


Building resilience to the expected Marmara earthquake: Preparing for post-disaster population mobility in Istanbul

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Abstract

Along with other causes of migration, earthquakes have displaced millions of people worldwide over the last few decades, forcing them to move to other settlements within the country. As an "earthquake country", Turkey, where approximately 70% of its territory is located in the seismic zone, has faced a variety of environmentally forced migration that refers to a variety of demographic movements like evacuation, flight, displacement, resettlement, as well as forced migration. Disasters and disaster-related forced migrations as an aspect of survival anxiety have severe and irreversible consequences for the existence of physical security, human dignity, health, livelihoods, shelter, and social, economic, and cultural structures and processes of societies or their subunits. Therefore, disasters and disaster-induced migration, which can be defined as a process of significant vulnerability, are considered widespread and severe threats to the enjoyment and realisation of fundamental rights. Earthquake-related forced migration phenomenon is a widespread and high-risk factor, and this risk corresponds to a closer and more destructive possibility for the province of Istanbul. Therefore becomes vital to take preventive measures to mitigate the possible destructive effects as well as to eliminate the risks as much as possible. This study aims to determine whether relevant legislation is adequate to provide an effective and sufficient protection mechanism for environmental displacement that may occur in Istanbul after a significant earthquake for the purpose of "building resilience in crisis" in the view of international standards. Thus, it also emphasises the importance of the human rights approach and legal mechanisms in establishing resilience during crises. This study has been prepared by content analysing the disaster and emergency preparedness plans, policy texts, and relevant legal and regulatory provisions related to understanding and managing the earthquake-induced migration scenario in Istanbul.

Keywords: environmental forced migration, migration scenarios, Rights-Based Approach, protection obligation, Expected Marmara Earthquake

1. Introduction

According to the Risk Management Index (INFORM), which has been modelling and measuring disaster risk since 2012, Turkey is a high-risk country (index score 5.0) in terms of overall disaster risk assessment and a very high-risk country (index score 9.3) in terms of disaster-induced forced migration risk, which is assessed as one of the subcomponents of risk (INFORM, 2018). Earthquakes are the most significant hazards posing a high risk to Turkey.

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As an “earthquake country”, with approximately 70% of its land area in the earthquake zone (AFAD, Turkey Earthquake Hazard Map), Turkey has been confronted with several environmentally induced migrations. Thirty thousand people were displaced in Gölcük after the 1999 Marmara earthquake (Südaş, 2004). The forced migration movement caused by the Van-Erciş and Van-Edremit earthquakes in 2011 affected 425,000 people (AFAD et al.; Deniz et al., 2017; Açıklın, 2017); 30,000 people were forced to leave their permanent homes after the Elazığ-Sivrice and Bingöl earthquakes in 2020 (IDMC, 2020). Most recently, in February 2023, the Kahramanmaraş and Hatay earthquakes triggered the largest disaster-induced migration ever recorded in Turkey (TC Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023, p. 25).

These experiences of forced migration in the recent past show that after the expected Marmara earthquake, disaster-related migration is an imminent, serious, honest, and significant risk factor for Istanbul due to its population, settlement, and housing characteristics. First, Istanbul is the most populous city in Turkey, a megacity facing a significant earthquake risk. According to the Address Based Registration System, 15.84 million people live in Istanbul, and the metropolitan area has a population of almost 20 million.

Second, in the earthquake scenarios/loss estimates, 45% of the buildings in Istanbul are estimated to be at risk (IBB, 2019; İSTAMP 2021). Furthermore, urban transformation envisaged in the context of resilient urban policies will be implemented as parcel-based transformation (Kuyucu, 2018, p.277). This increases the population density in the area without considering local capacity, social facilities, and infrastructure (Bektaş, 2022, p.126; Duman & Zaman, 2021).

In terms of crisis resilience, one of the indicators of local and social capacity is the adequacy and accessibility of emergency assembly areas. Assessments of the power of emergency assembly areas, based on population and high-risk building data, show that the number of public disaster parks and assembly areas that spatially ensure continuity of life and access to basic vital needs after an earthquake is insufficient (Marangoz & Enginöz, 2021, p.39). Even in the optimistic earthquake scenario (AFAD RED, 2022), it is estimated that approximately 3 million citizens will need temporary shelters. The scale of expected destruction, the inadequacy of local coping capacity, and a potentially chaotic environment indicate that a significant earthquake could trigger a severe, mass, and irregular population movement in Istanbul. Therefore, it can be stated that the current earthquake risks for Istanbul continue to increase (Erdik, 1999, p.55).

This study aims firstly to conceptualise earthquake-induced population movements in the theoretical framework (1.) to identify the preventive protection obligations of the State in this management process (2.). Second, the legislation and preparations of the public authority in Istanbul for the population mobility caused by the possible Marmara earthquake answer the question of to what extent the State could fulfil its protection obligation (3.). The data required for this analysis were obtained in two stages. In the first stage, the strategic plans, activity reports, policy texts, and relevant legislation of the highest general-level public policy actors were subjected to a content analysis. Subsequently, in-depth interviews were conducted with bureaucrats, politicians, professionals, and civil society representatives working in the disaster and migration management units at the local level.

2. Earthquakes Causing Forced Migration

Environmental living conditions are the most critical factors in human settlement decisions. It is a constant phenomenon that people leave their permanent residences in the face of the sudden or gradual deterioration of vital environmental conditions. Disasters occupy an essential place among the factors that affect vital and livelihood conditions. International organisations that monitor human mobility in the world, such as the International Organization for Migration (IOM), Internal Displacement Monitoring Center (IDMC), United Nations High Commissioner for Refugees

(UNHCR), and Norwegian Refugee Council (NRC) have shown a significant increase in forced human mobility in recent decades. In particular, earthquakes that suddenly trigger large mass movements are substantial in the disaster-induced forced migration phenomenon (Forst, 2010; Terminski, 2012; Gray et al., 2014; Thiri, 2017; Açıklın, 2017; Sağiroğlu et al., 2023). In the last two decades, approximately 10 million people have been forced to migrate following major earthquakes in different parts of the world.

Relevant studies show that the presence of a real, severe, and imminent threat of natural and human origin; direct exposure to the destructive effects of a disaster that creates physical hazards in the dwelling, rendering the home uninhabitable; social vulnerability and social dynamics are strongly linked to the phenomenon of population mobility in the context of disasters (Warner & Laczko, 2008, p.248; Aldrich, 2012, p.54, 74; Gray et al., 2014; Thiri, 2017, p.213; Açıklın, 2017, p.60, 120). In times of disaster, all environmental, social, economic, demographic, geographical, and political factors influence the decision to migrate (Warner & Afifi, 2009: p. 9). Among these heterogeneous factors (Counil & Mazzega, 2006, p.418), environmental conditions tend to be compelling and repulsive factors, oriented towards survival anxiety, rather than attractive factors, expressing improvement in socio-economic conditions and prosperity (El Hinnawi, 1985, p.4; Myers, 1993, p. 752; McLeman & Smit, 2006, p.33; Adamo, 2009, p.16; Hugo, 2011, p.261). For this reason, human mobility triggered by survival concerns arising from disasters, that can be defined as environmentally problematic (Yurtcanlı Duymaz, 2021, p.73 et seq.), can be conceptualised as 'survival migration' (Betts, 2013), 'crisis migration' (Martin and others, 2004), 'environmentally induced displacement' (Adamo, 2009) or 'environmentally forced migration' (Yurtcanlı Duymaz, 2021). Forced migration due to disasters refers to a variety of demographic movements such as evacuation, flight, displacement, and resettlement, as well as forced migration (Oliver-Smith, 2006). Because of data limitations, disaster-related population mobility studies have analysed all types of movement in a single migration datum (Hauer et al., 2020, p.1438).

Therefore, disaster-induced population movement involves an element of necessity. The element of "necessity" can be defined as "the involuntary (subjective criterion) abandonment of the place of residence due to the lack of favourable conditions to ensure the continuity of life or to satisfy vital needs" in a safe manner or due to the existence of a serious and real risk in this regard (objective criterion) with the urge to survive (subjective measure)" (Yurtcanlı Duymaz, 2021, p.77). This "necessity" is a continuum ranging from planned mobilisation to the last resort of flight (Hugo, 1996, p.107).

Earthquakes, a phenomenon that suddenly triggers a fear of survival, affect the livelihoods and living conditions in the affected area. Individuals, families, and communities must leave their places to survive. Therefore, earthquake-related population mobility tends to be collective and irregular. However, the timing, direction, duration, and subjects of this mobility exhibit variations and differences in each specific case.

The term "migration decision" in a time of crisis means both a decision to move and a location decision. Despite the destructive power of natural disasters, the deterioration of living conditions during sudden catastrophes such as earthquakes is mainly a local phenomenon. Furthermore, individuals, families, and communities facing sudden disasters have comparably less time to make migration decisions (Curtis et al., 2015, p. 1273). Therefore, the population affected by a sudden disaster tends to move within the borders of the country in which they live. The masses tend to migrate to the outskirts of the city where they live, to a neighbouring town, or to another region of the country with an urge to survive (Smith & McCarty, 1996, p.271; Paul, 2005, p.379; Warner & Afifi, 2009, p.72; Curtis et al., 2015, p.1273). Disaster-induced migration is, therefore, not a phenomenon limited to the mobility of those leaving the disaster area. In other words, those who do not leave the disaster area and continue to struggle to survive during and after the crisis but cannot live in their permanent residence are also included in the disaster-induced forced migration movement (Renaud et al., 2011, p.14, 15; Millan, 2015, p.56. For an opposite view, see Ferris, 2014, p.5.). At this point, there should be no other reasonable settlement alternative in the country of

origin for out-of-country migration to be considered within the scope of forced migration (Mayer, 2017, p. 31).

In addition to the frequency and severity of earthquakes, individual adaptive capacity, (Perry et al., 1981; Açıklın, 2017, p.301), socioeconomic status (Stallings, 1984, p.12), capability to access essential public services (Ambrosetti & Petrillo, 2016, p.87), and dependency factors such as family relationships, social relationships, livelihood opportunities, asset status, etc. (Houts et al., 1988), home ownership and long-term residence (Smith & McCarty, 1996, p. 268), hometown ties (Ambrosetti & Petrillo, 2016, p. 84) and the affiliation (Orhan & Keskinok, 2019, p.366) of the affected populations and their preferences between two separate migration systems - evacuation and migration - (Hauer et al., 2020, p.1438) add to the diversity of manifestations of disaster-related forced migration.

Although it has a destructive power, in sudden catastrophes such as earthquakes, vital conditions deteriorate to the extent that they can be repaired. For this reason, the masses tend to migrate temporarily (Renaud et al., 2011, p.14). However, the length of the post-earthquake recovery period and distance can make population mobility permanent. (Smith & McCarty, 1996, p.267). The research has shown that those with greater individual capacity and social capital tend to migrate permanently. By contrast, those who do not have these personal and social capacities are forced to move within the short-distance evacuation system offered by the State (Hauer et al., 2020, p.1453).

On the other hand, post-earthquake migration has processual significance beyond the acute response (Oliver-Smith, 2019; Spitzer et al., 2020; Hauer et al., 2020). Disruption of the energy supply in the earthquake zone, lack of safe access to necessities such as food-water-housing, or the emergence of situations that trigger epidemic risks such as water pollution can lead to the continuation of forced migration mobility after a disaster. After an emergency and acute situation, the availability of vital livelihoods and economic losses may indicate processuality. Furthermore, post-earthquake adaptation problems can trigger new migratory movements.

Table 1 The possible effects of the phenomenon of destructive earthquakes on the mobility of the population can be illustrated in the following scenario (Yurtcanlı Duymaz & Duymaz, 2022: 40)

| | |
|------------------------------------|--|
| Pre-disaster period | Planned evacuation of high-risk residential areas by the governments of the countries |
| Rapid-onset disaster period | As a result of <ul style="list-style-type: none"> - Destruction or severe damage to the permanent dwelling, - Failure of essential infrastructure services, - Failure to meet basic needs such as water, food, and shelter in a safe, adequate, affordable, non-discriminatory, and impartial manner, - The emergence of secondary disasters such as epidemics, - Long-term loss of livelihoods and employment opportunities, - the development of armed conflicts over vital essential resources, Etc. Living spaces become virtually and safely uninhabitable after a disaster. In times of crisis, mobility occurs in two ways: <ul style="list-style-type: none"> - Individuals, families, and groups of individuals leave their permanent residence as far as possible or - Mass evacuation with the intervention of public authorities. |
| Recovery period | Finding a durable solution for IDPs: <ul style="list-style-type: none"> - Return home, - Local integration, - Relocation within the country |

In other words, earthquake-related displacement has a meaning beyond acute mobility. It is necessary to evaluate the relationship between disasters and displacement as a holistic process (Yurtcanlı Duymaz, 2021, p.308). In this context, it is essential to express the State's obligations regarding disaster-induced forced migration using a processual approach.

3. State Protection Obligation in the case of Disaster-Related Forced Migration

The link between disasters and forced migration is a reality recognised by the international community, and this reality has been defined as the greatest humanitarian crisis of the 21st century (Sendai Framework for Disaster Risk Reduction 2015-2030; UN Agenda for Humanity, 2016; 2030 Sustainable Development Goals, 2016; Nansen Initiative, 2015). Regardless of when it occurs and where it originates, a disaster affects the living conditions and livelihoods of children-adults-elderly, women-men, disabled-not disabled, minorities-majorities, citizens-foreigners, black-white, rich-poor, believers-non-believers, regardless of political-apolitical distinctions. Disasters have severe and irreversible consequences for the existence of physical security, human dignity, health, livelihoods, shelter, social, economic, and cultural structures and processes of societies or their sub-units (Fritz, 1961, p.655). Disaster-induced displacement triggered by this destructive impact on fundamental rights and vital needs appears to be an aspect of survival anxiety. Disaster-induced displacement is, therefore, an extension of the right to life (Prieur, 2016, p.131; Counil, 2006, p.1047-1048).

On the other hand, disaster-induced forced migration is one of the indirect and secondary effects of disasters, as it causes permanent economic, social, personal, and property losses. Displaced by disasters may lose all their assets, face safety and health risks, and risk losing their identity, social networks, and culture (Oliver-Smith, 1999). Vulnerable groups with specific protection needs may suffer significantly different and more severe losses (Enarson & Chakrabarti, 2009; Mehta, 2009). This displacement is thus a situation that further exacerbates existing vulnerabilities (IASC, 2011; Sendai Framework 2015-2030) and increases the tendency towards impoverishment (Cernea, 1999). In this context, disaster-induced forced migration is directly referred to as a secondary disaster, as it triggers individual and social destruction and trauma (Oliver-Smith, 2019, p.10). Earthquakes are a primary type of disaster that bring out this secondary disaster effect (Forst, 2010; Ambrosetti & Petrillo, 2016; Thiri, 2017).

Therefore, disasters and disaster-induced migration, which can be defined as a process of significant vulnerability, are considered widespread and severe threats to the enjoyment and realisation of fundamental rights (Kalin, 2005; HRC, 2011; Lavieille, 2012, p.372; CADHOM, 2013; Millan, 2015, p.56; UN International Law Commission, 2016; Mcdermott, 2018, p. 85-87; Yurtcanlı Duymaz, 2021, p.157 et seq.). In other words, this threat to fundamental rights raises the necessity of the State's obligation to protect the security of life and property of individuals (ECHR, Öneriyıldız/Türkiye, 30/11/2004, §71; ECHR, Budayeva et al./Russia, 20/03/2008, §128, 130; ECHR, Kolyadenko et al./Russia, 28/02/2012, §158), which is the most fundamental *raison d'être* of the State in all circumstances (Locke, 1970; Dias & Crawford, 2013, p.142). In this context, the State has a 'duty to protect', which can be expressed as the prevention of disaster risks and the minimisation of damage resulting from disasters.

The State has both negative and positive obligations concerning disasters and disaster-induced displacements, which are widespread and high-risk factors. Negative duty requires the State not to engage in interventions that impede the building and development of individual and institutional capacities to identify the risk of disaster-induced displacement and to reduce and respond to related vulnerabilities. In this context, the existence of situations that impede the right of individuals to be informed about the risk of disaster-induced displacement and the management of the displacement process, or the existence of restrictive practices against organised struggle, which is critical in building resilience in the crisis process, can be considered issues that constitute a violation of the negative obligation.

The positive obligation (for an explanation of the theory of positive obligation, see Boyar, 2013) imposes a duty on the competent authorities to take "substantive and procedural" (ECHR, Öneriyıldız/Türkiye, § 89-118; ECHR, Budayeva et al./Russia, § 131) Positive steps to ensure favourable and adequate protection. In the legal dimension, the State has broad discretion to determine "reasonable" methods and means to fulfil its positive obligation. However, for the

chosen instrument to be considered "reasonable", it must be capable of providing adequate, favourable, and effective protection against concrete dangers and risks. As part of soft law (Counil, 2009, p. 7), The "Guiding Principles on Internally Displaced Persons" (Kalin, 2005), which have been in force since 1998, can be selected as the primary reference standard for identifying rights-based, objective criteria for 'adequacy'. In addition, international policy, and practice recommendations (IASC, 2011) aimed at identifying disaster-related migration risks, assessing needs, and identifying and disseminating good practices in risk and crisis management can also be considered as supporting resources. Finally, the UN Sendai Framework for Action 2015-2030, which deals with positive obligations in the context of the preparatory phase, sets out priorities for action in a political context. In this context, the phenomenon of positive obligation is embodied in a range of activities: from identifying and understanding disaster-related migration risks to assessing them; from establishing the necessary legal and administrative framework to building the organisation that will implement it; from defining emergency and response policies to researching and planning the relevant steps; and from supporting social awareness and implementation through exercises and training to establishing participatory and collaborative migration process management that can be further replicated.

Table 2 Human rights-based requirements of disaster displacement process management in light of the Guiding Principles and the Sendai Framework

| Before displacement | During Displacement | After Displacement |
|---|---|---|
| Preventing the risk of displacement: <ul style="list-style-type: none"> - Principle of non-arbitrary relocation - Principle of last resort Preparing for the risk of displacement <ul style="list-style-type: none"> - Understanding the risk - Collaborative and holistic planning - Investing in risk reduction for resilience | The principle of non-coercion: <ul style="list-style-type: none"> - Evacuation procedures - In temporary accommodation procedures The principle of security of basic needs without discrimination: <ul style="list-style-type: none"> - Adequate standard of living - The right to humanitarian assistance - Positive discrimination in favour of disadvantaged groups | Achieving a durable solution: <ul style="list-style-type: none"> - No space and time constraints (long-term safety and security) - Willingness - Conscious choice - Access to information - Participation and oversight mechanisms - Right to an effective remedy |

The performance and priorities of competent authorities, who have the duty and responsibility to realise individual, social, and institutional resilience, are crucial for the damaging effects of earthquakes. For the purpose of "building resilience in crisis", it has become necessary to answer whether the preparations and relevant legislation are adequate to provide an effective and sufficient protection mechanism for environmental displacement that may occur in Istanbul after a significant earthquake.

4. Preparing for Disaster Related Forced Migration Risk in Istanbul After a Possible Major Earthquake

For a long time, Turkish disaster management focused only on crisis management, and relevant legislation prioritised crisis management concerns. In other words, the Republic of Turkey has limited its disaster protection obligations to crisis management. Although a fundamental law on crisis management has been in force since 1959 (Law No. 7269 on Measures Relating to Disasters Affecting Public Life and Relief Assistance), each crisis requires the adoption of a new legal act. In other words, the legislation on disaster process management and planning is not in a holistic structure and is a set of fragmented and complex rules (Azimli Çilingir, 2019, p.210; Genç, 2021, p.151, etc.). Following the Marmara earthquakes in 1999, the Republic of Turkey adopted a preventive approach to disaster management and gave it a legal and political form (Genç, 2021, p. 279). On 24 February 2022, in addition to 7269, the Regulation on Disaster and Emergency

Response Services established the legal framework¹. The presidential decree enacted the final version of Turkey's Emergency Management Plan (TAMP)². Therefore, the framework for the obligation to provide effective and adequate protection in terms of resilience in a crisis is offered by disaster and emergency preparedness plans, and legal and regulatory provisions.

The TAMP, prepared under the coordination and guidance of the AFAD and expressing the preparatory phase of disaster management at the national level, has adopted a clustering approach and a multi-level governance model (Marks & Hooghe, 2004) in crisis management. It defines the distribution of tasks related to disaster and emergency planning and management at the national level with 26 working groups and assigned responsibilities at the ministry level. The TAMP has also been a reference source for defining roles and duties at the provincial level. The TAMP and the Provincial Disaster Response Plans include "mass and irregular population movements" and "the need for evacuation and settlement" among the main assumptions to be considered during earthquakes. This provision can be described as a very 'limited' but first severe step by Turkish disaster management towards addressing the risk of earthquake-induced migration.

The public authorities' view of the relationship between disasters and migration is limited because the risk of displacement caused by disasters is assessed and dealt with using the concept of "evacuation". The term "evacuation" means an acute and temporary displacement as an emergency solution (AFAD, Glossary of Disaster Management Terms; Article 15(11) of the Regulation on Disaster and Emergency Response Services of 24.02.2022). However, an analysis of national legislation shows that it does not provide for long-term or permanent displacement in the face of disasters, where reconstruction and return may take time, and location decisions may be shaped by human and social capital connections. In accordance with the TAMP, the Istanbul Provincial Disaster Response Plan (ISTAMP) handles the risk of disaster-related forced migration limited to acute mobility.

The Evacuation, Settlement and Planning Working Group conducted studies to understand, assess, and manage the risk of displacement in Istanbul following a possible major earthquake. Concrete steps in evacuation planning could only be taken after 2020 when the Istanbul Provincial Gendarmerie Command was designated as the leading solution partner of the working group. Previously, this planning authority was given to the Istanbul Provincial Directorate of Migration Management, whose expertise, experience, and staff were limited to protecting foreigners and regularising foreign migration. On the one hand, this authorisation gave the impression that forced migration after the earthquake was not considered a real risk factor for citizens. It also led to the conclusion that the criteria of "professionalism" and "expertise" were not included among the indicators measuring the success of planning. The Istanbul Provincial Operational Plan for Evacuation and Settlement was completed in 2021 and can be updated anytime.

Plans for local preparations to ensure the operationalisation of the Istanbul evacuation plan are still underway. Meso-level district intervention plans are prepared using a top-down approach rather than a participatory and collaborative approach that does not subjectivise the variable local needs, existing capacities, and vulnerability levels of local units. While this non-participatory approach keeps local entities limited and secondary in the system (Genç, 2021, p.210), it also risks ignoring their existing institutional and managerial capacities during the preparedness process. Crisis preparedness with this approach does not allow local actors, who have roles and responsibilities in operations during and after disasters, to develop their ability to take authority on the ground (Yurtcanlı Duymaz & Kahveci, 2023, p.15). However, the operational success of emergency and response plans is only possible if each working group distributes authority and responsibility in a fair, open, and equitable manner in its vertical relationship (main support solution partners) (Genç, 2021, p.212; Budak, Kahveci, & Tiryaki, 2022, p. 193).

¹ See the Official Gazette dated 24.02.2022. <https://www.resmigazete.gov.tr/eskiler/2022/02/20220224-31.pdf>.

² See https://www.afad.gov.tr/kurumlar/afad.gov.tr/e_Kutuphane/Planlar/TAMP.pdf.

As far as the quarter-scale is concerned, micro-level preparations have started to be developed, especially after the earthquakes of February 2023. The lack of prioritisation of preparations at the local level indicates a lack of prioritisation in terms of the applicability of intervention plans. At this point, the planning process for managing the crisis phase should evolve into a participatory approach that supports the capacities of all local actors, especially local administrations, and civil society (Genç, 2023, 28).

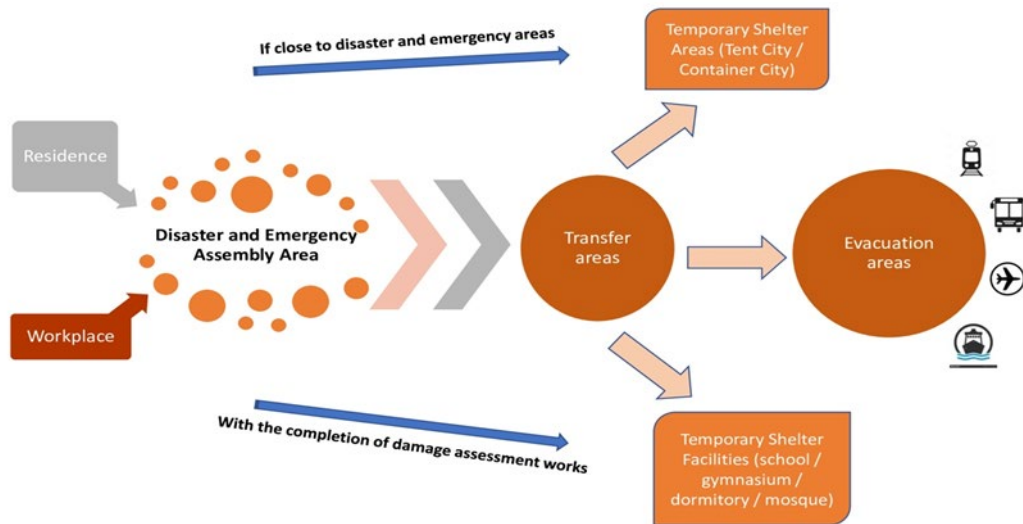


Figure 1 Istanbul Macro Level Evacuation Scheme - The Evacuation and Settlement Operational Provincial Plan 2021

Preparations for the mobility of the population after a disaster in Istanbul focus on evacuation and temporary shelter processes organised by public authorities. Regarding population mobility after a major earthquake, evacuation planning in Istanbul should include citizens who will be sent to other locations within the country and tourists who will be sent to their home countries. The basic limit for those who will act on their own is the rule of not moving for the first 72 hours. Support for these is limited to covering their travelling expenses.

In the Provincial Operational Plan for Evacuation and Settlement, evacuation is conceived as a process to be carried out with the consent of the disaster victims. As a rule, the principle of non-coercion about evacuation and the temporary shelter process after the disaster are included in the planning. However, it has also been noted that, depending on the destructive power of the expected earthquake, evacuation may become a mandatory practice, as it is a solution that supports and facilitates the "response" and "recovery" process.

In line with the principle of meeting basic needs without discrimination, the operational evacuation provincial plan identified persons with disabilities, children, the elderly, and women as priority groups for evacuation. However, the 'irregular foreign population', considered another vulnerable group, is yet to be included in Istanbul's disaster response and operational plans. Furthermore, there needs to be more planning for those needing to remain in Istanbul. The capacity study for assembly areas and temporary shelter needs was conducted based on citizenship criteria. The Sendai Framework for Action, on which the TAMP is based, emphasises risk assessment, especially for vulnerable groups at high risk of displacement. Given the number and density of undocumented people living in Istanbul, there is a severe data gap. This ignoring perspective exposes the risk of dealing with much larger crowds than anticipated in the disaster area during a crisis.

Therefore, social vulnerability analyses must be conducted (Flanagan et al., 2011; Kalaycıoğlu, 2021) while determining the risk status of cities in the face of earthquakes (Thiri, 2017, 213; İBB, 2018). Deprivation and poverty are common causes of social vulnerability that increase vulnerability to disasters (Wisner et al., 1994). To understand and manage the forced migration scenario of a possible major earthquake, a detailed presentation of the state of social vulnerability

in Istanbul is necessary; this is because Istanbul is a vulnerable megacity due to its cumulative subjective conditions such as cultural and historical richness, geopolitical location, dense and overpopulation, cosmopolitan social structure, irregular and rapid urbanisation practices, and its place in the national economy. To understand the risk, the vulnerability data must be accurate and up to date. However, it has been observed that there are deficiencies in the exchange of information between central and local administrations and even within the units themselves during the preparation and planning processes. At this stage, the Law 6698 on the Protection of Personal Data and political concerns were the main obstacles to information sharing. The need for an information network covering the micro level with the flow from the community - local administration - and governorate for possible mass population mobility after an earthquake should also be expressed. It was found that identifying and preparing for risk scenarios in Istanbul is based on estimation rather than data. The need for an information network covering the micro level with the flow from the community - local administration - and governorate for possible mass population mobility after an earthquake should also be expressed.

İSTAMP 2021 has established a set of fundamental principles based on human rights in all planning and response activities related to disasters and emergencies, as well as in the preparation of all relevant working groups. In this regard, the following are envisaged:

- The priority of all activities during and after disasters and emergencies is to save lives, protect human health, and ensure the safety of life;
- Interventions and pre-rehabilitation activities should not involve conduct that violates human rights and offends human dignity;
- The sensitivities of individuals and society will be respected during response and pre-response activities;
- All actors involved in the process are obliged to act by the principles of truthfulness, honesty, and impartiality;
- Individuals must not be discriminated against based on differences such as age, identity, gender, ethnic origin, religion, language, sect, disability status, sexual identity, political opinion, etc., and disaster victims must not be asked to disclose such information (except age and gender for health reasons, religion for burial, disability status for the organisation of special services);
- Priority will be given to vulnerable people (elderly, children, pregnant women, disabled people, etc.);
- Information communicated about the disaster and emergency should be clear, understandable, consistent, and based on concrete facts and data;
- Information should be provided with appropriate frequency, and the language used should consider the sensitivities of both the event and the community affected by it;
- All decisions taken about disasters and emergencies (before, during, and after) should be legal, ethical, impartial, and based on certain universally accepted principles and where appropriate, those making the decision should be accountable to those who will be affected by the decision; therefore, the prerequisite for accountability is transparency and adherence to the principles of the rule of law;
- Channels for individuals to obtain information should be kept open;
- Decisions should be supported as far as possible by documentation, and intervention methods that cannot be monitored and evaluated should not be used.

Although these principles express the possibility of dealing with the forced migration scenario and the management of the possible Istanbul earthquake with a human rights-based approach, it is believed that these principled assumptions will remain adequate and appropriate if they are not supported by a legal framework (Zartner Falstrom, 2002; Cournil, 2006, p.1047,1048; Delmas-

Marty, 2012, p.574; CADHOM, 2013; Prieur, 2014; Zetter & Morrissey, 2014, p.69; Sironi & Guadagno, 2018, p.309; Yurtcanlı Duymaz, 2021, p.313 et seq.). The Turkish Disaster Response Plan 2022, which came into effect on 15 September 2022 with a presidential decree and disaster laws and regulations, did not include these basic principles.

Within the framework of legal and administrative regulations, crisis management is shaped by the priority of the institutional organisation, as can be seen in planning practice. Regulations are either silent on judicial and administrative responsibilities (Genç, 2021, p.195 -215) or are constructed with language that gives practitioners broad discretion and an irresponsible understanding of imposing obligations (Yurtcanlı Duymaz & Duymaz, 2022, p. 44 etc.). This approach makes it impossible to monitor and control whether adequate protection is realised in practice 'fully' and 'without fail' (Kalin, 2005; IASC, 2018; May & Daly, 2018, p.28,29); this increases the risk of severe disruptions at all stages of support and assistance to those affected by disasters in general and those displaced by disasters in particular (Oliver-Smith, 2019).

Table 3 Comparison of all the provisions we have put forward in terms of national disaster legislation with international standards for the protection of people displaced by disasters.

| International standards for building resilience to crises (Guiding Principles on Internal Displacement) | National legislation for crisis resilience (Law No. 7269, Regulation on Disaster and Emergency Response Services, TAMP) |
|--|--|
| Personalised, rights-based process management | State-oriented, institutional functioning, and organisationally-based crisis management |
| The displaced person in a disaster is an active actor in the process. | The victim of a disaster is in a passive position. |
| Diversity, equity, and inclusion in disaster relief | Potential for discrimination in disaster response due to - Uncertainty - Arbitrariness |
| Inclusive positive discrimination in favour of groups at a disadvantage | Positive discrimination in favour of vulnerable groups - limited and discretionary |
| Transparent, participatory process management that can be monitored and audited | Insecure, coercive, and arbitrary crisis management |

The phenomenon of forced migration is a widespread and high-risk factor, and this risk corresponds to a closer and more destructive possibility for the province of Istanbul. However, İSTAMP and the related operational plans (at the macro level) are insufficient about the priority of "understanding the risk of earthquake-induced forced migration in Istanbul", and the relevant legislation is inadequate to provide an adequate protection mechanism for displaced persons. It was noted that the disaster legislation does not show a rights-based understanding and does not contain any significant regulation that provides national-level guarantees for the fundamental rights and freedoms of those who have to leave their homes due to disasters.

5. Conclusion

In terms of disaster and emergency preparedness in Istanbul, it is observed that there is a tendency to become more concrete and increasingly applicable in provincial planning. This dynamic planning approach and preparation process shows that the preparations against possible earthquake hazards are open to improvement to achieve more effective and efficient results (Genç, 2021, p.239 et seq.). However, a change of approach is essential for this improvement.

In this context, firstly, 'law' must be seen as one of the most fundamental tools for ensuring resilience in crisis. To this end, a legal framework supported by mechanisms to protect fundamental rights and freedoms is essential for those displaced by disasters. In order to answer the question of how these people can benefit from practical and adequate legal protection, it is essential to determine the protection status of those who have to leave their permanent place of residence due to disasters (Kalin, 2005; Biermann & Boas, 2008, 2010; Docherty & Gianni, 2009; Prieur, 2012; Sironi & Guadagno, 2018; Yurtcanlı Duymaz, 2021).

Second, it is necessary to interpret the concepts of disaster-related forced migration scenario and displacement risk broadly from a “community-based disaster management perspective” (Kadioğlu, 2013). Understanding, planning, and managing the disaster-related forced migration scenario is not limited to managing acute and temporary mobilities during the crisis. On the other hand, prioritising life-saving acute evacuation practices instead of realistically understanding and trying to prevent the risk of disaster-related displacement points to a reality that increases the risks of permanent forced migration itself (Ginnetti, 2015).

In particular, the economic and social consequences of prolonged displacement have a significant impact on a country's ability to achieve its overall development goals (Oliver-Smith, 2019; Spitzer, et al. 2020). A destructive earthquake can change the economic, social, and demographic structure of the place where it occurs. It also has the potential to transform the demographic, social, economic, political, and urban fabric of a country due to the strategic location of the disaster area (Spitzer et al. 2020). This determination points to a significant risk, especially about the earthquake that awaits the megacity of Istanbul. Although the probability of a devastating earthquake is very high, a long-term migration strategy has yet to be defined for Istanbul at the national and local levels; this is a failure to fulfil the obligation to protect.

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Resume

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