organizations serve a crucial role as intermediaries, promoting mutual understanding and collaboration among migrants, host communities, and state actors (Maksum et al., 2021).

Bonding social capital refers to connections among individuals who share similar demographic characteristics, such as family members, close friends, and neighbors (Spratt et al., 2019). In contrast, bridging social capital describes connections between individuals from diverse social groups, backgrounds, or communities (Azad & Pritchard, 2023). Linking social capital relates to relationships between individuals and institutions or those in positions of power, such as government agencies, non-profit organizations, and other formal entities (Ruiu, 2016).

Traditionally, migration studies primarily focus on economic remittances and labor exploitation, which creates a gap in the literature regarding migrant workers' lived experiences during disasters and their strategies for leveraging social environments for support and survival. Recent research underscores the importance of social capital in enhancing disaster resilience, indicating that both strong ties (bonding) and weak ties (bridging and linking) significantly influence a community's ability to withstand and recover from crises (Pénard & Poussing, 2010; Ahmad et al., 2023). However, the extent to which migrant communities, such as Indonesian workers in Taiwan, can mobilize these forms of social capital, especially by connecting them to institutional resources, remains largely underexplored (Saja et al., 2021).

Social capital refers to the resources, both actual and potential, that are embedded in, accessed through, and derived from networks of relationships possessed by individuals or social units. This concept serves as a valuable lens for assessing community resilience (Jackson, 2020). It also provides a framework for understanding how people access support, share information, and mobilize assistance during times of crisis.

Social capital is commonly characterized by two types of relationships: strong ties, such as familial bonds or close friendships, which provide emotional and instrumental support; and weak ties, such as those among acquaintances or members of voluntary associations, which offer access to a broader range of resources and information (Chen & Li, 2024; Nowell & Steelman, 2025). Bonding social capital, characterized by strong internal connections within a homogeneous group, is often evident in migrant communities and functions as a crucial support system during emergencies. In contrast, bridging social capital facilitates interactions across different social groups,

thereby fostering mutual understanding and access to diverse information. Linking social capital connects individuals to institutions of power and decision-making, such as governmental and non-governmental agencies. However, structural factors like legal status, language proficiency, and socio-political inclusion shape how effectively these forms of capital contribute to disaster resilience.

In many Northern Hemisphere countries, state-driven disaster policies increasingly seek to integrate migrants into resilience strategies. However, regions such as Southeast Asia and East Asia continue to struggle to establish institutional frameworks for this purpose (Maksum et al., 2021). In Taiwan, the legal and institutional approach to migrant labor prioritizes economic benefits over rights-based inclusion, which renders migrant workers structurally invisible in emergency planning and response (Auethavornpipat & Palmer, 2022). Despite various multilateral frameworks promoting the protection of migrant workers, such as the UN Migrant Protection Norms, implementation at the national level often remains superficial. Consequently, community-based strategies and grassroots networks become essential for the survival of IMWs.

This research aims to examine how Indonesian migrant workers in Taiwan navigate precarious circumstances by leveraging and strengthening social capital (Lim et al., 2024). Preliminary observations indicate that these workers are not merely passive recipients of aid; instead, they actively develop informal support systems that operate alongside, and sometimes in opposition to, formal disaster risk governance. Community-based organizations, such as the Indonesian Muslim Association of Taiwan (IMIT) and Pantura, play critical roles in coordinating aid, disseminating vital information (Kovács et al., 2023), and providing psychosocial support during emergencies. These organizations are instrumental in fostering bonding and bridging social capital, offering members both practical assistance and a sense of collective identity and belonging (Kivi et al., 2023).

The lack of linking social capital restricts access to government shelters, legal aid, and health services during crises. Many immigrant and migrant workers (IMWs) are often not aware of available government services, or they encounter language and bureaucratic barriers that hinder participation. Although organizations like IMIT can advocate on behalf of their members, their informal status often limits their ability to engage with state actors on equal footing. This fragmented support landscape creates a resilience paradox: IMWs may be highly adaptive within their communities, yet they remain vulnerable within broader institutional contexts (Theodosopoulos et al., 2024).

Digital platforms function as a transformative force in shaping migrant communities' disaster resilience strategies (Marshall et al., 2023). Social media and instant messaging services enable IMWs to share real-time updates, locate safe zones, and rapidly

organize mutual aid. These platforms enhance both bonding and bridging capital (Zulianto et al., 2025) by fostering continuous communication and broadening access to external information (Ahmad et al., 2023; Ogie et al., 2022a). However, the effectiveness of these digital tools is inconsistent, as it is influenced by factors such as digital literacy, platform accessibility, and the spread of misinformation during crises. As reliance on technology for disaster communication increases (Çiriş Yildiz & Yildirim, 2022), a nuanced understanding of the digital divides within migrant communities becomes increasingly essential.

Both classic and contemporary contributions to the sociology of disaster and migration shape the theoretical foundations of this research. The intersectional vulnerabilities faced by IMWs stem from their migrant status, occupational segregation, and limited legal protection. This situation necessitates a multidimensional analysis that considers both structural exclusion and community agency. As Su et al. (2024) explain, disasters are not merely natural events; they are social processes that reveal and intensify existing inequalities. In this context, disaster resilience involves more than just technical preparedness or infrastructure; it also encompasses social cohesion, trust, and the ability to mobilize collective resources.

This research addresses the central question of how Indonesian migrant workers in Taiwan utilize social capital to build disaster resilience amid institutional neglect. Employing a qualitative case study approach, it integrates semi-structured interviews with participant observation across various sectors, including domestic work, caregiving, factory labor, and construction, to capture diverse resilience practices and sector-specific challenges. This approach also allows the research to document how workers interpret risks, navigate barriers, and form collective strategies within their everyday environments.

METHODS

This research examines Indonesian Migrant Workers (IMWs) in Taiwan through a qualitative, interpretivist case study approach. It focuses on how bonding, bridging, and linking social capital are mobilized during the preparedness, response, and recovery phases. Fieldwork takes place in key IMW hubs, including Taipei/New Taipei, Taoyuan, Hsinchu, Taichung, Tainan, Kaohsiung, Hualien, and Yilan, areas frequently affected by earthquakes, typhoons, and flooding, which also house significant populations of IMWs engaged in caregiving, domestic work, manufacturing, and construction. A total of approximately ten interview sessions are conducted, each involving five to seven participants. The adequacy of the sample is assessed based on the principles of information power and thematic saturation rather than fixed numerical goals.

The qualitative design prioritizes analytical

Table 1 Participant Demographics

Participant	Gender	Age (years)	County Placement	Type of works	Total work experience (years)
P1	Female	25	Taichung	Domestic Worker	2 years
P2	Male	28	Tainan	Factory	4 years
P3	Female	29	Taipei	Caregiver	3 years
P4	Male	35	New Taipei	Construction	6 years
P5	Female	29	Hualien	Caregiver	4 years
P6	Male	24	Kaohsiung	Factory	3 years
P7	Female	27	Taoyuan	Factory	6 years
P8	Female	35	Hualien	Caregiver	7 years
P9	Female	30	Yilan	Factory	4 years
P10	Male	35	Hsinchu	Factory	5 years

depth over numerical breadth: (i) a phenomenological focus on the often “low-recognition” experiences of IMWs necessitates extended interviews, repeated observations, and triangulation; (ii) maximum variation sampling, which considers factors such as occupation, gender, country of origin, and region in Taiwan, ensures broader contextual coverage; and (iii) thematic saturation is reached by the ninth interview, with the tenth serving to confirm the stability of themes without introducing new categories. It is important to note that the findings do not aim for statistical generalization but instead offer analytically transferable insights supported by detailed descriptions. The study explicitly acknowledges the limitations of the sample size and its implications for generalizability, alongside a theoretical and methodological justification for emphasizing depth.

Data collection draws on three primary sources. Semi-structured interviews lasting between 40 and 60 minutes elicit participants' narratives regarding their experiences with hazards, preparedness practices, mutual aid, encounters with institutions, and digital communication. These interviews are conducted primarily in Bahasa Indonesia, with occasional code-switching to Mandarin or English. Additionally, participant observation at community gatherings, religious events, and within digital spaces (such as Facebook groups) captures how information is shared and aid is coordinated within the IMW community.

Interviews are scheduled outside working hours and take place at locations chosen by the participants. With their consent, sessions are audio recorded, transcribed verbatim, and, when necessary, translated into English. Field notes systematically capture nonverbal cues, spatial context, and the researcher's reflections after each encounter, thereby enhancing analytical depth.

Credibility is strengthened through prolonged engagement across multiple research sites. Data are triangulated using interviews, observations, and document analysis. Preliminary themes are shared with selected participants and community leaders for member checking. Interpretations are further refined

through critical peer debriefing sessions.

Data analysis follows a reflexive thematic analysis approach guided by social capital theory and the disaster cycle. Transcripts, field notes, and documents are managed and analyzed using the qualitative software ATLAS.ti version 8, which supports code management, query functions, co-occurrence analysis, and matrix coding. Transcription and translation are conducted by human researchers with systematic quality checks, and computer-assisted translation glossaries are utilized to ensure consistency for key terms. All materials are stored in encrypted folders with role-based access, and de-identified datasets are kept separate from consent forms.

Table 1 summarizes participant numbers, attendance frequency, and levels of participation across various activities observed during the research period. This summary forms part of the initial analysis of the community engagement context. Each participant takes part in an in-depth semi-structured interview conducted in Bahasa Indonesia to ensure better understanding and cultural sensitivity. The interviews follow a flexible protocol that includes questions about disaster experiences, organizational support, digital communication practices, and perceptions of institutional aid. This structure enables probing and adaptation based on participants' responses. All interviews are audio-recorded with consent, transcribed verbatim, and subsequently translated into English, with special care taken to preserve cultural meanings and contextual expressions during the translation process.

RESULTS AND DISCUSSIONS

Participants widely recognize the importance of the Indonesian Muslim Association of Taiwan (IMIT) and Pantura in providing both emotional and logistical support. IMIT's activities, which include religious recitations and first-aid workshops, function as gathering points where information on safety protocols and disaster preparedness is actively shared.

Pantura, commonly described as a brotherhood-based association, organizes cultural and educational programs that strengthen solidarity and increase awareness of emergency response practices.

Participant 3 emphasizes the vital role of IMIT during a recent typhoon, noting that the organization serves not only as a gathering place but also as a source of guidance and emotional support. The mosque functions as a shared space where community members assemble for collective prayer and receive essential updates. During such events, people congregate to access timely information about evolving conditions. Senior members also provide clear instructions on emergency preparedness and share contact information for assistance when needed.

“We gathered at the mosque, prayed together, and then listened to the updates shared by the senior members. They told us what to prepare and whom to contact in case we needed help.”
(P3)

This excerpt conceptualizes the mosque as a socio-material infrastructure that plays a crucial role in fostering resilience through social capital. It encourages bonding and collective calm while enhancing the flow of information during crises. The reference to senior members signals the presence of informal authority and control over information, which can strengthen collective efficacy but also poses the risk of excluding newcomers, women, and workers who are not connected to this religious community.

Theoretically, this practice demonstrates a bottom-up approach to mobilizing resilience through multiple forms of social capital, including bonding, bridging, and linking. However, it remains susceptible to network biases that restrict the sharing of resources across sectors and create dependence on

key individuals. Therefore, connecting these informal networks with formal disaster governance systems becomes essential so that social capital not only responds to institutional neglect but also contributes to transforming structural vulnerability through accountable and inclusive processes.

Community associations play an essential role in supporting displaced individuals by providing both psychosocial comfort and practical resources. Alongside emotional support, these organizations deliver tangible assistance, including food supplies, shelter coordination, and access to local Taiwanese volunteers. The consistent visibility and availability of these groups significantly contribute to fostering a sense of belonging among participants. This feeling of inclusion, together with reliable support systems, strengthens participants’ understanding of safety and preparedness, particularly during crises or emergencies.

The data further reveal that many community actions are self-organized and digitally mediated. For instance, Facebook groups created by Pantura members facilitate real-time communication and coordination during extreme weather events. Informal leaders often emerge, selected based on experience, communication skills, or network connections. In the absence of formal disaster education, these leaders provide essential guidance to fellow IMWs, helping translate shared knowledge into collective action.

Figure 1 illustrates four migrant support modalities mapped along two intersecting axes: preparedness (vertical) and support (horizontal). In the top-right quadrant, Indonesian Muslim Association of Taiwan (IMIT) demonstrates comprehensive activities that combine high preparedness and high support, offering training, information, and coordinated assistance that equip workers before crises and mobilize help during them. The top-left quadrant

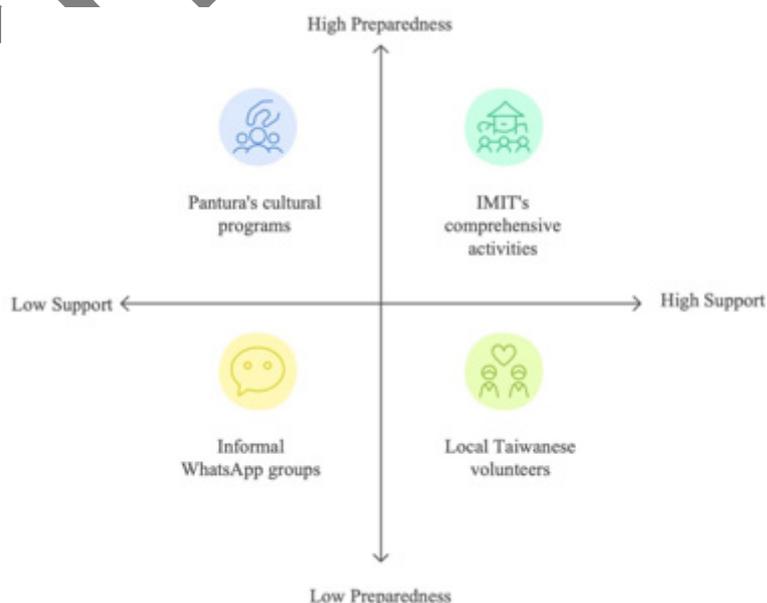


Figure 1 Community Support

features Pantura's cultural programs, which score high on preparedness but lower on direct support; these cultural gatherings strengthen identity, trust, and hazard awareness but provide limited material assistance or response capacity. In the bottom-right quadrant, local Taiwanese volunteers deliver high, often immediate support such as transport, supplies, and translation; however, they remain less prepared due to episodic engagement rather than systematic training. Finally, the bottom-left quadrant highlights informal WhatsApp groups that exhibit low preparedness and low formal support, yet excel at rapid peer communication despite lacking established protocols, training, and depth of resources.

The layout suggests a clear pathway for strengthening migrant disaster resilience through strategic linkage. By connecting bonding networks, such as WhatsApp groups and cultural programs, with bridging institutions, such as local volunteers and IMIT, initiatives can progressively shift toward the top-right quadrant, where preparedness and support mutually reinforce one another. Strengthening these connections improves coordinated information flow, reduces gaps in material assistance, and enhances the community's collective capacity to respond to hazards. Over time, such integration also promotes more equitable participation by ensuring that preparedness knowledge and support mechanisms circulate across previously disconnected groups.

Bonding social capital, referring to strong ties among individuals with similar backgrounds, represents the most prevalent form of support during disasters. Participants consistently note that close friendships and familial-like bonds with fellow IMWs offer both emotional resilience and material assistance. In many instances, participants first rely on these networks for shelter, food, and timely information.

“My friend let me stay at her place when the earthquake happened. We were both scared, but

staying together made it easier.” (P6)

Bonding social capital functions as an emotional refuge, transforming a home into a small-scale support system that reduces fear and facilitates joint decision-making during crises. Relying on a friend's home underscores trust grounded in proximity and mutual responsibility, which lowers perceived risks and enables rapid, informal coordination when formal support is not readily available. However, these arrangements remain shaped by structural constraints such as housing instability, employer restrictions, and gendered caregiving expectations, which can exclude less-connected individuals or those unable to host guests. This situation reveals both the strengths and limitations of informal safety nets, underscoring the need to integrate them with formal shelter and alert systems so that care does not rely solely on personal networks.

This reliance on informal support proves especially critical for newcomers and undocumented workers, who often face significant barriers in accessing formal aid systems. Many lack the legal status, language proficiency, or local knowledge needed to navigate institutional procedures effectively, leaving them without clear pathways to official assistance. In such circumstances, bonding social capital offers immediate, culturally familiar help that stabilizes their situation during emergencies. It also serves as a vital buffer against feelings of isolation, uncertainty, and disorientation, helping individuals restore a sense of security and belonging.

Figure 2 demonstrates that the most visible aspects of disaster response, such as immediate support in the form of food, shelter, transportation, and translation, represent only the surface of a deeper structure rooted in social capital. The red layer, known as bonding social capital, captures strong, trust-based connections among individuals with similar backgrounds, including shared faith, language,



Figure 2 Social Capital's Role in Disaster Resilience

occupation, or hometown. These connections enable rapid caregiving, emotional reassurance, and swift verification of information during emergencies, which closely align with the green layer representing bridging social capital. Bridging ties expand networks beyond close-knit circles by linking IMWs to broader community groups, volunteers, and organizations that provide additional resources or complementary expertise. The blue layer, linking social capital, represents vertical relationships with formal institutions such as churches, mosques, local government, and disaster response agencies. These relationships make assistance more understandable, legitimate, and scalable, while also creating pathways for IMWs to navigate bureaucratic systems and access institutional protection.

When bonding social capital generates speed and care, bridging social capital broadens outreach, and linking social capital mobilizes institutional resources, these layers collectively stabilize visible support mechanisms. This layered structure ensures that immediate assistance is not merely reactive but rests on collective capacities that are mobilized consistently across different crises. Without this underlying foundation, support efforts risk becoming ad hoc, fragile, and uneven, especially for migrants who navigate language barriers, legal uncertainties, and complex documentation requirements. These challenges underscore why disaster resilience depends not only on rapid response but also on the depth and integration of the social networks that sustain it.

“There was a shelter managed by a Taiwanese church, and one of the volunteers spoke Bahasa Indonesia. We got there because someone in our group had a friend from another country who told us about it.” (P2)

Bridging social capital enables migrants to access faith-based shelters across different ethnic groups, allowing them to receive support in environments that

feel both familiar and inclusive. The involvement of a Indonesian-speaking volunteer plays a crucial role in transforming hospitality into practical safety by mediating language barriers, clarifying procedures, and ensuring that migrants clearly understand available resources. Transnational connections, such as having “a friend from another country,” also function as important sources of information during uncertain times and expand the range of assistance migrants can draw upon. However, relying heavily on informal networks can unintentionally exclude isolated or linguistically marginalized migrants, highlighting the need to strengthen more inclusive and accessible support channels.

Linking social capital, which refers to vertical connections between individuals and formal institutions, remains limited in practice. While some participants are aware of government emergency services, only a few successfully access them, and their attempts are often constrained by unfamiliar procedures or unclear information. Common barriers include language difficulties, fear of deportation, and a lack of legal status, all of which discourage help-seeking during emergencies. Those with connections to migrant rights organizations or who participate in workshops run by NGOs appear slightly better positioned to utilize official resources, suggesting that targeted outreach and institutional partnerships help narrow this access gap.

“I didn’t go to the shelter because I didn’t know if they would let us in without documents. I stayed at my friend’s place instead.” (P4)

Figure 3 illustrates the left branch of the analytical framework. When participants mention relying on Facebook groups and other social media platforms to “share updates, confirm the safety of peers, and coordinate aid,” they describe the Communication & Coordination pathway in action. This pathway involves rapid information dissemination, including

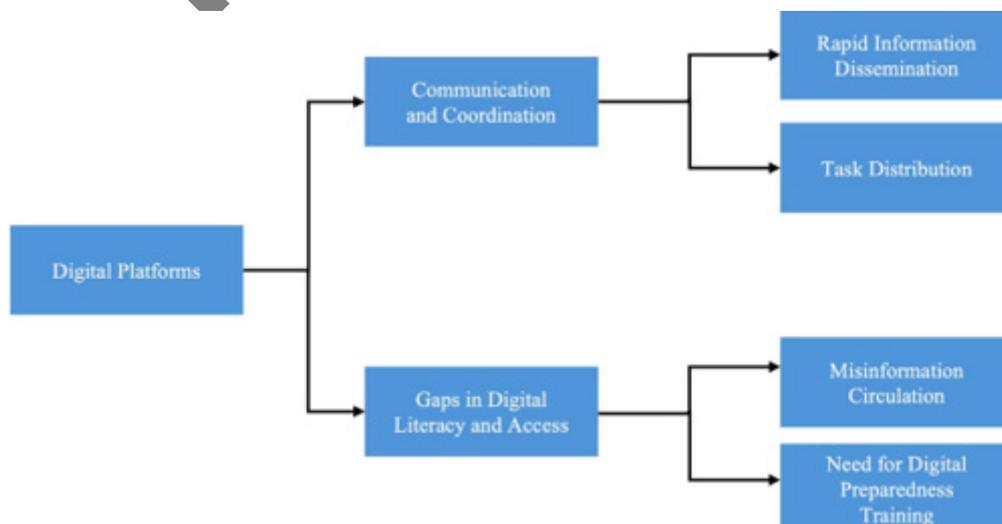


Figure 3 Digital Platforms in Crisis Management

timely updates and safety checks, as well as task distribution that matches needs with volunteers and available resources. However, the heavy reliance on these platforms also reveals a critical limitation: outcomes depend on users' digital literacy and access. Without widespread skills and reliable connectivity, safety confirmations may be missed, and aid may be misdirected, which underscores the importance of integrating preparedness training alongside platform-based responses.

These digital tools function as informal early warning systems within the community, allowing members to share urgent updates in real time. They enable the swift dissemination of critical information related to weather conditions, safety risks, and emergency procedures. In many instances, these community-driven alerts circulate faster than official government warnings. This immediacy plays an essential role in helping individuals prepare and respond quickly during crises, ultimately strengthening community resilience by bridging gaps in formal communication channels.

"When the typhoon was coming, we didn't hear anything from the authorities, but someone posted in the group chat to prepare and sent a checklist of what to do." (P7)

Although digital tools are widely utilized, disparities in access and digital literacy significantly shape their effectiveness. Older participants and those unfamiliar with smartphones often struggle to navigate emergency information, which delays their ability to respond appropriately. Additionally, some individuals report that misinformation circulates in group chats, contributing to confusion and panic during critical moments.

"There was a fake news post that said the shelter was closed, and some people didn't go because of that." (P1)

"I haven't been able to update the shelter information because I can't check my cell phone at any time." (P10)

Participants identify several systemic barriers that limit their engagement with formal disaster risk management systems. These barriers include language difficulties, insufficient legal protections, and a general lack of targeted outreach by Taiwanese authorities, all of which constrain their ability to access timely and reliable support. As a result, migrants often remain peripheral to official preparedness and response mechanisms despite residing in hazard-prone areas. While Taiwan's disaster response systems are technically sound, they fall short in terms of inclusivity for migrant populations, resulting in uneven awareness, limited participation, and persistent gaps between institutional provisions and migrants' actual needs.

Many IMWs express uncertainty about their rights during emergencies, such as their eligibility for public shelters or medical care. This uncertainty discourages them from seeking institutional help and reinforces their reliance on peer networks, which they perceive as more reliable and culturally accessible. Additionally, official communication channels rarely provide information in Bahasa Indonesia or other relevant languages, further deepening their exclusion and limiting their ability to make informed decisions during crises.

"I never saw a flyer or message from the government in Bahasa. If someone didn't tell me, I wouldn't know what to do." (P5)

"I rely heavily on information from social media, because I live in the mountains, far from anywhere." (P10)

A key theme emerging from the data is the organic development of leadership within migrant communities. These leaders, often members of the Indonesian Muslim Association of Taiwan (IMIT) or Pantura, assume roles such as coordinating the distribution of information, arranging shelter and food aid, and maintaining group morale. Leadership in these communities is defined not by formal titles but by practical credibility, trust earned through experience, and the ability to act effectively under pressure. This form of grounded, situational leadership enhances collective response capacity, especially when formal institutional support is limited.

"He's not a boss or anything, but everyone listens to him because he knows what to do. He helped a lot of people when the flood hit." (P6)

Informal leaders play a pivotal role in fostering collective resilience by actively harnessing their networks and mobilizing available resources. They coordinate assistance, communicate essential information, and facilitate access to both internal and external support. Their ability to act quickly and decisively often compensates for gaps left by institutional responses. The rise of such leadership highlights the adaptive capacities of migrant communities operating without systemic protection. This phenomenon demonstrates how social structures self-organize in precarious situations to ensure group survival, while also revealing how community-based leadership partially offsets structural neglect when formal systems fail to provide adequate protection.

Beyond material and logistical responses, participants emphasize psychological and cultural strategies that strengthen resilience. Shared religious practices, such as prayer gatherings, foster emotional solidarity during times of fear and uncertainty. Community rituals create structured spaces for processing trauma and reaffirm social bonds. These practices help stabilize collective emotions, reduce

panic, and provide a culturally grounded sense of protection, enabling individuals to cope more effectively with ongoing risks.

"We always hold a prayer together after something bad happens. It calms us down and makes us feel like we're not alone." (P3)

The findings indicate that IMWs in Taiwan manage disaster risks through a complex and dynamic configuration of social capital, encompassing bonding, bridging, and, to a limited extent, linking capital. Their resilience is grounded primarily in informal community networks, self-organized initiatives, and digital tools, rather than in formal state-led disaster management systems. This pattern aligns with previous research suggesting that marginalized communities often rely on grassroots mechanisms to cope with crises (Ahmad et al., 2023; Nowell & Steelman, 2025).

"Praying for each other and exchanging information makes me feel more at ease when a disaster occurs." (P9)

The research underscores the crucial role of strong, kin-like bonding relationships among individuals who share common identities. These close connections provide not only emotional support but also material assistance in times of need. The tendency of IMWs to seek help first from close friends or compatriots during disasters highlights the importance of solidarity and mutual trust as the foundation of resilience. This observation aligns with Judith Hellerstein and David Neumark's (2020) finding that bonding capital enables informal insurance and social safety nets in resource-constrained environments. For IMWs facing legal, language, or geographical barriers, these networks serve as accessible and trustworthy points of contact, reinforcing their ability to respond quickly and safely during emergencies.

Bridging social capital emerges as a secondary yet vital layer of resilience. Participants who maintain connections with other migrant groups, local non-governmental organizations (NGOs), or multilingual volunteers are better equipped to access diverse sources of aid and information. These intergroup connections facilitate the sharing of best practices, warnings, and emergency shelter options, demonstrating that inclusive networks enhance adaptive capacity. This pattern supports Chen and Li's (2024) finding that interactions among diverse social groups increase resilience by exposing communities to multiple perspectives and strategies. Additionally, bridging capital aligns with Ahmad et al. (2023), who emphasize its significance in expanding informational and psychological resources through weaker ties.

The most significant gap identified in this research concerns the underdeveloped social capital connections between IMWs and formal institutions, including government agencies and emergency services. Despite Taiwan's technically sound disaster

response infrastructure, its accessibility for migrant communities remains weak. Factors such as language barriers, unclear eligibility for services, fear of deportation, and digital illiteracy create structural exclusions. These conditions support the argument advanced by Auethavornpipat and Palmer (2022), who note that marginalized populations often lack the vertical linkages necessary for equitable access to state resources. Without institutional trust and targeted outreach, IMWs continue to rely primarily on their communities for survival during crises.

The research highlights the dual role of digital technologies in simultaneously enhancing and complicating disaster resilience. On one hand, platforms such as WhatsApp, Facebook, and LINE enable rapid coordination, peer-to-peer updates, and emotional support during disasters. These tools function as low-cost, real-time communication infrastructures that compensate for the absence of multilingual government alerts. On the other hand, disparities in digital literacy, the circulation of misinformation, and platform fragmentation reduce the reliability of these systems. These findings align with research by Ogie et al. (2022a).

Social media plays a crucial role in the rapid dissemination of information during disasters, the coordination of relief efforts, and the provision of emotional support (Balraj et al., 2025; W. Liu & Ni, 2022; Sharp & Carter, 2020). These platforms connect affected individuals with essential services and facilitate communication between government agencies and the public. The immediacy of online updates enables faster decision-making and resource mobilization than traditional channels, allowing communities to respond promptly during emergencies. Additionally, platforms such as Twitter and Facebook foster the formation of online communities and expressions of solidarity, both of which are vital for post-disaster recovery (Ogie et al., 2022b). In this sense, social media serves not only as an informational infrastructure but also as a socio-emotional space that sustains collective resilience.

Nowell and Steelman (2025) highlight that investments in weak ties through digital tools can improve responsiveness during crises. However, the effectiveness of these tools depends on prior social trust, shared norms, and active engagement. The selective use of digital media by IMWs, filtered through trusted leaders and community platforms, illustrates a developing digital culture that integrates traditional and modern forms of communication. This emerging pattern demonstrates how digital practices evolve within existing social hierarchies and cultural expectations, shaping how information flows during emergencies.

A significant contribution of this research lies in documenting informal leadership structures that emerge organically within migrant communities. These leaders, often senior members of the IMIT or Pantura, operate without formal titles or institutional authority yet play crucial roles in organizing response efforts. Their legitimacy derives from community

trust, practical experience, and the ability to mobilize resources effectively. This finding aligns with the perspective presented by Boddy, O'Leary, and Panagiotaros (2021), who argue that grassroots leaders inspire hope during disasters. This observation further demonstrates how leadership grounded in lived experience strengthens collective resilience in contexts marked by institutional neglect.

Organizational resilience refers to the capacity of groups and institutions to anticipate, endure, and adapt during crises. It involves effective resource utilization, process adaptation, and a commitment to continuous learning (G. Chen et al., 2023). Leadership mindsets, including growth and domain-specific mindsets, relate positively to organizational resilience, a relationship that is mediated by cultural norms and strengthened by human resource practices (Zhang et al., 2023). Resilient leaders, who inspire and motivate their followers, indirectly enhance resilience by fostering a supportive and adaptive organizational culture (Sienkiewicz-Małyjurek, 2022).

These informal leaders function as critical conduits for bridging and, to a limited extent, linking social capital. However, linking capital remains weak due to constraints imposed by institutional and legal structures, including tied work permits, the absence of household registration, language barriers, and disaster risk management (DRM) procedures that exclude IMWs from drills, committees, and official relief channels. As a result, coordination with state agencies tends to be ad hoc and person-dependent rather than rights-based and institutionalized.

In line with global migration and disaster governance agendas, United Nations Sustainable Development Goals Target 10.7 advocates for safe, orderly, and inclusive migration governance. This form of governance is operationalized through access to disaster services that are not tied to immigration enforcement, the formal accreditation of community-based organizations (CBOs) as response partners, and the establishment of rapid microgrant pipelines. The Sendai Framework for Disaster Risk Reduction (Priorities 2 and 3) mandates inclusive risk governance and investment in local capacity, which justifies the inclusion of IMWs in DRM forums, the integration of multilingual messaging into early-warning systems, and the development of Taiwan–Indonesia cross-border standard operating procedures (SOPs) for crisis coordination.

In summary, leveraging informal leaders while institutionalizing their roles strengthens the connection between social capital and otherwise fragile, person-dependent governance bridges. This process creates a more durable pathway by ensuring that community-based support is formally recognized and integrated into state systems. It also enhances long-term resilience by reducing reliance on individual actors and promoting more equitable, structured forms of participation.

Psychological resilience refers to the capacity to cope with, adapt to, and recover from adverse

events (Kim et al., 2024). Rituals such as group prayer, communal meals, and religious gatherings are consistently identified as crucial coping mechanisms that help alleviate psychological distress among Muslim health workers (Akrim et al., 2021). These activities provide sustained emotional support and reinforce a sense of belonging and collective identity (Y. Liu et al., 2025). This perspective aligns with Theodosopoulos et al. (2024), who advocate for culturally competent care within migrant communities, particularly during emergency contexts.

Emotional resilience is not merely a byproduct of material relief but constitutes a distinct and ongoing process shaped by cultural values, communal narratives, and shared trauma (Ogie et al., 2022b). Recurrent practices, such as post-disaster prayer gatherings, demonstrate how spirituality functions as a framework for collective coping. These rituals foster mutual recognition and reaffirm a shared sense of belonging. Emotional labor is distributed collectively, forming an essential and often overlooked dimension of holistic resilience.

This research yields several important practical implications. There is an urgent need for the **Taiwanese** government and related institutions to develop inclusive disaster communication strategies that integrate Bahasa Indonesia and other commonly spoken migrant languages. Strategic collaboration between formal disaster agencies and migrant community leaders can strengthen the reach, legitimacy, and cultural relevance of emergency initiatives. Additionally, the implementation of targeted digital literacy programs, particularly those incorporating simulation-based training, empowers IMWs to navigate and utilize online tools more effectively during crises.

The research further reinforces Collier's (2025) argument that resilience should not be conceptualized solely as an individual trait or technical skill but as a political and relational process. Resilience is produced through mechanisms of power, recognition, and access, while exclusionary governance regimes actively constrain it. Disaster governance that fails to account for migrants' structural positioning risks perpetuating vulnerability and reproducing cycles of precarity.

Overall, this research contributes to the expanding literature on disaster resilience by centering migrant voices and foregrounding the complex interplay among multiple forms of social capital. It extends the conceptualization of resilience beyond technical or institutional frameworks, framing it instead as a lived social practice shaped by identity, exclusion, and collective agency. By focusing on the Indonesian migrant worker community in Indonesia–Taiwan contexts, this research addresses key gaps in both migration and disaster studies and underscores the importance of intersectional, place-based analyses.

CONCLUSIONS

This research demonstrates that Indonesian migrant workers in Taiwan actively build disaster resilience through bonding and bridging social capital, community-based organizations, and culturally significant practices, despite their exclusion from formal governance structures. Informal leadership, digitally mediated coordination, and emotional solidarity enable migrants to mobilize resources, circulate reliable information, and stabilize daily life during crises. This reframing positions migrants as active agents rather than passive beneficiaries and extends social capital theory into high-risk, low-recognition contexts where institutional access is constrained.

Efforts to enhance disaster resilience benefit from collaboratively developed preparedness and response strategies that recognize and support migrant associations. Such strategies include institutionalizing neutral and multilingual risk communication platforms, establishing secure coordination channels, and providing micro-grant mechanisms for informal community leaders. Nevertheless, this research is limited by its single-country focus and the potential for selection bias toward more socially connected communities. Future research should adopt comparative, longitudinal, and mixed-method designs to examine variations across contexts, trace long-term psychosocial outcomes, and assess how informal networks can be integrated into formal disaster risk management systems without becoming bureaucratized or losing flexibility. By centering migrants' relational, cultural, and digital capacities, resilience systems can become more inclusive and effective, ensuring that fewer individuals are left behind, both materially and socially.

These findings call for the development of co-produced resilience frameworks that meaningfully involve migrant communities. This includes recognizing and funding community-based organizations (CBOs) as response partners, institutionalizing multilingual and cross-platform risk communication, creating liaison roles and rapid micro-grant pathways for informal leaders, and embedding cultural practices into sheltering, drills, and psychosocial support. Equally important is the separation of disaster services from immigration enforcement, alongside the development of evaluation metrics that measure inclusion, timeliness, wellbeing, and sustained post-disaster impacts.

Future research should conduct comparative analyses across Southeast Asian migration corridors, such as Malaysia, Singapore, Thailand, and Philippines, to examine how labor regimes, migration governance, and disaster institutions shape migrants' bonding, bridging, and linking capital, as well as their resilience pathways. Including Hong Kong and Japan as comparative benchmarks in East Asia further deepens understanding of how differing policy environments influence migrant preparedness, adaptation, and long-

term resilience.

Author Contributions: Conceived and designed the analysis, M. Z., D. H., and N. D. S.; Collected the data, M. Z., D. H., and D. M.; Contributed data or analysis tools, M. Z., D. H., and B. T.; Performed the analysis, M. Z., B. T., N. D. S., and D. M.; Wrote the paper, M. Z., D. H., B. T., N. D. S., and D. M.

Data Availability Statement: Data not available - participant consent. The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

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