



Community Insights: Citizen Participation in Kamaishi Unosumai Decade-Long Recovery from the Great East Japan Earthquake

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Abstract

Numerous scholars and researchers have long advocated for citizen engagement in post-disaster recovery and reconstruction initiatives, although unique opportunities and challenges in effectively implementing citizen engagement still exist. It has been 12 years since the Great East Japan Earthquake, where the government called for a citizen-centered recovery and reconstruction process, and reconstruction in most areas in the Tohoku region has almost been concluded. Using qualitative data acquired through interviews with the residents, field observations during the World Bosai Walk, and questionnaire and archival research, this study aimed to discuss the overall reconstruction of Unosumai in Iwate Prefecture, giving the residents' perspective on the benefits and challenges they faced in participating in recovery planning and reconstruction and how the community has been able to strengthen their participation in disaster reduction initiatives since the earthquake and tsunami. This discussion is crucial as it would effectively offer lessons on engaging residents in post-disaster recovery and reconstruction after mega-disasters.

Keywords Community participation · Community perspective · Japan · Post-disaster · Reconstruction · Recovery planning

1 Introduction

The intensity and frequency of disasters have increased globally, leaving a substantial socioeconomic impact (Ray-Bennet et al. 2022). The need for concerted efforts to build disaster-resilient communities cannot be overemphasized (Bongo et al. 2013). Post-disaster recovery entails planning, reconstruction, and rehabilitation to minimize vulnerabilities and increase future opportunities after disasters. Post-disaster reconstruction involves diverse and multifaceted stakeholders, from governments to the grassroots level (Cheek 2020). Thus, recent research into post-disaster recovery, reconstruction, and rehabilitation has immensely advocated for the participation of all and various stakeholders, with particular emphasis on the inclusion of disaster-affected communities in reconstruction (Chandrasekhar 2012; Sadiqi

et al. 2016; Samaddar et al. 2017). Various disaster scholars and researchers have indicated that community engagement in post-disaster reconstruction is essential to attaining successful reconstruction projects (Davidson et al. 2007; Barenstein 2012; Hamideh 2020). Most studies have focused on the importance of community participation and the determinants of effective participation (Krieken et al. 2017; Samaddar et al. 2017). Frameworks call for a community-centered recovery where local communities are given platforms to exercise decision-making authority (Samaddar et al. 2017). Engaging citizens provides unique opportunities but also encounters challenges in effective implementation on the ground. A few studies have been done on the communities' perspective regarding the benefits and challenges of their participation.

The present study aimed to examine the residents' perspective on the benefits (opportunities) and challenges of their participation in post-recovery planning and reconstruction and to examine further how they have been able to strengthen their participation in disaster risk reduction (DRR) after a major disaster. To pursue this research objective, we empirically investigated the Great East Japan Earthquake and Tsunami-affected village of Kamaishi Unosumai

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in Iwate Prefecture, Japan. Specifically, the following questions were examined in this case study:

- (1) What were the opportunities and challenges of community participation in the recovery planning and reconstruction of Unosumai?
- (2) How has the community been able to strengthen its participation in DRR since the disaster?

This article commences with a literature review on community participation in disaster recovery planning and reconstruction. Subsequently, it provides an overview of the 2011 Great East Japan Earthquake (GEJE) and post-disaster reconstruction and rehabilitation, including the reconstruction policies implemented by national and local governments and the resident involvement issues. The case study area, Kamaishi Unosumai, is introduced. The methods for data collection are then detailed. Findings and discussions follow, organized around themes highlighting opportunities and challenges in participatory post-disaster recovery and reconstruction in Kamaishi Unosumai, insights into how the community strengthened its participation, and a brief conclusion.

2 Community Participation in Disaster Reconstruction

Disaster scholars like Maly (2018), Mannakkara et al. (2019), and Dube (2020) emphasized the necessity of community consultation and participation in post-disaster recovery and reconstruction. In social sciences and developmental studies, community participation takes on various definitions. Baum, a leading scholar on community participation, defined it as citizen involvement in decision making, encompassing various interpretations like “community” or “citizens.” He emphasizes that “participation” can manifest through observation or the exertion of power (Baum 2001).

In disaster risk management (DRM), community participation is described by various terms (Samaddar et al. 2017), including community-based disaster management, community-based disaster preparedness, and participatory disaster risk management (Buckland and Rahman 2019; Pandey and Okazaki 2005; Allen 2006). However, realizing community participation is complex. Allen (2006), Pelling (2007), Shaw (2012), and Samaddar (2015) among others advocated multiple approaches to achieving community participation, particularly in DRM decision making.

Sherry Arnstein, a leading theorist on citizen/community participation, conceptualized participation through the “ladder of citizen participation” (Arnstein 1969). At the lower levels (1 and 2), intended beneficiaries or communities may be consulted about needs and concerns, but without guaranteeing that their opinions will be considered. Real

participation, representing citizen power, is found at the ladders’ top levels (6 to 8), where individuals or community members are empowered to take crucial decision-making roles, promoting citizen control in a project (Davidson et al. 2007). Samaddar et al. (2017) advocated a genuinely participatory approach by governments, stakeholders, and experts in disaster risk management, allowing residents some decision-making authority in the planning and reconstruction process.

Concerning this, policies and fundamental guidelines, such as the Build Back Better framework and the Office of United Nations Disaster Relief Coordinator, favor citizen power in decision making and planning as they place the community at the heart and core of the recovery phase. The focus on the community leads to policies that suggest areas of focus, including the community in recovery, empowering communities, and providing solutions based on community needs. The core theme that encapsulates the post-disaster reconstruction (rebuilding) idea is that the community should drive the recovery and reconstruction process and that recovery operations require the full participation of the community, as recovery efforts are for the benefit of the affected community (Mannakkara and Wilkinson 2014; Samaddar et al. 2015; Krieken et al. 2017; Samaddar et al. 2017).

Some literature has also addressed the need for community participation in disaster recovery and the benefits and challenges of community participation. Engaging the end user in recovery planning helps create a sense of project ownership among the project beneficiaries as they feel they are the backbone of the project through their participation (Samaddar et al. 2015); this enables the primary outcome of disaster reconstruction, which is the use and acceptance of reconstruction infrastructure by the beneficiaries. In addition, a more decentralized approach toward recovery and rebuilding empowers communities and provides greater satisfaction with the outputs attained (Davidson et al. 2007; Lyons 2009; Rowlands 2013).

Participation also helps to build much-needed trust within the community and with key stakeholders (Ganapati and Ganapati 2009). Stakeholders can make informed decisions through collaboration, discussion, and opinion sharing on the preferred type of reconstruction that would address the community’s and authorities’ needs.

Disaster impact can instigate community interest and awareness in disaster risk reduction activities, fostering a desire for participation (Hamideh 2020). Following the Mt Merapi disaster, heightened community understanding of the risks near the crater motivated active participation in disaster recovery and future preparedness (Iuchi and Mutter 2020). Disasters serve as catalysts, motivating communities to engage in recovery and reconstruction planning. Participatory planning additionally empowers communities

in decision making, giving marginalized members a voice. For instance, after the Gujarat Earthquake in India, the village committee in Bittu, comprising representatives from all caste groups, village leaders, and the village engineer, collectively decided on reconstruction plans regardless of social standing (Samaddar et al. 2017).

Although different scholars and rebuilding frameworks and principles have long encouraged community participation in post-disaster reconstruction and preparedness planning, complications in achieving this have been witnessed (Cho 2014; Ranghieri and Ishiwatari 2014; Tsuji 2017; Dube 2020). For instance, the build back better concept is still a theoretical concept grounded on a top-down approach regardless of the call to involve communities in recovery (Murphy et al. 2018). The aspect of participatory planning and reconstruction in building back better has had its challenges in achieving it, as there remains no single and clearly defined way to integrate communities effectively.

Abundant evidence from various case studies supports the importance of community participation. For instance, after the 2008 Wenchuan Earthquake in China, despite numerous successes, some local governments failed to incorporate community needs and views into the reconstruction process, neglecting key stakeholders (Guo 2012). Similarly, in the 2010 Chilean earthquake, the reconstruction process overlooked local communities' perspectives, resulting in dissatisfaction with the projects (Boano and García 2011). The 2005 earthquake in Pakistan saw a lack of consultation and active involvement of residents in reconstruction, failing to address their core needs (Shafique and Warren 2018). In the 2009 L'Aquila Earthquake reconstruction, the national government's non-consultative approach led to dissatisfaction with structural reconstruction (Imperiale and Vanclay 2020). Therefore, a clear framework is essential for achieving participatory post-disaster reconstruction.

3 The 2011 Great East Japan Earthquake and Post-Disaster Reconstruction and Rehabilitation Programs

In March 2011, a magnitude 9.0 earthquake hit north-eastern Japan (the Tohoku region), triggering a devastating tsunami. The combined impact resulted in around 20,000 casualties, with 2,500 officially missing and over 470,000 people evacuated. The economic toll of the disaster exceeded USD 235 billion (Reconstruction Agency 2016).

The GEJE was the first multi-location disaster to affect over 200 municipalities in Japan (Ranghieri and Ishiwatari 2014). It necessitated an inclusive and participatory approach to national and local planning, particularly in the most affected prefectures of Iwate, Miyagi, and Fukushima (Japan Times 2020). The extensive destruction in coastal

communities prompted the government and local municipalities to consider future earthquake and tsunami risks. Consequently, implementing structural and non-structural measures, such as elevating land and relocating communities from the coast, became crucial for ensuring safety from potential future impacts (Iuchi and Mutter 2020).

The Japanese government introduced laws and agencies to provide a range of recovery operations that took a more holistic approach to developing safe communities. In June 2011, the Japanese government enacted the Basic Act of Reconstruction (Act No. 76), mobilizing national efforts to recover affected communities. The legislative measures established the Reconstruction Design Council to discuss recovery principles, and its report *Towards Reconstruction: Hope Beyond the Disaster* provided crucial recommendations, serving as a blueprint for the reconstruction of affected areas (Cabinet Secretariat 2011; Iuchi and Mutter 2020). In July 2011, the government released the Basic Guidelines for Reconstruction based on the Basic Act of Reconstruction, estimating a 10-year reconstruction period costing around 19 trillion Japanese Yen and 23 trillion yen over 5 and 10 years to support reconstruction (Cho 2014). The proposed relocation of coastal communities inland used the 1972 Collective Relocation Promoting Program for Disaster Prevention, enabling citizen input on the collective relocation process (Iuchi and Mutter 2020).

Following national guidelines to promote decentralization in disaster reconstruction and the concept of Building Back Better and Safer, the Japanese government implemented the Local Empowerment of Special Zones for Reconstruction, empowering local municipalities and communities (Cho 2014). Residents took a central role in the reconstruction process, promoting the multi-defense concept and people-oriented measures for disaster reduction (Ranghieri and Ishiwatari 2014). Given their proximity to residents and better understanding of local issues, local governments were tasked with governing the reconstruction process. Each municipality developed recovery plans, focusing on reaching unanimity with the community on concepts like land-use planning and potential relocation. This approach allowed local governments to formulate effective strategies tailored to the conditions of the disaster-stricken areas with citizen participation (Edgington 2010). Tsuji (2017) highlighted citizen participation as a crucial governance tool in Japan's disaster reconstruction process. During the development of recovery plans, local governments extended the Machizukuri practice, which is an approach to community development (Posio 2019). Originating in the late 1960s, Machizukuri has aimed to empower local communities in the development of their built environments through encouraging participation of communities and fostering independence in the decision-making process and the establishment of a true democracy by ensuring that everyone has a voice

in development. Learning from the criticisms of a top-down approach after the 1995 Great Hanshin Awaji earthquake, local governments in Tohoku embraced resident participation, extending the use of *Machizukuri* in the reconstruction process.

While promoting people's voices in the recovery and planning process, citizen participation varied significantly across different municipalities even before the 2011 earthquake and tsunami. Each city in Tohoku had its unique approach to recovery and reconstruction, integrating community participation differently. For instance, in Miyagi Prefecture, Kensenuma City promoted two methods to involve community residents: the community-council style and the city-led style, where the community-council style allowed residents to take the lead in choosing new relocation sites and this targeted smaller fishing towns. The city-led style targeted urban areas, and the city-led and managed all steps in the recovery and reconstruction process (Iuchi and Mutter 2020). In Miyako City, the municipality promoted the guidelines by the government as they incorporated citizen participation in the reconstruction planning process; the city, together with the residents, opted to relocate as a recovery initiative, and residents were consulted throughout the relocation process through local study meetings (Ubaura and Akiyama 2016).

Even though most municipalities promoted community participation in reconstruction planning in a bid to build back better after the disaster, Cho (2014) argued that during the reconstruction of the GEJE, citizen participation was lacking as there was more of a top-down approach in policy formation by the national and local governments. Supporting this observation, other scholars noted instances where recovery plans failed to incorporate community views despite numerous consultations with residents (Ranghieri and Ishiwatari 2014; Cheek 2020). Some local governments and communities faced challenges in reaching a consensus during recovery planning, causing delays in the reconstruction process. This was partly attributed to many local municipalities lacking prior experience working closely with communities, particularly given the unprecedented nature of Japan's first mega-triple disaster.

3.1 Kamaishi Unosumai—A Case Study

Unosumai is a small coastal fishing village in the northern part of Kamaishi City in Iwate Prefecture, as shown in Fig. 1. Kamaishi City is located at the center of the Sanriku Fukko National Park (Kamaishi City 2019).

The Sanriku coast has faced multiple tsunami incidents, notably the 1896 Sanriku Tsunami, which claimed 60% of Kamaishi City's population (Kamaishi City 2019), the Chilean Tsunami of 1933, and the devastating 2011 Great East Japan Earthquake. Kamaishi, particularly affected during the

latter, recorded 1,063 resident deaths, including 105 affiliated deaths and 152 missing individuals. Over 9 million residents were evacuated, a quarter of houses were destroyed, 57% of business locations were flooded, and more than 97% of fishing areas and equipment were lost (Kamaishi City 2019). Tragically, Kamaishi Unosumai suffered heavy losses at the Unosumai District Disaster Control Center, where many lives were lost despite that the center was deemed safe from inundation, according to the prefecture flood prediction map. Residents mistakenly considered it an evacuation center, which led to the unfortunate demise of over 160 people on the day of the disaster (Kamaishi City 2019).

Kamaishi City, following government recommendations, urged residents to engage in the post-disaster reconstruction and rehabilitation efforts. Programs included Individual and Group Relocations, with community participation being optional. The housing rehabilitation initiative provided two reconstruction options: owner-driven in situ and a combination of owner-driven and municipality-driven relocation sites. To encourage resident involvement, the municipality promoted community-driven DRR projects such as the formulation of the Kamaishi Citizens Charter and the Tsunami Memorial Center, which were to be spearheaded by the residents. Notably, Kamaishi Unosumai, severely impacted yet showcasing remarkable recovery, served as a focal point. Given the unique reconstruction context, this research analyzed community perspectives on participation opportunities and challenges during reconstruction and assessed how participation had evolved since the disaster.

4 Methodology and Data Collection

To examine the community's views about the opportunities and challenges of their participation, we selected Unosumai as a case study area. The selection was based on its status as the most severely affected area in Iwate Prefecture and the first author's involvement in a community event on disaster revitalization that facilitated interactions with many community members. Employing a qualitative research approach grounded in interpretive investigation and adopting a relativist ontology, the study posited that reality is individually constructed within the human mind, acknowledging the absence of a singular reality. Consequently, qualitative researchers aim to understand human actors' perspectives through an inductive approach, employing qualitative research strategies to explore the natural setting and capture the thoughts and emotions of those interviewed or observed (Layder 1994; Moon and Blackman 2014).

Qualitative methodology was chosen for this study because community participation is intricate and demands a profound comprehension of the study area and its socio-cultural dimensions to elucidate social realities. Qualitative

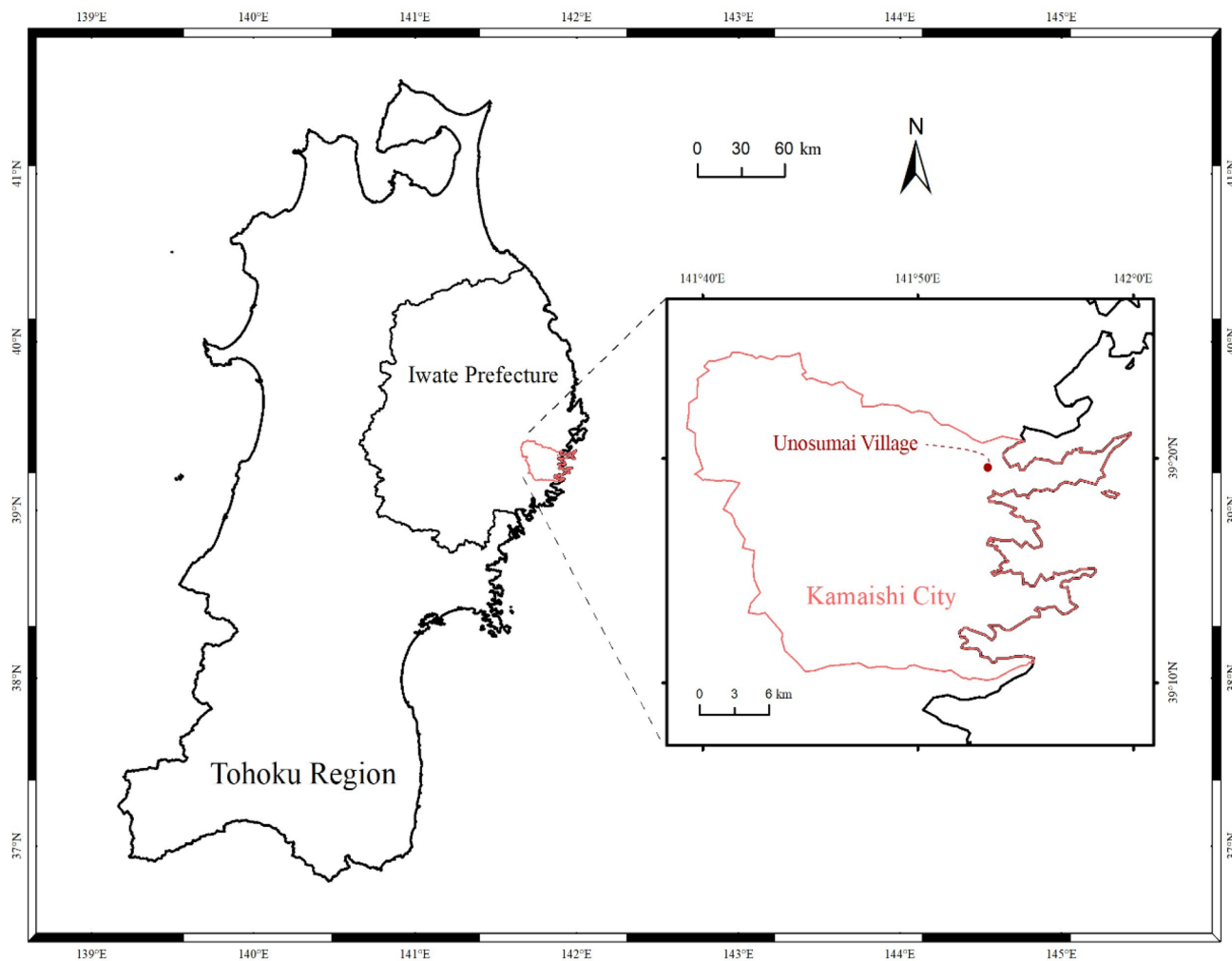


Fig. 1 Location of Kamaishi Unosumai

methods are recognized for their ability to provide detailed information not easily captured by other approaches like quantitative data collection (Mwita 2022). Given time constraints, the qualitative approach was advantageous, enabling the use of a smaller, manageable sample size while still obtaining in-depth insights. This was preferred over a large sample size, which would have been challenging within the limited time of the first author's presence in the study area. Additionally, the qualitative approach allowed for meaningful interactions between the first author and the respondents, facilitating a deeper understanding of their feelings and experiences (McNamara 2022). Consequently, the research problem was effectively grasped through the participants' narrative accounts.

We employed various qualitative data collection techniques, including face-to-face interviews, observations, semistructured questionnaire surveys, and archival research. Interviews were conducted during the World Bosai Walk Tohoku +10 events and the Kamaishi Unosumai Hamanasu

Event in April 2022. The World Bosai Walk Tohoku +10, organized by the World Bosai Forum (WBF), involved an 800 km walk through areas affected by the 2011 tsunami from Iwaki in Fukushima Prefecture to Hachinohe in Aomori Prefecture. The purpose was to showcase Tohoku's recovery, particularly in Building Back Better. Professors from Tohoku University, WBF members, representatives from sponsoring companies, volunteer community members, and Japanese university students participated. The first author joined the walk through an invitation from the WBF Founder and Representative Director, providing a unique opportunity to learn about community recovery and gather first-hand information from the community members in the affected areas. Interviews were conducted with the assistance of Tohoku University professors and English-speaking community members who translated for the first author. The interviews centered on residents' tsunami experiences, their participation challenges and opportunities, and community efforts to boost involvement. Table 1 displays some of the

Table 1 Examples of the questions asked

1.	How do you feel about the reconstruction?
2.	Can you briefly explain what transpired during the recovery planning process?
3.	What were the benefits of your participation?
4.	What affected residents' participation during recovery planning?
5.	What is the community doing to strengthen participation in DRR?

posed questions. Ten participants were interviewed, and due to the sensitivity of the disaster topics, the respondents chose which questions to answer based on their level of comfort.

To complement interview findings, a semistructured questionnaire was employed for further data validation. The first author enlisted the support of a contact person from Unosumai, met during the World Bosai Walk Tohoku +10 and the Hanamasu event, who is a neighborhood association member of Unosumai, distributed and collected questionnaires from the community. Administered in September 2022, the questionnaire was explained to household heads or their representatives through an accompanying cover letter. Participants were informed about the confidentiality and anonymity of their responses, emphasizing the voluntary nature of their participation. A total of 21 completed questionnaires were collected. While acknowledging the qualitative nature of the study, using a questionnaire is a recognized limitation that warrants acknowledgment.

Supplementary to interviews and questionnaires, observations were conducted, with the first author capturing pictorial evidence of the reconstruction progress. Archival research further validated the information obtained. Interview responses were transcribed, and questionnaire data were translated from Japanese to English by the first author with the assistance of Japanese personnel. Manual and Nvivo software coding facilitated data analysis, primarily through content analysis.

5 Findings and Discussion

The study results and discussion are organized into three sections aligned with the research objectives and emergent categories from the analysis. Section 5.1 examines the advantages of residents' participation in the reconstruction and rehabilitation process. Section 5.2 addresses the challenges or barriers to participation. Section 5.3 outlines how communities have enhanced their involvement in DRR since the disaster.

5.1 Benefits of Community Participation

This section explores the benefits of residents' engagement in the reconstruction process, as outlined by the respondents. These include decision-making influence, capacity building

through skill development, collaborative planning, and contributing to livelihood restoration. The ensuing discussion delves into these themes, highlighting the substantial impact of resident involvement in post-disaster recovery.

5.1.1 Power to Influence Decisions

For recovery planning and reconstruction to be successful, community members should be represented as critical stakeholders and allowed to express their views and have the power to make vital decisions since they are project beneficiaries. The interviewees pointed out the ability to influence decisions as a benefit of participating in recovery planning and reconstruction. As stated in Arnstein's ladder of citizen participation, the power to influence decisions is the highest level of community involvement (Arnstein 1969). The respondents stated that they could share their opinions and views during recovery planning. In the aftermath of the disaster, Kamaishi City invited residents to participate in the reconstruction meetings through neighborhood associations, community workshops, and survey questionnaires. Residents could choose and decide on the type of reconstruction they wanted, such as the location of their housing infrastructure. An interviewee indicated that:

The process was democratic; we could choose if you wanted to relocate or not, and those that chose group relocation were able to select potential relocation sites for their residential houses, and those who chose to rebuild in the same location had to adhere to elevation levels set by the government to protect them from future tsunami damage.

The ability for residents to choose relocation or rebuilding in the original location during reconstruction was further supported by another interviewee who indicated that:

[...] Many people had different ideas, and agreeing to the same thing was difficult, of which it took a long time to rebuild, but everyone was given a choice of what they wanted, to move to a new area or rebuild.

An interviewee supported the notion by indicating that residents were able to influence decisions on the location of public infrastructure such as schools, memorial centers, and so on, and this was evidenced when the interviewee said it was vital for them to take part in the recovery process, as

the residents suggested that the kindergarten and elementary school and high school to be located in the same area on higher ground and the local municipality agreed to their suggestion; they feel that younger learners can be protected or helped by older students if a need of evacuation arose. This shows a genuine participatory approach, as residents could decide how they wanted their surroundings to look. Previous studies have also demonstrated communities being able to influence decisions; after the Mt Merapi volcanic eruption through the REKOMPAK, voices of the community and marginalized members of society were included in the recovery plans, and they were able to influence decisions; through this, residents became aware of disaster risk, hence reducing their vulnerability (Iuchi and Mutter 2020). A community with some decision-making power is better positioned and more willing to take on the responsibility in the disaster reconstruction process (Samaddar et al. 2017).

5.1.2 Capacity Building and Collaborative Planning

The respondents indicated that the other benefit of their participation was the capacity building of residents to participate in recovery and collaborative planning. Through the Machizukuri system, residents could actively participate in town planning in collaboration with government and municipality stakeholders while drawing recovery ideas from the main recovery plan provided by the government. This is essential as it is crucial to ensure active engagement and sharing of residents' opinions on how they want their surroundings to look to encourage project ownership among the residents. The local municipality in Unosumai introduced the Machizukuri during the planning process led by the neighborhood association leaders who worked in close range with the residents and government officials from program start to finish. As pointed out earlier, the residents could decide in collaboration with the local municipality on the location and building of the education facilities; the residents in Unosumai agreed that they wanted the kindergarten, junior high and high school to be located in the same site but on higher ground so that in case of a future disaster the older students could help the younger students just as they had witnessed during the 2011 disaster.

Also, through collaborative planning, the interviewees indicated that with consultation with the local government stakeholders, they could have a say on the eventual location of their housing structures, either relocating to higher ground individually or through group relocations. Residents also could decide to rebuild in the exact location but had to adhere to elevation levels decided on by municipality stakeholders to ensure safety. Previous studies have also shown the importance of multi-stakeholder collaboration—for example, after the Lushan Earthquake in China, community participation and effective collaboration were the two main

elements vital for successful reconstruction having drawn lessons from the Wenchuan Earthquake reconstruction experience where participation and collaborative planning with communities was limited (Lu et al. 2018). Collaboration with residents and incorporating local knowledge in recovery planning help outsiders understand the communities better while empowering them instead of forcing decisions on them (Shafique 2016; Samaddar et al. 2017).

As part of the local municipality ensuring that residents took an active role in the recovery and reconstruction process, residents were capacitated and encouraged to initiate a reconstruction project spearheaded and facilitated by them to feel part of the whole reconstruction process, “something for them by them.” In collaboration with the local municipality, the Kamaishi Citizens Charter project was initiated by the “people for the people.” It was a pledge to protect lives from future disasters while passing lessons learned in 2011. The community created community associations to gather opinions and insights from the residents to formulate the citizens' charter.

The respondents indicated that this initiative was designed to collect opinions from elementary school students to older citizens; every community member had to be involved since it was a community-oriented project. This was regarded as an excellent opportunity to encourage citizen involvement in their journey to recovery from the disaster. Trust between the residents and the local municipality in the process was strengthened, as the Mayor of Kamaishi and his office supported the initiative by creating a memorial park and inscribing the charter in a stone monument in the park. There is a higher chance of consensus building and enhancing project ownership when communities are equal partners in decision making, not victims in reconstruction.

5.1.3 Livelihood Restoration

Community livelihood recovery is vital for post-disaster restoration and improving people's lives, to re-establish the disaster-affected community's economic, social, and political aspects (Sacramento and Geges 2019). Livelihood restoration plays a significant role in the success or failure of a post-disaster reconstruction process, and it involves several strategies and techniques to revive the community and individual income levels. The respondents indicated that they could restore their livelihoods with the community's help during decision making and collaborative planning. As pointed out earlier, Unosumai is a small coastal fishing village, and most residents depend on fishing to survive. One respondent pointed out that: “As fishermen, we were allowed to create an association to decide on our jobs and how we would revive the fishing industry.” The respondent went on to say that: “The government listened to our suggestions on how we wanted to revive the fishing

industry in Kamaishi.” Another interviewee shared the same sentiments: “Fishermen worked with the government to revive the fishery industry. A committee was set up to discuss the compensation and future location of the industry.”

Livelihood restoration is mainly facilitated by government support and humanitarian assistance (Mannakkara and Wilkinson 2014), and the participation and ownership of communities are essential in sustaining these revival measures. Previous research encourages using participatory approaches and frameworks such as “bouncing back” to allow people to perform community livelihood recovery interventions to address the vulnerabilities from a pre-disaster state, manage their recovery, and build better conditions (Sacramento and Geges 2019). In Unosumai, as well as in the broader Tohoku region, fishermen, along with local governments, actively engaged in extensive consultations and shared their perspectives on livelihood restoration, as the respondents’ indications showed that associations and committees set up to discuss how to revive their livelihoods were beneficial to the overall continuation of the fishing industry. Secondary data also support this notion, as the Iwate Prefectural Report indicated that they had completed the restoration of the fishing industry by providing fishing equipment (fishing boats, aquaculture facilities and hatcheries) to small and large-scale fishing industries and farmers (Iwate Prefecture 2019). Although the fishing industry has not entirely recovered to the pre-disaster level, some progress has been made through matching assistance for those seeking employment in the fishing industry and offering training sessions for the fishermen.

Livelihood revival extends beyond the fishing industry to various sectors like tourism, entrepreneurship, and new businesses. Initiatives such as the Sanriku Future Industry Entrepreneurship Promotion Project (since the 2013 financial year), Sanriku Challenge Promotion Project (2016 financial year), and Sanriku Nariwai Creation Support Project (since the 2019 financial year) have assisted the local people in revitalizing and starting businesses, fostering economic growth. These initiatives support ventures such as restaurants, salons, guest houses, and local tourism offices (Iwate Prefecture 2021). Therefore, livelihood recovery is crucial in aiding affected communities and sectors to recover from disasters and return to pre-disaster levels.

5.2 Challenges to Community Participation

This section explores the challenges associated with community participation, as reported by the respondents. These challenges encompass conflicting views among residents, the emotional toll of disaster grief, and the demographic issues of an aging population and population decline.

5.2.1 Conflicting Views of Residents

The majority of the respondents generally stated that conflicting views of community members has been a significant challenge of community participation during the recovery planning process. The respondents said that there were too many views from participants who attended the reconstruction planning meetings, making it challenging to agree on the same thing as a collective. One interviewee pointed out that: “After the disaster, many people had different ideas and agreeing to the same thing was difficult, which took a long time to rebuild.”

The data analysis revealed that even though residents took part in the planning process, some still felt like the process of planning together as a community dragged the whole process and could have affected the effectiveness of residents’ participation. It was considered time-consuming; hence, the government took a long time to implement the plans. The respondents also indicated similar thoughts: “It was not easy to make decisions on time; it took a long time.” “Too many voices and suggestions dragged the process.” “Everyone had different opinions at first, and it always took time to agree to the same thing.”

Conflicting residents’ views was a challenge to attaining effective participation as the respondents stated that it was time-consuming to decide on the way forward, and it promoted unequal opinion sharing among community members during the recovery planning and reconstruction process. Moreover, in the case of conflicting views of residents in recovery planning, the respondents linked it with unequal participation and opinion sharing among residents. The respondents pointed out that among those who participated, those with authority or some form of influence were the ones who could adequately voice their opinions or views as compared to those without any power. “At first, it was like influential people were being listened to.” This view was supported by another respondent who indicated that: “It was easy for people with loud voices to get their point across.”

Supporting this point, in a previous study done in India after the Gujarat Earthquake, it was pointed out that when it came to the reconstruction of public buildings and facilities, the lower caste groups were not allowed to express their opinions, while those with influence and higher caste made all the decisions (Samaddar et al. 2017). The same issue was witnessed during the Canterbury Earthquakes, where there was unequal opinion sharing during reconstruction planning. Those with influence in the community could voice their views, and those without could not, leaving out many unheard voices during disaster recovery and reconstruction (Vallance 2015).

5.2.2 Disaster Grief (Trauma)

First, this research used disaster grief in place of trauma. The researcher had to use culturally appropriate terminology in the Japanese context. The 2011 earthquake and tsunami were intense, and for most people in the Tohoku region, it was the first disaster of its magnitude to affect them; some lost their entire families and properties, and their lives were severely disrupted. The interviewees stated that some residents could not participate in the recovery planning and reconstruction process as they were emotionally affected by the disaster. One of the interviewees said that:

Recovery planning came too soon after the disaster; some people did not participate in the planning process as the tsunami was traumatic. Many people were still grieving for losing their family and friends.

Another interviewee further indicated that: “The disaster affected many people [...] and when it was time to build back, many people were depressed and not interested to participate in anything.” A respondent supported these sentiments and indicated that she and her husband never took part in recovery planning because they were still grieving the loss of their daughter, who worked in a municipality office in the next village. Most respondents who responded to the follow-up survey indicated that residents were not involved in the post-disaster recovery planning process mainly because they were still traumatized by the disaster impact (Fig. 2).

Disaster-affected communities may experience trauma and mental health impacts, which can have a negative outcome as it can impede their ability to engage in recovery planning and long-term post-disaster reconstruction (Rosenberg et al. 2022). In some situations, as a way of coping with disaster and disaster-related grief, people may turn to avoidance behavior to avoid things that remind them of the disaster, such as attending meetings or discussing anything related to the tragedy. When recovery planning meetings sometimes become emotionally upsetting, some people can stop attending such meetings or workshops, withdrawing their participation in recovery-centered efforts and activities, and their voices and concerns remain unheard (Ritchie



Fig. 2 Reasons for insufficient involvement

2012). The data analysis showed that disaster grief did play a role in hindering the community from effectively participating in the overall recovery planning and reconstruction process, especially regarding the timing of the planning as it came soon after the disaster, as was the case in Kamaishi Unosumai.

5.2.3 Ageing Population and Population Decline

The respondents indicated that population decline and the ageing population in Kamaishi Unosumai was another challenge of a truly participatory approach in post-disaster recovery and reconstruction. Japan is rapidly ageing, and in 2017, those over 65 constituted 27.7% of the total national population (Nakatani 2019). It was indicated that the ageing population in the village had a long-standing problem towards the participation of residents in community activities. An interviewee stated that: “Not everyone wants to participate in evacuation drills; the older population does not want to participate. They are already physically weak.” Here, the interviewee was specifying based on pre-disaster events as evacuation drills were part of the community activities in preparation for disasters. The same issue was still prevalent in the village, as another respondent indicated that:

As you can see, Unosumai Village is different from Kamaishi City; there are a few people who live in this area, most of them are elderly people, and that affects residents to participate in planning or any other activity, so we have to come up with initiatives to encourage older residents to participate such as including young children.

The first author also observed the issue of an ageing population and population decline during the data collection process. The population of Iwate Prefecture, including Unosumai Village, is mainly characterized by older people and this, to some extent, has a negative impact on community participation. There has not been enough research to examine how the ageing society and population affect community participation in post-disaster recovery and reconstruction in Japan and other parts of the world.

5.3 Strengthening Community Participation Through Capacity Building—A Decade Later

Capacity building is used to strengthen community participation in the small town’s DRR initiatives. The respondents indicated that since the disaster, some initiatives have capacitated residents to actively engage in disaster-related issues, such as participating in combined evacuation drills.

Every year in March, we now do disaster evacuation drills. We realized that the community who stayed

close to the school managed to reduce disaster casualties because they always observed students doing evacuation drills. So now, as the town of Kamaishi, we learned a lot from their disaster training and resilience during the disaster. They saved us.

This point was further supported by the Mayor's speech on the Kamaishi City report, where he stated that as a way to promote a culture of safety from disaster and that everyone actively takes part, two evacuation drill events have been initiated—the Jinya Asobi where community members built encampments on higher ground as a way of aiding evacuation route maintenance and learned how to survive after evacuating, and the Idaten Competition. This event promotes quick evacuation to higher ground.

Furthermore, the respondents indicated that through the Tsunami Memorial Museum, they can educate the community and visitors to the city through volunteer work. Volunteering in the Memorial Museum acts as a way to provide DRR information sharing. An interviewee stated that community members do voluntary work, which could be seen as a way of strengthening the participation of residents in Unosumai. The interviewee had this to say:

I and many other community members do volunteer work at the Tsunami Memorial Museum to pass on lessons learned from the tsunami experience so that what happened in 2011 never happens again.

As an observation made during the data collection, the municipality of Kamaishi and the residents' associations host events to encourage the participation of residents. In April, the Nehama Hamanasu tree planning event, indicated in Figs. 3, 4, 5 was held to proceed with the town's reconstruction vision by planting the Hamanasu tree next



Fig. 3 Proceedings of the Nebama Hamanasu event. Photograph by Ngulube, 16 April 2022



Fig. 4 Mayor of Kamaishi taking part in the Hamanasu event. Photograph by Ngulube, 16 April 2022

to the sea wall. Conversations with the organizers indicated that to encourage older residents' participation, they mainly involved the town Mayor, depicted in Fig. 4 and young children because they know the more senior residents will undoubtedly attend. During such events, residents do disaster quizzes, reflecting on their experiences, lessons learned, and why they need to work as a community.

6 Conclusion

Community engagement in post-disaster recovery and reconstruction has been the core of many reconstruction projects. Achieving a truly participatory approach remains a distant goal, posing a considerable challenge on the ground. Even in cases where some level of community participation has been achieved, the benefits and challenges vary across locations



Fig. 5 Community of Unosumai in the Hamanasu event. Photograph by Ngulube, 16 April 2022

due to diverse sociopolitical and economic factors. Many studies overlook addressing residents' perspectives on their participation in post-disaster recovery planning and reconstruction. This area remains largely unexplored in numerous studies due to the inherent difficulty of exploring residents' opinions and views without introducing bias. Therefore, this study has endeavored to examine the residents' perspective on the benefits and challenges of their participation and how they have aimed to strengthen it years after the disaster. Unosumai's post-earthquake and tsunami recovery and reconstruction were used as the case study of this empirical investigation. After the 2011 GEJE, the national government called for a citizen-centered approach where residents were at the center of their reconstruction. Still, no single process was followed; different municipalities engaged people differently based on their disaster impact. On that accord, the residents' views about their participation are bound to have differed across the board. Our results show that the residents indicated that power to influence decisions, livelihood restoration, capacity building, and collaborative planning are significant benefits of their engagement in the recovery planning and reconstruction. These were found to be essential for enabling residents' successful participation, which could lead to the ownership of reconstruction outcomes by the affected communities. The findings reveal both realized positive impacts and challenges hindering residents' effective participation. Challenges included conflicting views among residents, experiences of disaster grief, and the impact of an ageing and declining population. Therefore, researchers and scholars must consider the residents' perspective to comprehensively understand the community's views on their participation in reconstruction projects. This understanding is essential for developing programs that cater to all stakeholders, encouraging active resident participation from the program's inception to completion.

This study has some potential limitations. It relied on information not documented in government sources, prioritizing knowledge obtained directly from residents to capture their perspectives, making qualitative research the primary method. Conducted soon after the overall reconstruction of the Tohoku region, this research provides an authentic insight into community engagement in the rebuilding of Kamaishi Unosumai, aligning with the study's primary aim. However, further investigation is needed to explore how challenges such as disaster grief, an ageing population, and population decline impact community engagement in post-disaster recovery planning and reconstruction.

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