

Gender-Responsive Approaches in Post-Disaster Temporary Settlement Planning: Insights from Malatya and Adiyaman

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Abstract

The earthquakes that struck southeastern Türkiye on February 6, 2023, caused massive destruction and displaced thousands to temporary shelters. This study examines the applicability of the UN Women Turkey Gender-Responsive Settlement Model (GRSM) in the cities of Adiyaman and Malatya. Using a GRSM-based checklist, the research evaluates temporary shelter areas and identifies the need for modifying the criteria to allow for more nuanced, scalable assessments. Data were collected through online surveys, field observations, unstructured interviews, and an expert workshop. Content analysis of the findings supports the development of locally adaptable, gender-sensitive settlement design principles. Addressing safety, accessibility, services, participation, and economic opportunity, the GRSM aims to guide local authorities in sustainable, inclusive post-disaster planning.

Key Words: Gender; Temporary Settlement; Post-disaster; Türkiye.

In a world of increasing uncertainty and complexity, enhancing urban resilience is becoming increasingly complex but critical. In particular, global impacts such as climate change, natural disasters, and large migration movements affect vulnerable groups more profoundly, making addressing their needs in a local context imperative. However, in the existing literature and urban policy practices, resilience mainly focuses on physical infrastructure. It does not adequately address the needs of vulnerable groups and their role in post-disaster recovery processes (Vale & Campanella, 2005). Urban planning practices, while central to post-disaster reconstruction and resilience-building, also often fail to integrate the socio-spatial needs of vulnerable populations, particularly women.

This narrow focus on physical infrastructure overlooks how inequalities are embedded in space and reproduced through standard planning responses to crises. As Moser (1993) highlights, women and girls, among the most fragile and disadvantaged groups, face compounded challenges during and after disasters stemming from socially constructed gender roles. These dynamics shape not only how risks are experienced but also how recovery unfolds across different social groups. Therefore, the authors hypothesize that localizing gender-responsive design criteria in temporary post-disaster settlements, where women and girls face intersecting vulnerabilities, can enhance not only social resilience but also the long-term adaptive capacities of communities.

Based on the "Gender Responsive Settlement Model" guidance manual prepared for UN Women Turkey, this paper analyzes local contexts with different social, geographical, and cultural characteristics via the cases of Malatya and Adiyaman. These provinces were selected not only because they were among the most affected by the earthquake, but also because these regions have multi-layered social, economic, and cultural backgrounds due to their strong historical structures.

The existing guide must be tailored to adapt to different geographical and cultural local contexts rather than providing a generic design approach. Thus, the findings of the research in Malatya and Adiyaman are expected to lead to a discussion to point out that considering local characteristics in the design of temporary settlements

will both increase pre-disaster urban and social resilience and strengthen the adaptation capabilities of people in post-disaster recovery and reconstruction processes. This contribution aims to localize a global and generic model and advance the conceptual integration of gender responsiveness within urban resilience policies.

Literature review

Critiques of Technocratic and Infrastructure-Centric Resilience Models

Resilience is a multi-layered concept defined in different ways in different disciplines. Defined as elastic strength and ability to recover in engineering (Chelleri, 2012), resilience is associated with the ability of an individual to cope with difficulties throughout life in psychology (Rutter, 1987). In this transition from the individual and physical level to the societal scale, Adger (2000) defines social resilience as the ability of communities to adapt to environmental and political stresses. While traditional approaches interpret resilience within the framework of “returning to equilibrium” or “maintaining stability,” ecological systems theory (Holling, 1973) and complex systems thinking have explained resilience with the capacity for transformation, multiple equilibrium states, and self-organization principles (Levin et al., 1998). The social-ecological systems approach emphasizes that resilience should be addressed not only with the capacity for recovery but also with the capacity for adaptation and transformation (Berkes & Folke, 2003).

Although the concept of resilience is increasingly present in planning and policy discourses, Davoudi (2012) argues that the technocratic treatment of this concept often reduces it to a managerial discourse of “bounce-back-ability.” Davoudi (2012) makes a distinction between engineering resilience (the speed at which the system returns to its former state) and evolutionary resilience (the capacity to adapt and transform). This distinction is crucial in the post-disaster context, as returning to a pre-disaster “normal” state can often mean reproducing the same vulnerabilities. Therefore, the integration of resilience into planning should be rethought not only in terms of efficiency and stability but also in terms of justice, power relations, and inclusiveness. However, this technocratic framing of resilience also overlooks how structural gender inequalities shape access to resources, recovery trajectories, and coping capacities, especially for women, caregivers, and marginalized populations.

In parallel with the concept of resilience being interpreted in different ways in different disciplines and diversifying over time into a complex framework, considering the necessity of addressing urban systems as a whole with their social and economic dimensions, gender equality, the role of vulnerable groups in recovery processes and consideration of local contexts have become integral components of current resilience approaches. However, this multi-layered understanding of resilience remains incomplete unless it includes the different vulnerabilities of social groups. In particular, ignoring social resilience weakens post-disaster adaptation capacity and further deepens social inequalities (Sezgin Hatipoğlu & Ersavaş Kavanoz, 2024).

The evolution of resilience across disciplines and time shows that while early resilience approaches focused more on physical infrastructure and technical capacities, current approaches emphasize the central role of social resilience. Social resilience refers to the capacity of individuals and communities to overcome crises and reorganize, adapt, and transform in response to these crises. Therefore, social resilience includes the capacity to survive and prepare for future risks (Smyth & Sweetman, 2015).

Communities contain many social groups, and these groups have different levels of resilience to crises. Resilience should cover risks that vary according to gender, age, and socioeconomic status (Buckle, Mars & Smale, 2000). Gender constitutes one of these different vulnerability parameters. Traditional engineering-based resilience approaches often ignore structural inequalities and render these vulnerable groups invisible (Meerow, Pajouhesh & Miller, 2019). This situation may cause the concept of resilience to function as a ‘status quo protector’ that reproduces inequalities (Davoudi, 2012; Chelleri et al., 2015). Ignoring social resilience in planning and post-disaster recovery processes may lead to reproducing or deepening existing social inequalities (Sezgin Hatipoğlu & Ersavaş Kavanoz, 2024). Especially in contexts where gender-based inequalities are intense, the absence of community-based strategies limits an inclusive recovery and transformation process.

Therefore, to understand urban resilience holistically, social resilience needs to be addressed, especially in its relationship with gender, care work, and informal solidarity networks.

Gender as a Dimension of Social Resilience

Traditional resilience discourse often celebrates coping strategies developed at the “community” or “household” level but fails to question the social inequalities upon which these strategies are built. Smyth and Sweetman (2015) argue that to address the concept of resilience effectively and fairly, invisible but determining dynamics such as gender roles, power relations within the household, and care work must be taken into account as well. When these elements are ignored, resilience discourse can become a framework that naturalizes and reproduces the unequal burdens on women and girls.

Theis, Bryan & Ringler (2019) argue that most resilience strategies used in social policy and development programs offer a “one-size-fits-all” solution and therefore homogenize social vulnerabilities. Such approaches render inequalities faced by different social groups, such as women, the elderly, migrants, or caregivers, invisible. This can not only result in the needs of these groups not being met but also in the deepening of their risks. Gender-based resilience strategies should not be limited to post-disaster physical shelter or livelihood opportunities. Increasing women’s participation in decision-making processes, socializing care work, and reducing time poverty experienced by women directly impact long-term resilience outcomes (Theis, Bryan & Ringler, 2019). Therefore, women should be positioned as “recipients of assistance” and active agents of resilience.

Building on these critiques, a growing body of research emphasizes the need for resilience frameworks that are not only sensitive to structural inequalities but also transformative. In this context, gender-sensitive planning approaches are not only a corrective tool that aims to compensate for existing deficiencies; they are also a call for a fundamental rethinking of how the concept of resilience is defined, measured and implemented. In the context of post-disaster reconstruction, this approach recognizes that states of vulnerability are socially produced and spatially embodied. These vulnerabilities become particularly evident in disaster contexts, as the design of settlements and the distribution of services either reduce or deepen existing inequalities. Therefore, resilience strategies need to take into account the spatial experiences of women and other marginalized groups, along with dimensions such as access, security, care work and participation.

This growing body of feminist and critical resilience literature underscores the necessity of post-disaster planning frameworks that are both intersectional and sensitive to spatial, social, and institutional inequalities. Together, these insights underscore the necessity of rethinking resilience planning through intersectional and locally grounded frameworks.

As earthquakes of February 6, 2023 caused widespread destruction in the southeast of Turkey, spatial and social problems experienced by vulnerable groups have become more visible. Problems such as basic infrastructure deficiencies, security risks and injustice in access to services became apparent in temporary shelter areas established during the crisis. This situation necessitated the rethinking of post-disaster temporary settlements not only as physical shelters but also as places of social resilience and social recovery.

The Gender Responsive Settlement Model (GRSM) (Oğuz Çevik, 2023), developed for the UN Women Turkey Office, provides a holistic framework for planning and designing post-disaster settlement areas with a gender responsive perspective. This model is based on the integration of the specific needs of women, girls, the elderly, the disabled and other vulnerable groups into settlement design. This is particularly evident in Türkiye, where empirical findings after February 6 Earthquakes further validate the critical need for gender-responsive and locally adaptable frameworks.

In Türkiye, studies conducted after the February 6 Earthquakes show how disasters reveal social vulnerabilities (see Altıok, Arıcı & Özüçelik, 2025; Duruel & Avşar Arık, 2023; Tüzün, 2023). These studies demonstrate that the concept of social resilience should be redefined inclusively by focusing on the experiences of different vulnerable groups, such as children, the elderly, and immigrant women. These studies also emphasize that post-disaster interventions should consider the chronic problems that existed before the disaster and the needs of vulnerable groups. Social resilience is not only an individual’s adaptation capacity, but it is also closely related to their social support networks. Duruel and Avşar Arık’s (2023) study with elderly individuals in Hatay highlights the protective role of solidarity networks over individual strategies. In other words, disaster fragility

is determined by the social system and power relations rather than the disaster itself. The fact that post-disaster social policies are generally based on “one-dimensional” interventions also deepens gender-based vulnerabilities (Altıok, Arıcı Özüçelik, 2023). For example, the focus of public support on uniform and temporary interventions has ignored the needs of migrant women. Thus, post-disaster social policy practices have increased the vulnerability of these groups by making existing inequalities invisible. These findings not only support the theoretical underpinnings of GRSM but also point to the urgent need for planning frameworks that move beyond standard templates to engage with situated experiences of vulnerability and recovery.

The Gender Responsive Settlement Model (GRSM) emerges as a vital planning tool that both responds to and reshapes the conceptual debates on resilience. Rather than treating gender as a secondary consideration or an add-on, the model places it at the centre of post-disaster recovery processes. By foregrounding lived experiences, local dynamics, and care responsibilities, especially those disproportionately shouldered by women, the model offers a transformative vision of resilience that is deeply embedded in place and social relations. It challenges the default technocratic approaches that focus solely on physical reconstruction and instead calls for a paradigm shift: from infrastructure-led to justice-centred planning. In this regard, GRSM bridges the gap between theory and practice by translating feminist and intersectional insights into spatial design principles and policy interventions.

Moreover, the model's adaptability across different local contexts offers a replicable and flexible approach for other disaster-affected regions. By engaging with the specific socio-cultural characteristics and institutional capacities of each locality, GRSM does not impose a one-size-fits-all template but encourages co-production of knowledge and participatory planning processes. It enables communities not just to recover, but to transform in ways that reduce future vulnerabilities and redistribute social risks more equitably. This localized and inclusive perspective aligns with the evolving understanding of resilience as not merely about 'bouncing back' but about building forward with justice, care, and collective well-being at the core. Therefore, the Gender Responsive Settlement Model contributes to an emerging planning paradigm that reframes resilience through gender justice and spatial equity.

In operationalising this vision, the GRSM includes a Gender Equality Self-Assessment Checklist specifically designed for newly established permanent settlements. This tool guides planners and decision-makers in identifying and addressing potential gender inequalities across various domains, including safety, housing, mobility, education, healthcare, employment, governance, and public space. Far from being a static instrument, the checklist is meant to be context-sensitive and adaptable to the unique social, cultural, and spatial dynamics of each locality. It fosters inclusive and equitable communities by integrating the perspectives of women and marginalised groups throughout planning and implementation processes. In doing so, the checklist not only enhances the responsiveness of recovery efforts but also anchors gender-sensitive social resilience within urban design and policy. As climate-induced and socio-political disasters become more frequent and more complex, planning responses must evolve accordingly. GRSM provides a framework for that evolution, one that resists the normalization of inequality in crisis response and instead reimagines post-disaster recovery as an opportunity for structural transformation.

Data and Methodological Approach

This research investigates the applicability of a model developed for designing and managing gender-responsive temporary settlements in different socio-cultural contexts. It is supported by the Scientific Research Projects Coordination Unit of Gebze Technical University. The main objective is to provide an adaptation framework that localises the Gender-Responsive Settlement Model developed by the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). The research is conducted in temporary shelter areas established following the earthquakes centred in Kahramanmaraş on 6 February 2023, selecting Malatya, Gaziantep, Kahramanmaraş, and Adıyaman provinces as case study areas. The choice of these cities stems from their direct and profound experience of the disaster's destructive impact as well as their social and cultural diversity, which allows the observation of varied experiences and needs within the context of gender.

This research employs a qualitative research approach through a multiple-case study method, as systematised

by Yin (2018). This method facilitates a comparative analysis of how a particular phenomenon manifests across different contexts. By observing the same phenomenon in diverse social, spatial, and institutional environments, it enhances both the validity and generalisability of the findings. Moreover, this approach enables the examination of the intersection between gender and disaster across different countries and contexts. Complementing the multiple-case study design, this research also employs the Grounded Theory approach to conduct an in-depth analysis of the data and to develop theoretical concepts. Grounded Theory, developed by Glaser and Strauss in the field of sociology, is a method that systematically constructs theoretical models based on qualitative data (Glaser & Strauss, 1967; Charmaz, 2014). This approach particularly facilitates the generation of original theoretical frameworks from field data without relying on predetermined hypotheses, making it suitable for understanding social processes, experiences, and complex human relationships. Given the multifaceted nature of women's experiences, needs, and gender dynamics in post-disaster temporary settlements, the flexible and data-driven analysis offered by Grounded Theory provides an appropriate method to reveal the detailed and authentic realities of the field.

The semi-structured interviews, observations, and field notes collected in the study were analysed using the constant comparative method. Through this process, codes and themes were developed to construct key concepts related to gender-sensitive settlement design. This approach provided a critical foundation for enhancing theoretical sensitivity and questioning the adaptability of existing models within the local context (Strauss & Corbin, 1998; Charmaz, 2014). Moreover, Grounded Theory facilitated the reciprocal development of the core "Gender-Sensitive Settlement Model" with the field data. This method went beyond merely defining a phenomenon; it also contributed to understanding the structural and social challenges women face in post-disaster contexts and supported the development of more inclusive and sensitive policies. Researchers such as Gaillard et al. (2017) and Enarson and Meyreles (2004) also emphasise the importance of supporting gender-based approaches in disaster settings with field-based analyses. Accordingly, the Grounded Theory method enriched the study's theoretical depth while enabling the formulation of robust, locally appropriate recommendations for practical application.

The case studies presented in this paper were conducted within a general framework in the provinces of Malatya and Adiyaman. According to Report of Presidency of Strategy and Budget (2025), the earthquakes centred in Kahramanmaraş on 6 February 2023 affected more than 14 million people across an area of 120,000 square kilometres. A total of 53,737 people lost their lives, 107,213 were injured, and more than three and a half million people had to be evacuated from the region. Following the earthquake, the Ministry of Environment, Urbanisation and Climate Change conducted damage assessment studies, which revealed that 102,825 housing units in Malatya and 64,456 in Adiyaman were classified as moderately or severely damaged. In Malatya city centre, there are 75 container settlements currently housing 112,686 people. In Adiyaman, 55 container settlements have been established, accommodating 118,150 people.

Before the case studies commenced, preliminary meetings were held to establish collaboration with active civil society organisations, local and central government institutions, and research organisations operating in the field. Based on these preliminary meetings and document reviews, initial impressions were gathered regarding the provinces of Malatya and Adiyaman, where the fieldwork would take place. Guided by these insights and the partnerships established, the fieldwork was conducted in temporary shelter sites. These temporary shelter sites were directly observed, and on-site assessments were made through photographs and videos. Additionally, semi-structured interviews were conducted with disaster-affected and/or refugee women, NGO staff, and local officials from public institutions. The scope and content of the semi-structured interviews were designed based on the UN Women's gender-sensitive settlement model and tailored with questions appropriate to each target group. The interviews were recorded via audio and/or detailed note-taking, then transcribed and analysed using thematic analysis.

Following the completion of the Malatya case study, the checklist developed within the framework of the Gender-Sensitive Settlement Model was transformed into an online survey form to ensure broader participation and data collection, informed by insights gathered from the field. The aim of the survey is to collect information on temporary settlement areas that could not be accessed during fieldwork due to time constraints and permission limitations. The survey is disseminated using a snowball sampling method, expanding through the trust and collaborations

established during fieldwork. This approach aimed to capture the experiences and perspectives of different social groups. It was deliberately chosen to facilitate rapid and effective access to the lived realities encountered in the field.

In contrast to the Malatya field study, the Adiyaman fieldwork was conducted in collaboration with Adiyaman University through the organisation of the Expert Consultation Workshop on Gender-Sensitive Temporary Settlements. The workshop was designed both to introduce the model and to collect data through participants. Participants included container city residents, local government employees, representatives of public institutions, women-focused NGOs, and academics. During the workshop, themes such as housing, security, infrastructure, access to social services, and livelihood opportunities were examined in the context of Adiyaman's temporary accommodation sites and the post-disaster process. The scope and adaptability of the Gender-Sensitive Settlement Model were discussed specifically within the Adiyaman context.

All field studies, along with their data collection and analysis methods, aimed to contribute to the effective localisation of the Gender-Sensitive Settlement Model and the development of gender-sensitive policy recommendations for post-disaster temporary settlement design. The collected data not only tested the model's practical applicability but also enabled the identification of the unique needs of diverse gender identities and social gender groups experiencing post-disaster conditions. This integrated approach offers a holistic understanding of how gender-responsive strategies can be more effectively designed, implemented, and institutionalised within disaster recovery frameworks.

Findings

Based on interviews and field visits conducted in the provinces of Malatya and Adiyaman, the findings obtained through the testing of the Gender-Responsive Approaches in Post-Disaster Temporary Settlement Planning model are presented below. The analysis first focuses on province-specific conditions, followed by a comparison of the current state of temporary living environments in both locations, and the identification of shared problems and needs. This comparative assessment is structured around the key components of the model. These components are used to comprehensively examine the spatial, social, and administrative dynamics observed during the fieldwork, and to evaluate the model's applicability and adaptability to local contexts.

Evaluation of Temporary Settlements in Malatya

Fieldwork conducted in Malatya revealed that temporary settlements were not designed in accordance with gender-responsive principles. Observations showed that the specific needs of women, girls, and other vulnerable groups were not adequately considered during the planning processes. Significant deficiencies were identified in core GRSM (Gender-Responsive Settlement Model) areas such as safety, privacy, access to services, and participation.

In the visited settlements, each household was typically allocated a single 21-square-meter container (Fig. 1). However, these units failed to provide an interior layout suitable for the age, gender, and care needs of household members. In most cases, no separation of sleeping spaces for women, men, and children was possible, leading to breaches in privacy. Containers were placed in very close proximity, blurring the boundaries of personal space and disrupting daily routines. The lack of proper lighting and inadequate locking systems on container doors posed particular safety concerns for women, especially at night. The separation of sanitary facilities from living units further hindered access to basic needs.



Figure 1. Container Unit. Rönesans 1 Temporary Settlement Area, Malatya.

Security practices varied significantly between container sites and lacked a consistent implementation model. For instance, while some sites allowed unrestricted entry and exit, others were subject to control by law enforcement. No specific protective mechanisms were in place for cases of harassment or violence against women and girls, and survivors were often forced to remain in the same physical environment. Although legal and psychological support was available through civil society organizations, the lack of enforcement authority limited their effectiveness.

Regarding WASH (Water, Sanitation, and Hygiene) services, there were notable shortcomings in meeting basic hygiene needs. Health services specifically for women – including prenatal care, family planning, and reproductive health – were either limited or entirely absent in many of the areas. Psychosocial support services were also found to be irregular and inadequate. Considering the widespread trauma following the earthquake, these gaps are particularly critical.

Although some temporary solutions were implemented in the education field, significant continuity problems were reported. While certain civil society initiatives aimed to uphold the right to education for both girls and boys, public educational facilities remained spatially inadequate. Some NGOs provided play areas, study rooms, and digital equipment spaces, yet the reach of these services remained limited (Fig. 2).



Figure 2. Social areas for Children. Samanköy Temporary Settlement Area, Malatya.

Overall, there were very few safe and inclusive public spaces where women, men, and children could come together. Existing social infrastructure was not designed with a gender-sensitive perspective, and failed to address the distinct needs of women, the elderly, and children.

Evaluation of Temporary Settlements in Adıyaman

Fieldwork conducted in Adıyaman revealed structural and operational problems similar to those observed in Malatya; however, notable differences emerged in administrative practices and the presence of civil society actors. When assessed through the framework of the Gender-Responsive Settlement Model (GRSM), it becomes evident that gender-sensitive planning principles have only been partially implemented in Adıyaman.

Unlike Malatya, Adıyaman's urban fabric has undergone a different set of spatial transformations in the aftermath of the earthquake. Whereas temporary settlements in Malatya were dispersed throughout the city center, in Adıyaman they are primarily concentrated in the urban periphery. Although this spatial arrangement has facilitated the centralized delivery of services, the scale and isolation of these areas have generated challenges for daily life—particularly for women and girls.

Housing typologies in Adıyaman are more diverse. In addition to container-based settlements, prefabricated structures are also commonly used (Fig. 3). In some areas, hybrid settlements composed of both containers and prefabricated units were observed. While prefabricated units offer larger interior spaces and may benefit larger households, their monolithic construction and internal layouts pose disadvantages in terms of privacy and safety. For families with five or more members, the increased floor area does not necessarily translate into improved privacy per capita. Therefore, while spatial expansion may contribute positively to perceptions of security—particularly among women and girls—it does not fully resolve concerns regarding privacy.



Figure 3. Prefabricated Unit. Vartana Temporary Settlement Area, Adiyaman.

Another distinctive feature of Adiyaman's temporary settlements is the spatial differentiation based on social profiles. For example, settlements near the eastern part of the city, especially around hospitals, were designated for healthcare personnel, while those near the university accommodated academic staff. Larger families were predominantly located in the southern Vartana region, within mixed (container-prefabricated) settlements. Conversely, marginalized groups such as the Dom community were placed in segregated settlements in the north-eastern parts of the city. These patterns suggest a partial spatial profiling of temporary accommodation, though such arrangements were not consistently applied across all sites.

In terms of WASH (Water, Sanitation, and Hygiene) infrastructure and lighting, conditions were broadly similar to those in Malatya, yet significant variation was observed between settlements. For instance, in areas supported by private sector actors or charitable organizations, infrastructure was generally more developed, while others faced acute deficiencies. City-wide interruptions in water and electricity supply disproportionately affected those residing in temporary settlements, with women and girls bearing the brunt of these disruptions.

Access to education and social activities also revealed deep inequalities across sites. Earlier-established settlements benefited from a broader range of NGO-provided services, whereas newer settlements had more limited access to such resources (Fig. 4). The absence of a systematic and equitable distribution mechanism further exacerbated these disparities.



Figure 4. NGO-Provided Services Units. K-6 Temporary Settlement Area, Adiyaman.

Over time, the withdrawal of NGOs and the reduction of external support have led to significant gaps in health-care services. Civil society organizations had played a crucial role in addressing the physical and psychological needs of women, girls, and adolescents. However, their diminished presence in the field has resulted in severe service interruptions, leaving these vulnerable groups increasingly unsupported.

Common Challenges and Needs

Field research conducted in Malatya and Adiyaman revealed that temporary settlement areas in both cities exhibit similar shortcomings in terms of gender-responsive planning principles. Common problem areas were identified at both the physical and administrative levels, particularly in relation to the core pillars of the GRSM model: safety, accessibility, participation, access to services, and resilience.

Shelter, Physical Infrastructure, and Safety

In both cities, women and girls report a low perception of safety in temporary settlement areas. In Malatya, this perception is linked to container material quality, spatial design, and layout. In Adiyaman, the issue stems from the location of settlements in large, isolated areas. While centrally located and small-scale settlements in Malatya, integrated into the urban fabric, positively influence perceptions of privacy and safety through greater social interaction, the prefabricated units in Adiyaman offer improved material quality and larger capacity, mitigating some safety concerns.

Urban Planning, Infrastructure, and Transportation

Differences in water, sanitation, and hygiene (WASH) services between the two cities are rooted in the performance of their infrastructure systems post-disaster. Malatya's infrastructure sustained comparatively less dam-

age, whereas in Adiyaman, water provision has been irregular, with scheduled outages during the week and formerly potable tap water becoming non-drinkable. These disruptions have a more severe impact on vulnerable groups, particularly women and girls, for whom hygiene is essential to daily functioning.

Psychosocial Impacts and Mental Health

Psychosocial and mental health support services in both cities are predominantly provided by civil society organizations. However, these services are not equitably distributed, and some units have withdrawn over time. In Malatya, smaller, more integrated settlements such as those outside Samanköy and Teknokent facilitate normalization and trauma recovery, especially for adolescents and children who have easier access to urban activities. In contrast, the larger-scale settlements in Adiyaman complicate coordination and contribute to fragmented service delivery, slowing psychosocial recovery.

Gender and the Status of Women

Although gender-related issues are similar in both cities, women's everyday roles are impacted differently depending on the shelter typology. In Malatya, standardized container units, regardless of household size, intensify domestic responsibilities for women. In Adiyaman, while container areas face similar challenges, prefabricated units with more flexible and spacious layouts provide relatively better conditions for women. Furthermore, Adiyaman features more visible support for women's labor participation through NGOs and women's cooperatives.

Education and Child Rights

The provision of education in both cities lacks standardization. While some areas offer on-site preschool and primary education, others rely on nearby public facilities. These differences are influenced by the settlement's location and development timeline. Similarly, educational support by NGOs is uneven; older settlements host multiple active organizations, whereas newer ones often lack any support mechanisms. In Malatya, public services provide relatively more comprehensive access to education, unlike in Adiyaman where such access is limited.

Social Fragmentation and Discrimination

Temporary settlements in Malatya and Adiyaman demonstrate distinct manifestations of social fragmentation and discrimination. In Malatya, dispersed settlements within the urban fabric foster greater interaction with the host community, which may support integration but also expose residents to exclusionary practices. In Adiyaman, large, homogeneous settlements located on the urban periphery contribute to spatial segregation and feelings of exclusion. The assignment of marginalized groups, such as the Dom community, to separate areas exemplifies institutionalized spatial discrimination.

Social Capital and Societal Change

In both cities, social capital plays a dual role in fostering resilience and reinforcing limitations. In Malatya, the proximity of settlements to pre-disaster neighborhoods has supported the preservation of social networks. In Adiyaman, earlier-established settlements maintain stronger neighborhood ties, while newer ones show weaker social cohesion. Group homogeneity within settlements enhances internal solidarity but restricts intergroup interaction. While women support one another in caregiving, daily tasks, and information exchange, socio-spatial disconnection threatens the sustainability of these networks. Additionally, newly emergent norms—such as refraining from going out at night or interacting with strangers—reproduce traditional gender roles.

Participation, Institutional Capacity, and NGOs

In both cities, participation in the management of temporary settlements is minimal. Decision-making processes are largely centralized, and women's involvement tends to be symbolic. While some NGOs in Malatya operate in a more systematic and institutionalized manner, those in Adiyaman function on a project-based and often fragmented basis. The weak coordination between local authorities and civil society actors negatively affects the continuity and inclusivity of services.

Rights, Access, and Perceptions of Justice

Women in both Malatya and Adiyaman expressed similar dissatisfaction regarding access to basic rights and perceptions of justice. Inequities in public service provision and spatial organization are key contributors to this sentiment. In Malatya, differences in service quality among container settlements were frequently mentioned.

In Adiyaman, the allocation of certain groups to better-equipped areas reinforced the perception of unequal resource distribution. Limited access to legal aid, psychosocial support, and healthcare has led many women to feel excluded from the system, significantly hindering both individual and collective empowerment.

Conclusion

This study aimed to examine the applicability of the Gender Sensitive Settlement Model (GRSM) in the context of post-disaster reconstruction in southeastern Türkiye, as well as its localization requirements. Preliminary findings based on fieldwork conducted in Malatya and Adiyaman provinces confirmed that GRSM offers an inclusive framework based on gender responsiveness but revealed that this model needs to be reinterpreted in a way that is sensitive to local contexts.

Common problems, including security concerns, limited access to care services, lack of participation in decision-making processes, and the neglect of women's or care workers' needs in spatial planning processes, were observed in both cities. This supports the importance and applicability of the basic principles of GRSM. However, at the same time, local differences, such as the spatially dispersed structure of services in Malatya and the stronger informal community networks observed in Adiyaman, indicate that the model cannot be applied uniformly in every context and needs to be adapted according to local socio-spatial dynamics.

Since the research is not yet complete and a fully localized version of GRSM has not been presented, a final model is not proposed in this study. However, the findings in Malatya and Adiyaman provide strong indications of how the model may evolve in the future. In this context, the need to develop participatory, flexible, and process-sensitive adaptation mechanisms, rather than fixed and centralized models, is emphasized for the planning of post-disaster settlements.

In conclusion, this study once again demonstrates the critical importance of integrating gender sensitivity and principles sensitive to social vulnerabilities in the design and governance of post-disaster settlements. Planning frameworks, such as GRSM, should be considered as non-static tools shaped by local realities, power relations, and daily life practices.

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