JOURNAL OF DESIGN FOR RESILIENCE IN ARCHITECTURE & PLANNING

Research Article
Online: www.drarch.org
Volume 5, Special Issue (18-30), 2024
DOI: 10.47818/DRArch.2024.v5si3147

An integrated and inclusive methodology for municipal resilience against multiple crises

Ervin Sezgin[*]
Burcu Özüpak Güleç[**]
Sezin Üskent[***]
Metehan Gültaşlı[****]

Abstract

This article seeks to explore flexible approaches to integrating resilience into urban governance. With this perspective, it evaluates the transformation of RESLOG- Türkiye Project's resilience assessment methodology, developed to access local governments' resilience against Syrian migration, into a holistic approach to access the impacts of 6th February earthquakes on local governments. The article gives background information about the project and the resilience assessment method, then explains in detail the earthquake adjusted version and elaborates its implementation over the case study conducted for Mersin Metropolitan Municipality.

Keywords: municipal resilience, resilience assessment, RESLOG, Mersin

1. Introduction

Resilience has been a key term of urban planning and governance for decades, mainly describing the capacity of a system to absorb shocks, adapt to changing situations and rebuild (Lewis, 2020). The resilience approach (or resilience thinking) proved to be useful in urban planning and governance, especially in the context of disaster preparedness and response, when integrated to planning of urban systems with a wholistic approach comprising ecology, built environment, economy and society (Mehmood, 2016). However, it is not only disaster-response. In the complexity of today's world, resilience thinking has become a key planning and governance approach to respond to multiple challenges (Ascott & Kenny, 2019).

Consider the case of climate change. It poses multiple challenges to human societies, first coming as the increase in the frequency and severity of natural disasters, including rise of sea levels, floods, tornadoes and droughts (Desouza & Flanery, 2013). As these become the norm rather than an exception, they trigger other shocks such as climate migration, destruction of crops, famine, collapse of energy and transport networks, etc. (Warner, 2010). On top of this, one can add other natural and man-made shocks, such as strong earthquakes, war and political instability, oil leaks, air pollution, nuclear disasters, and so on.

Hence, being resilient, which, in a nutshell, means being prepared and having the capacity to respond to multiple shocks, adapt to the changing conditions and thriving in the new context, inevitably becomes an integral part of urban governance and planning. It does not only mean disaster preparedness but being able to survive in a world where city governments continuously face multiple shocks.

An important aspect of resilience planning is its flexibility. While it is possible to take a wholistic approach and integrate resilience in comprehensive urban master plans, it is also possible to focus

*(Corresponding author), Dr., Marmara Region Local Governments Consultant, RESLOG, Türkiye, ervinsezgin@gmail.com
**National Project Manager, RESLOG, Türkiye, burcu.ozupak.gulec@salarinternational.se
***Development & Governance Expert, RESLOG, Türkiye, sezin.uskent@salarinternational.se
****Freelance Consultant & Urban Planner, Türkiye, metehangultasli@gmail.com
Article history: Received 28 November 2024, Accepted 14 December 2024, Published 31 December 2024

on an organization (e.g. a local government) and improve its resilience against a specific shock (Revel, 2018). This article introduces the resilience assessment methodology (Gültaşlı et al., 2021a) developed by the RESLOG- Türkiye Project in the context of increasing Turkish local governments' resilience in the face of Syrian migration crisis. This is an example of the second type of resilience planning, focusing on organizational improvement. However, the local governments, who were trying to cope with the Syrian migration crisis since 2015, were hit by Covid-19 Pandemic in 2020-21 and some of them were severely damaged by the devastating Kahramanmaraş and Hatay earthquakes in the beginning of 2023.

Municipalities had to face these multiple shocks and adapt to changing context. Two of these municipalities (Mersin and Kahramanmaraş Metropolitan Municipalities), with the support of the RESLOG- Türkiye Project adapted the resilience assessment methodology in the context of earthquake and migration for this purpose. These experiments opened a new window on using flexible approaches to urban resilience that can be adjusted and adapted to changing situations emerging from multiple shocks.

The article proceeds with introducing the RESLOG Resilience Assessment Methodology and its context. The following chapter elaborates how this methodology is adapted to the changing context when these cities were hit by the earthquake. The last chapter discusses the perspectives on using flexible assessment methodologies to increase the resilience of local governments in the face of multiple crises.

2. The RESLOG-Türkiye Project and the Resilience Assessment Methodology

Resilience in Local Governance[1] (RESLOG) is funded by the Swedish International Development Cooperation Agency (SIDA) and implemented in two countries, that have faced serious challenges from the migration resulting from the crisis in Syria: Türkiye and Lebanon. In both countries, the project focuses on local governments rather than the refugees. It aims to strengthen municipal resilience in the face of Syrian migration, which in turn is expected to result with improved and inclusive municipal services that increase the quality of life of all.

The project started in 2019, when the number of Syrian refugees in Türkiye reached to its peak. They were settled in urban areas, striving to integrate to a new country and a new life and use municipal services, ranging from waste collection to culture and social support. Some municipalities faced a rapid population increase (a shock) reaching hundreds of thousands in many cities, that disrupted their capacities to provide adequate services.

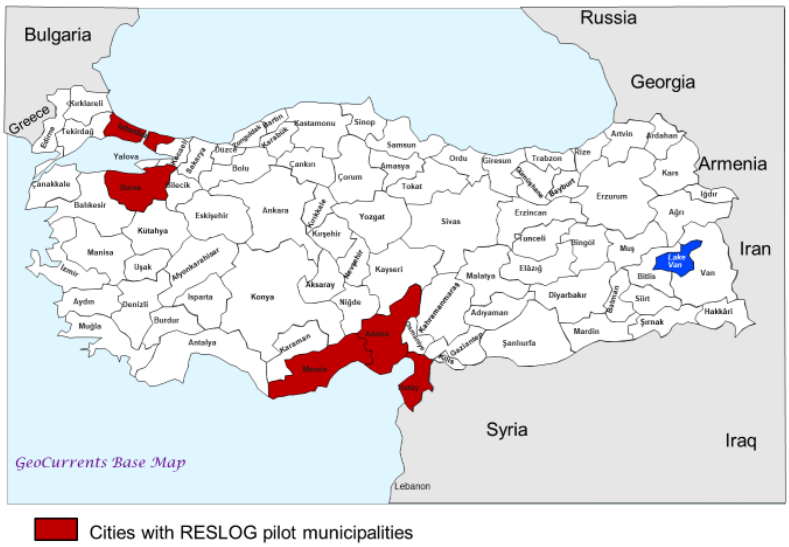

Figure 1 Cities with Reslog municipalities

[1] https://www.reslogproject.org/en/homepage/

The Türkiye component of the project (RESLOG- Türkiye) started by developing a resilience assessment methodology to analyze the impact of severe migration on municipality services (Gültaşlı et al., 2021a). For this purpose, based on the Turkish Municipal Law and the international experience of migration receiving cities, 39 municipal service areas are identified. These comprise all the municipal works and services that might be affected from the Syrian migration and additional service areas that could have emerged to respond the migration (such as receiving immigrants). Then municipalities' related departments were asked to assess how their work has been affected in these service areas after the start of Syrian migration over a scale of 1 to 5. A second question was how successful they were in responding to these impacts (e.g. ability to allocate staff and space to meet the additional demands in health services). Third, a basic checks and balances analysis was performed to analyze in which service areas the municipality can meet the demands, hence is resilient and where resilience is relatively low. This resilience assessment leads to identification of priority areas for intervention: service areas that underperform the most are selected as priority areas. Finally, the goals, strategies and actions are identified for priority areas to complete the MMP (Gültaşlı et al., 2021b).

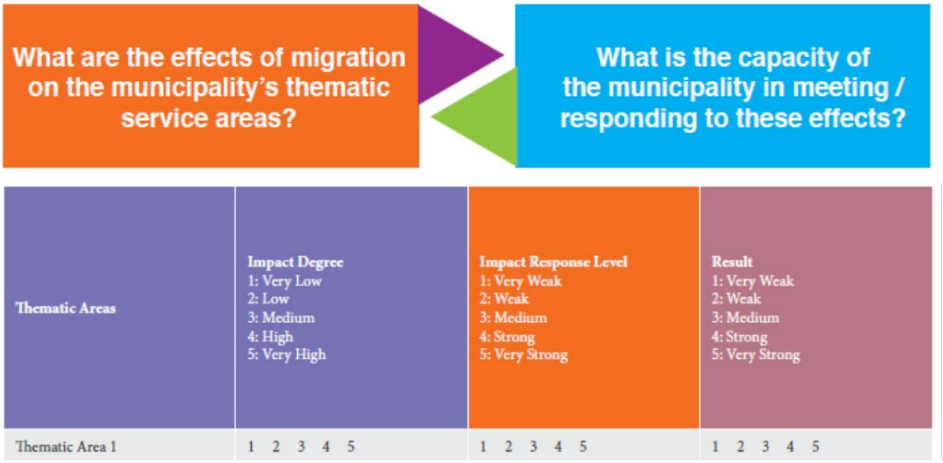

Figure 2 The main steps of RESLOG resilience assessment methodologies

This structure is an example of organizational level resilience planning. It has a specific focus, based on two key questions. Resilience of whom (local governments in Türkiye), and resilience against what (Syrian migration). The implementation of this methodology resulted with development of Migration Master Plans in 13 municipalities in Türkiye, which in turn resulted in development of target-oriented interventions to increase municipal resilience and provide inclusive services in these cities.

When the devastating earthquakes hit the Southern cities of Türkiye in February 2023, (including Hatay, Kahramanmaraş and Gaziantep), RESLOG- Türkiye municipalities re-utilized the resilience assessment tool, this time in a different context. Based on the resilience assessment and migration master planning experience, with the support of RESLOG- Türkiye, the methodology was revised to cover two shocks together: migration and the earthquake. The following chapter explores how the resilience method, developed in the context of migration evolved to cover multiple and interrelated shocks.

3. Adaptation of the Resilience Assessment Method to the Earthquake Context

In February 2023, three consecutive earthquakes hit the same region of Türkiye. The first two were in Kahramanmaraş, in the same day (06 February) with the magnitude of 7.7 and 7.6 Mw, On 20 February a third earthquake with magnitude 6.4 Mw hit Hatay. Their effect was immensive. At least 48.000 people died in the region comprising of 11 cities and more than halve a million of buildings were damaged (Presidency of Strategy and Budget, 2023). Kahramanmaraş, Osmaniye and Hatay were RESLOG- Türkiye project municipalities that were hit most severely from the

earthquake. There was not severe destruction in Mersin, another RESLOG municipality, however being in the vicinity of the region, the city received enormous migration from the earthquake area.

Figure 3 The cities affected by the 6 February earthquakes (Source: https://www.trthaber.com/haber/turkiye/kahramanmarasta-74-buyuklugunde-deprem-76-kisi-yasamini-yitirdi-743723.html)

More than 14 million citizens and 1.8 million Syrians under temporary protection live in the region. According to IOM, 2.7 million were displaced after the earthquakes (IOM, 2023). Following the emergency response, including search and rescue, providing immediate humanitarian aid and shelter during the first months, local governments shift their interests to recovery and adaptation to the new situation, including assessing the impact of earthquakes to their organizational structure. Although the timeframe did not allow for a comprehensive planning process, the RESLOG resilience assessment framework was quickly adapted to the needs of municipalities.

The Earthquake Component of the RESLOG- Türkiye was developed in response to this need. It was shaped with the idea of contributing to the community-based inclusive recovery process, with the aim of increasing the adaptation and transformation capacities of municipalities and defining the most urgent investment priorities. The resilience assessment methodology was adjusted to the new situation.

The new methodology was developed to consider multiple shocks (earthquake and migration in this case) and implemented in two versions. For 9 cities, it was implemented in a limited way to consider the social services of municipalities and for two cities (Mersin and Kahramanmaraş) it covered all municipal service areas. This differentiation had practical reasons, the timeframe for RESLOG technical support to municipalities was limited and did not allow to conduct a full assessment in all cities. Kahramanmaraş and Mersin Metropolitan Municipalities were chosen on the basis that they represent the direct and indirect effects of the earthquake.

The remainder of this chapter will describe the method of the adapted version of the resilience assessment methodology and briefly review how it was implemented in Kahramanmaraş and Mersin.

3.1. Adjusting Resilience Assessment in the Face of Migration to Multiple Shocks

The new methodology has four main steps, Impact Assessment and Response Analysis; Target Groups' Needs-Assessment; Determination of Investment Priorities; and Financial Assessment.

Impact Assessment and Response Analysis

Impact assessment and response analysis includes 3 sub-analyses. The first is the "Impact Assessment" study, which helps to understand how and to what extent all urban services provided by the municipality are affected by the 6 February earthquakes. The second is the "Impact Response Analysis," which measures the capacity of the Municipality to respond and react to these impacts.

The third is the "Resilience Development Analysis." These steps follow the same resilience assessment method, developed in the context of migration and described above.

Through the Impact Assessment and Response Analysis, the municipality's urban service-delivery capacity, including its institutional structure, has been comprehensively analyzed in different thematic areas and on the basis of different target groups. In each thematic area, a retrospective analysis was conducted for all activities carried out by the municipality in the post-earthquake period. In the process of regaining and/or improving service functions, priorities have been identified. The analysis provided a basis for self-assessment of the municipality's organizational structure, service infrastructure, and the range of urban service areas provided by the municipality. The Impact Assessments and Response Analyses were conducted in the form of face-to-face interviews with Municipality officials, and served to identify the areas where the Municipality is weak or strong, where it has high resilience, or where it needs to improve.

Target Groups' Needs-Assessment

Within the framework of the Service Beneficiaries Needs-Assessment Analysis, focus group meetings were held with the main social groups benefiting from urban services. Within the scope of the analysis, face-to-face interviews were also conducted with representatives of local non-governmental organizations (NGOs) and national and international relief and empowerment organizations. The project group worked closely with local partners and networks to identify the relevant stakeholders in each city. Focus-group meetings and key-informant interviews provided a platform for stakeholders to share their views and demands regarding the urban services and infrastructure across the Municipality.

Target Groups' Needs-Assessment was done in the form of focus group meetings, organized for women, youth, persons with disabilities, and refugees. Information about how the earthquake service beneficiaries' current needs, and post-earthquake service expectations was discussed and assessments of the municipality's service areas were evaluated during the meetings. The information received has guided the definition of medium- and long-term inclusive recovery initiatives and investment priorities and scopes in the service areas of the municipality. Needs-analyses for the target groups of children, retirees, and the elderly were conducted through focus-group meetings and interviews with advocacy groups and/or representatives of civil-society organizations.

Determination of Investment Priorities

The determination of Investment Priorities was performed in two stages. First, a study on "Matching of Supply-Demand Findings" was carried out to compare services that are considered necessary to be developed by the Municipality (supply-side assessments) with the demands of service beneficiaries (demand-side assessments) and to identify overlapping issues. These desktop studies have been effective in defining the framework of initiatives and investments that will be the most effective, will ensure an inclusive recovery after the earthquake, meet service delivery with service demand, and accelerate the recovery process through investments.

The second stage of Determination of Investment Priorities is the "Verification and Prioritization Workshop." Municipality officials, focus-group meeting participants, representatives of civil-society organizations, representatives of advocacy groups and local government actors attended these workshops. The workshops, where validation and prioritization assessments of the findings were made, established the framework of investment priorities that will form the basis of financial analyses determined by consensus.

Financial Assessment

The Financial Assessment phase consists of three sub-stages. In the first stage, preliminary studies were carried out by project experts in line with the findings of the validation and prioritization workshops. In this context, in accordance with the findings of the workshop, a project

investment factsheet was developed to increase the efficiency of the interviews with municipal authorities.

In the second stage, interviews were conducted with municipal authorities. In these interviews, final assessments were made on the service demands and service-infrastructure needs raised in the workshops. Municipal focal points for the investment priorities and the functions to be undertaken were determined.

In the final stage, in line with all the evaluations, the investment-priority projects' final factsheets, which include the location of investment, urban service functions to be undertaken by implementing the investment, cost magnitudes of the investment, and other guiding information were prepared.

As a part of the resilience framework, the following principles were set to guide the priority identification process:

- Sustainability: Considering the long-term environmental, economic, and social impacts of investments, maximizing their positive impacts on future generations. Investments should serve more than one purpose, apply a multifunctional approach, and thus reduce environmental impacts, increase economic efficiency, and meet the needs of a wide range of users.
- Gender Equality: Taking gender equality as a basis in all stages of investments and ensure that investments contribute to everyone's, especially women and girls' access to equal rights and opportunities, equal representation, and participation.
- Participation: Ensuring the active participation of all relevant parties and especially different communities affected by the earthquake in the planning and implementation processes of investments and in developing projects in line with the needs and expectations of the parties.
- Accessibility and Inclusivity: Designing investments to facilitate access to services, places, and information for all individuals.
- Resilience Development: Investments should contribute not only to post-earthquake recovery but also to increasing the resilience of communities to unexpected events and shocks, including risk reduction and early warning. Investments should be able to adapt/adjust to evolving social, economic, and environmental conditions over time.
- Conflict Sensitivity: Designing investments in a way that does not trigger ethnic, religious, sectarian, class, and similar identity-based conflicts, and prioritizes practices that promote peace and social cohesion.
- Sensitivity to the Local Context: Shaping investments in line with the values and needs of different local cultures.

Overall, these steps aimed to contribute to the municipalities' planning processes and form the basis for the municipality to benefit from potential funds and external resources.

3.2. Implementation of Resilience Assessment in Mersin in the Context of Migration and Earthquake

This section, will present briefly, how the methodology was implemented in Mersin, for Mersin Metropolitan Municipality. This example is chosen as it is illustrative on implementing the resilience assessment methodology in the context of multiple shocks that do not destruct, but severely disrupt the functionality of the city.

In Mersin, the earthquakes did not cause any loss of life or property. The most obvious impact Mersin faced due to the earthquake is migration. Mersin was one of the primary destinations for those living in the earthquake region and experienced a sudden and high wave of migration that was impossible to be prepared for. The city received a significant number of internally displaced persons, on top of more than 200.000 Syrian refugees already residing in the city. Mersin Metropolitan Municipality estimates the city's pre-earthquake population (~1.9 million) raised by

half and reached to almost 2.6 million. While a large part of this extra population is expected to return to their hometown when being able to reach to a temporary or permanent shelter, a significant part is expected to remain in the city, too. In both cases, the metropolitan government faced the challenge of providing shelter and basic services; as well as developing resilience to respond to massive migration that occurred twice in the past 10 years.

Many of the people who migrated to Mersin after the earthquakes preferred to settle with their relatives who had already been residing in the city. However, a significant population with housing problems needed to be provided with services.

All facilities with accommodation infrastructure, all service infrastructures that can be transformed into temporary accommodation areas and second-housing areas were used for this purpose. During the process, several services, especially food, were provided to all groups who needed temporary shelter and could not enter their homes.

In this context, the updated resilience assessment methodology was used to identify the most affected municipal service areas, the immediate responses and suggestions for improvement based on the needs assessment and focus group discussions.

Municipal Service Area: Organizational Structure

Impact

- In the first days after the earthquake, Mersin Metropolitan Municipality slowed down or suspended all non-emergency services and deployed its personnel to take part in relieving the chaos in the city and neighboring centers.
- The municipality rotated its personnel to help the devastated areas. As a result, fewer personnel were available to meet the increased workload in the city.
- Municipality officials stated that they were not prepared for a disaster of this scale. It was stated that the burden brought by the increase in population caused them to take part in jobs that they are not specialized in.
- Thanks to the Migration Master Planning experience acquired within the scope of the RESLOG- Türkiye project, social services were able to adapt to the post-earthquake migration in a short time.
- Many budget items, including for social services, were subject to mandatory changes due to the earthquake.
- Because a significant portion of the municipal budget was allocated to the works carried out in those regions severely affected by the earthquake, neither the infrastructure investments the city needed nor its equipment requirements could be met.

Response

- The municipality building had been found to be weak before the earthquake and had been evacuated and moved to a new location. This prevented major disruptions in service delivery after the earthquake.
- Before the earthquake, preparations were made for the establishment of the Department of Earthquake Risk Management and Urban Recovery, and the Disaster Coordination Centre started to work on disaster preparedness, emergency response, sheltering, and reconstruction. In this process, a scientific and advisory board consisting of academicians and experts was formed. Citizen participation was ensured by organising workshops. This facilitated the management of the post-earthquake process.
- On the first day of the earthquake, Mersin Metropolitan Municipality established a Crisis Centre, which ensured the coordination of all municipal departments.
- Information on municipal services was provided via social media and billboards, while cooperation was ensured with mukhtars and local staff.

Proposals for Improved Resilience

- A comprehensive action plan for disaster situations is needed.
- It is necessary to improve the data storage and processing capacity of the Disaster Coordination Centre and to establish a Safe House and Cloud Systems where city data can be stored without suffering damage.

Urban Infrastructure and Environment

Impact

- The earthquake showed that there are problems in storing large quantities of aid materials.
- The city draws 72% of its water from the Berdan River and the rest from approximately 1000 different surface and groundwater sources. In addition to meeting the increase in water demand, maintaining water quality is a significant challenge for the municipality. The costs of providing high-quality and uninterrupted service have also increased significantly with the increase in demand.
- Although, he city's wastewater infrastructure was prepared to meet the demand of 2030 population projections, the projected population has already been reached because of the post-earthquake increase in inhabitants. The installation of packaged treatment systems in settlements with seasonal increase has been an important solution for the sudden population increase after the earthquakes, even if the need for these systems has further increased since then.
- There was a 15.6% increase in the amount of solid waste with the arrival of the earthquake-affected population.

Response

- Municipality experts started to analyze the social-housing models of various countries to understand and respond to housing problems caused by population growth.
- In order to meet the city's increasing water demand, all facilities were operated at maximum capacity. Changes in investment priorities were added to the agenda in order not to reflect price differences to the public.

Proposals for Improved Resilience

- Waste management has become a major problem after the earthquakes. It is beneficial to increase package treatment systems especially in wastewater management.
- The following approaches for ensuring effective utilization of drinking and utility water resources should be put into practice:
- Installation of infrastructure for utilizing discharge water, especially for irrigation purposes;
- Strengthening the infrastructure for the elimination of leakage-loss problems;
- Strengthening the effective management of the infrastructure system by transferring it to a GIS (Geographical Information Systems) environment.

Urban Services

Impact

- Following the earthquakes, it was observed that the existing gathering areas were insufficient. It was observed that people who went to the beach in panic did not know where to go in light of the tsunami risk warning. It was understood that this situation caused new conflicts.

Response

- After the earthquakes, services such as showers and laundry were provided with the support of the private sector.
- Efforts have been initiated to raise awareness on the use of bicycles as the main means of urban transport and to persuade employers to encourage their employees in this direction.

Proposals for Improved Resilience

- Municipal officials stated that to be more prepared for disasters, municipal staff and the public should be informed and trained to deal with disasters.
- In disasters such as the floods and forest fires experienced in the city, the fire brigade has inadequate personnel and equipment. This situation has also affected the response process and needs improvement.
- Although there has been no demolition in Mersin due to the earthquakes, the need to analyse the risk of destruction has emerged. Urban macro-form that does not develop according to climatic characteristics leads to infrastructure problems, floods, and inundations. Especially with the increase in the effects of climate change, planning should prioritise a focus on events such as floods, inundations, mass movements, rockfalls, and forest fires.
- Regarding the port and airport-connection roads, municipal works should be carried out only after consideration of not only seasonal increases but also disasters and other risks. In this context, either a ring road should be constructed or alternative solutions should be investigated.

Economic Development

Impact

- After the emergency relief and response period, qualified craftsmen and labourers working in Mersin went to the earthquake zone. This situation revealed the fact that various jobs, including electrical work and welding that were required in Mersin had to be performed mostly by migrants.
- It has been observed in post-earthquake Mersin that migrants largely have met the need for intermediate labour, but it is understood that this situation has also raised the issues of precarious employment, low income, and unregistered work.

Response

- Mersin Metropolitan Municipality has been working to meet the employment needs of the post-earthquake population and to improve the employment environment for the city's residents.
- Vocational Training Centres offer various courses to city residents of all ages. These courses have also been opened to the earthquake-affected population.

Proposals for Improved Resilience

- Tradesmen have difficulties in finding intermediate staff, especially apprentices to work as cobblers, while florists and plumbers are unavailable. On the other hand, courses such as cookery and pastry-making receive more applications than their capacity. To meet the increasing need for intermediate staff after the earthquakes, vocational training should be expanded/developed in the needy areas.

Social Development

Impact

- In Mersin, there are various municipal centres that provide services to all target groups. Among these, neighbourhood centres, therapy centres, reading rooms, and guesthouse service centres stand out. These centres were used as a focal point for meeting basic needs after the earthquakes.
- The municipality provides personal-care services for those in need in remote districts. The need for this service has increased in the post-earthquake period.
- Children's workshops organised by the municipality provide services such as daycare centres, kindergartens, and science workshops. Although these workshops were not

affected by the earthquakes, there has been an increase in demand and need due to the population increase.

- In Mersin, the municipality has services for young people; these include youth camps, reading halls, laundry cafes, student dormitories, scholarship support, support courses for formal education, health seminars, nature walks, and psychological counselling. Although these activities were not physically affected by the earthquakes, they were heavily used due to the population increase afterwards, and services in some units were suspended.

Response

- Round-the-clock reading halls serving tea and coffee have been put into service to respond to the need for shelter and relaxation areas during the earthquakes.
- Following the emergency response and relief process, morale-building concerts and theatre performances were held in the city. A concert by Hatay Civilisations Choir was organised, the proceeds of which were donated to the disaster victims.
- The municipality science bus, which is used to organise the science workshops for children, was used for activities in the areas where earthquake victims stayed.
- The health seminars programme prepared for children before the earthquakes was changed, with a focus on hygiene and sanitation.
- During the emergency relief and response period, municipality's camping area and dormitory units were used to meet the shelter needs of those affected by the earthquakes. Laundry cafes, where students could wash clothes and spend time free of charge, were also opened for the use of these disaster victims. In this process, the increasing need for equipment and consumables was met from the municipal budget.

Proposals for Improved Resilience

- Cultural centres in the city are being planned as large-scale areas. However, there is also a need for cultural centres at neighbourhood scale.
- The establishment of an inclusive and multilingual post-disaster counselling centre will be effective in solving the problems faced by disaster victims.
- Parks and coastlines are used effectively by all users, not only as open green spaces but also for sociocultural, sport activities, and various other events and festivals. Arrangements are needed to ensure the multifunctional and flexible use of these areas.
- Multipurpose social centres that can provide social and cultural activities, health screening, awareness-raising training on various issues such as violence prevention and psychosocial support services should be expanded.
- In Mersin, where many foreign nationals live, integration between migrants and local people is limited. Activities should be carried out to support mutual harmonisation. Municipal services should be multilingual and provided with an inclusive perspective.

Roadmap for Mersin Urban Service Functionality

In all participatory evaluations carried out in Mersin, it is observed that different target groups have different service expectations and that service demands have increased with the surge in population. Meeting the multifaceted effects and needs created by the rapidly increasing population and cultural diversification in Mersin is important in terms of comprehensive urban recovery.

The information obtained from participatory meetings and face-to-face interviews was used in determining Mersin's investment priorities. All investments proposals resulting from the resilience assessment were consulted on with the municipal authorities. Some of the investments had been programmed or already initiated. These were eliminated and the final priority list was established.

The remaining investment priorities focus on areas that will contribute to the social recovery process, eliminate critical urban service infrastructure deficiencies, elevate the efficiency and effectiveness of urban services, prepare the ground for ensuring environmental sustainability and

protecting public health, create a coordination structure, enhance operational capabilities, develop institutional service capacity, and create a basis for holistic and integrated evaluation.

In total 9 investment proposals were completed, including justifications for the project in terms of increasing municipality and/or city resilience, strategic factors for success, details on project location, area, building functions and rough budgets required form investment implementation.

Below is a selection of these investment priorities, to give an idea on resilience assessment results.

- The Mersin Disaster Affairs Department Organisation and Coordination Centre

The Centre will be the first step in the establishment of a resilience campus. It will coordinate municipal responses to disasters in the future, including storing emergency materials and keeping safe critical data. It will strengthen the organizational capacity of the municipality to respond to multiple shocks.

- Children and Youth Camp

The Children and Youth Camp, through its social, cultural, and recreational activities, will especially and primarily contribute to increasing the access of vulnerable groups to such opportunities and improve their quality of life. The camp will also be ready to provide services in times of disaster and/or risk, using its multifunctional infrastructure.

- Installation of Advanced Treatment Units for Mezitli Wastewater Treatment Plant

The advanced treatment units will be used for treating wastewater for agricultural purposes The investment will be an important step for achieving water sufficiency, which has become a critical issue as the population increases. It will contribute to effective use of water resources, food security and safety, and developing the total resilience of Mersin.

4. Conclusion

This article seeks to demonstrate how flexible approaches to urban resilience can be adapted to multiple shocks and contribute to strengthening the urban governance processes in a city. The focus was on resilience of municipal management, hence on increasing organizational capacity and resilience of local governments that face multiple shocks. This focus also makes the resilience assessment a generalizable approach. A local government's capacity to provide services can be vulnerable to multiple shocks. Local governments can benefit from this analytical framework and tool for systematic assessment to assess the impacts of multiple shocks to their services.

The methodological adaptation was based on transforming the resilience assessment methodology developed to strengthen municipal resilience against Syrian migration to respond to multiple shocks/ challenges caused by the 6 February earthquakes. The key change was not only to shift the context from migration to earthquake, but also to initiate a city-wide, participatory decision-making process.

While defining investment priorities for community-based inclusive recovery, a wide range of target groups were defined, and interviews were conducted using various methods considering local sensitivities. During this process, interviews with municipal authorities, focus group meetings with city residents representing different social service target groups, interviews with local, national and international civil society organizations contributing to the post-earthquake recovery process were conducted, and views with local government stakeholders were exchanged. Verification and prioritization workshops, to which all target groups were invited, were used as an effective practice in making joint decisions based on consensus and defining investments that would accelerate the recovery process.

The emerging priorities reflect the results of participatory dialogues and showcase the importance of participation to decision making. In this way, 'unexpected' actions could be

integrated to decision making. The investment priority on building of the Children and Youth Camp is an illustrative example. Although it may not seem like a project directly related to responding to shocks and crises, the participatory dialogues revealed that such centers take crucial roles in immediate response to shocks by transforming their functions for emerging needs, and later to provide key services to particular social groups, hence increase social resilience.

Acknowledgement

This article is based on the research conducted for the "Post-Earthquake Inclusive Urban Recovery" component of the RESLOG- Türkiye Project. The authors are grateful for the invaluable support of SIDA to this research.

References

Ascott, K., & Kenny, M. J. (2019). Addressing the complexities of resilience in urban design and planning. *Town Planning Review, 90(5)*, 473-479. https://doi.org/10.3828/tpr.2019.30

Desouza, K. C., & Flanery, T. H. (2013). Designing, planning, and managing resilient cities: A conceptual framework. *Cities*, *35*, 89-99.

Gültaşlı, M., Özden, M. S., Sezgin, E., Çopuroğlu, M. A., & Tuçaltan, G. (2021a) Resilience assessment in the face of migration. *A guidebook for municipalities*. https://www.reslogproject.org/download/4378/?tmstv=1724976309

Gültaşlı, M., Özden, M. S., Sezgin, E., Çopuroğlu, M. A., Tuçaltan, G., & Tosun, Z. (2021b). *Migration master plan a guidebook* forlocal *governments*. https://www.reslogproject.org/download/4376/?tmstv=1724976277

IOM. (2023). 2023 earthquakes displacement overview - Türkiye. https://reliefweb.int/attachments/a064c286-3a66-4520-8848 08d988b3fbc0/2023%20Earthquakes%20Displacement%20Overview.pdf, last access 01.12.2024.

Lewis, D. (2020). *The concept of resilience: Emergence, evolution and operationality: An urban resilience guideline*. https://www.reslogproject.org/download/4374/?tmstv=1724976237

Mehmood, A. (2016). Of resilient places: Planning for urban resilience. *European Planning Studies*, Vol *24*(2), 407-419.

Presidency of Strategy and Budget. (2023). The 2023 Kahramanmaraş and Hatay earthquakes report. https://www.sbb.gov.tr/wp-content/uploads/2023/03/2023-Kahramanmaras-ve-Hatay-Depremleri-Raporu.pdf, last access 01.12.2024.

Revel, B. (2018). Strengthening municipal resilience in response to the impact of the Syria crisis in Turkey. *UNHCR 3RP plan*. https://www.undp.org/turkiye/publications/strengthening-municipal-resilience-response-impact-syria-crisis-turkey, last access 01.12.2024.

Warner, K. (2010). Global environmental change and migration: Governance challenges. *Global Environmen tal Change*, *20*(2010) 402-413.

Resume

Ervin Sezgin has a PhD in urban and regional planning from Istanbul Technical University. He taught at the same university at masters and undergraduate levels between 2014 and 2018. Meanwhile, he served as urban governance and planning specialist for UN Habitat, the Turkish Ministry of Environment and Urbanism, development agencies and local governments in Turkey. As a part of his work, Ervin prepared various technical and policy advice reports and wrote academic research papers. He is a team member of the Resilience in Local Governance (RESLOG) Project, which is applied in collaboration with Swedish Association of Local Authorities and Regions (SKR) and the Union of Municipalities of Turkey, Marmara Municipalities Union and Çukurova Municipalities' Union. His publications and professional interests focus on international migration, urban governance and regional policies and politics.

Burcu Özüpak-Güleç the Country Representative of SALAR I and Project Manager for RESLOG, graduated from Mimar Sinan University and earned master's degrees from Marmara University and Mimar Sinan University. She completed postgraduate studies at Kent University, UK. Burcu has made significant contributions to planning and local policymaking, coordinating Istanbul's Regional Plans and directing the Istanbul Vision 2050 Strategy Document. She has expertise in participatory processes, governance, sustainable and inclusive development, local economic development, migration policies, and local governments, with over 19 years of experience in urban planning, development, and governance projects.

Ms. Sezin Üskent is a development & governance expert with 25 years of experience, has worked on various international projects funded by EU, UN, SIDA, and World Bank in Turkey. Her expertise includes decentralized development policy planning, governance, strategic planning, social policies, and citizen involvement. She has contributed to projects such as Turkey's first Twinning Project, setting up Development Agencies, and preparing strategic plans for socio-economic integration. Sezin has collaborated with ministries, municipalities, development agencies, NGOs, and universities, and has supported citizen assemblies and platforms. She holds an MSc in International Urban Planning and a Bachelor's in City and Regional Planning.

Metehan Gultasli is a freelance consultant/urban planner, having 20 years of experience working for central/local level public institutions, international organizations and international development consultancy companies. His expertise covers a wide array of economic and social development topics, including strategic planning, good governance, public engagement and participatory decision-making, public-CSO cooperation, gender equality and gender-responsive budgeting (GRB), institutional capacity assessment, development of migration policies and resilience planning, community-based sustainable tourism and urban regeneration, urban planning and development of accessibility policies and programs targeting persons with restricted mobility.