INTERNATIONAL APPROACHES TOWARDS CREATING RESILIENT CITIES AGAINST DISASTER RISKS

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As a result of the accelerated urbanization in the world in recent years, more people live in urban areas today compared to a hundred years ago. Since the industrial revolution, the pressure of increasing urban structures and population on environmental assets is increasing day by day. Within the framework of the Sustainable Development approach, global and national policies have been developed and put into practice to reduce these pressures. In addition to economic development, the protection of environmental assets, ensuring social integration and improving decision-making processes are at the center of these policies. However, increasing urban building stocks, population density and dependence on existing limited urban infrastructures increase the risks that may arise anytime. Public health problems, epidemics, natural disasters or economic crises can affect the lives of the people living in cities in different degrees according to the resilience levels of the cities. In this study, it is argued that cities should be resilient as well as sustainable. It is only possible with a resilient urban development and governance approach that the city can meet the minimum urban needs and return to its former state of public life in a short time, during and after a natural disaster such as an earthquake.

International Frameworks for Resilience Context.

According to the United Nations Reports, it is estimated that by 2050, approximately seventy percent of the human population will live in urban areas (World Cities Report 2022 : 5). As urban areas and the population living in cities grow, the dangers they face are also increasing. For this reason, studies are carried out to find solutions to problems that are likely to be experienced in the future, such as climate change, natural disasters, water and food shortages, and depletion of energy resources. In this context, important studies are carried out by national governments and international organizations in order to identify effective ways to reduce the pressures of cities on natural resources or to minimize the possible damages. Everyone is affected by natural disasters in some way, and these effects have environmental, social and economic consequences. From an economical point of view, the expenditures made by the governments to cover the material damages in the region where the disaster occurred put pressure on limited national resources. Investments to prevent the negative effects of earthquake risks, floods, drought and climate changes create significant costs to the national economies. Natural disasters not only cause to loss of many lives and property, but also affect sectors such as manufacturing, transportation, health, trade, agriculture, tourism. Natural disasters pose an increasing threat to the world. In all countries, great economic damage occurs as a result of natural disasters (Doğaner, 2022 : 59-80). According to the UNDRR report, between 2000 and 2019, more than 4 billion people were affected by the disasters recorded in the world and more than 1.2 million people lost their lives (UNDRR, 2020). The rapid migration

towards urban areas in developing countries has resulted in the unplanned urbanization of these areas. This unplanned construction today still continues in many countries. It is even witnessed that this situation is taken for granted in some major world metropolises such as Rio de Janeiro.

Since 2015, some international framework agreements were accepted by national governments in order to realize sustainable development around the world, reduce the effects of climate change, and reduce disaster risks. These are: The Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR), The 2030 Agenda for Sustainable Development and Sustainable Development Goals (SDGs), The Paris Agreement, adopted by the parties to the UN Framework Convention on Climate Change . These goals were repeated at subsequent UN Habitat meetings (World Cities Report 2022 : 303).
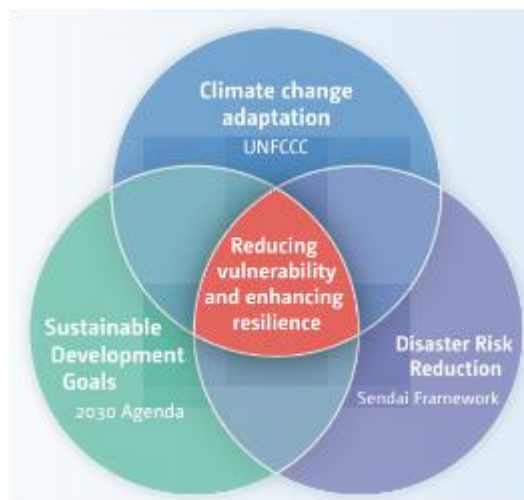

Figure 1. – Opportunities and options for integrating climate change adaptation with the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction 2015–2030

Source: United Nations Climate Change Secretariat, [4]

Defining Resilience.

As stated by the United Nations Human Settlements Programme in its annual World Cities Report, building resilience must be at the heart of the future of cities. Building economic, social and environmental resilience, including appropriate governance and institutional structures, must be at the heart of the future of cities. As a pathway to sustainable urban futures, building resilience is a multisectoral, multidimensional and multi-stakeholder effort, which requires effective collaboration and cooperation across all scales, as the various dimensions of resilience are interrelated and mutually reinforcing. In practice, welldesigned resilience policies can cover these dimensions simultaneously (World Cities Report 2022 : 28).

The concept of resilience , which is used by many different disciplines, initially used in terms of the measures to be taken for environmental disasters and adaptation of cities to new situations after the disaster (Pickett et al., 2004). The concept is defined by the UN as: "The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential

basic structures and functions. Resilience means the ability to "resile from" or "spring back from" a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need" (UNISDR, 2009 : 24).

According to the definition made by the OECD, resilience is considered and defined in economic, environmental, social and institutional frameworks. "Resilient cities are cities that have the ability to absorb, recover and prepare for future shocks (economic, environmental, social & institutional). Resilient cities promote sustainable development, well-being and inclusive growth."

Table 1. – Four Areas That Drive Resilience

Economy	Governance
A diverse number of industries	Clear leadership and management
A dynamic economy to generate growth	Strategic
Conditions allow innovation to take place	and integrated approaches are taken by leaders
People have access to employment, education, services, skills training	Public sector has the right skills
	Government is open and transparent
Environment	Society
Ecosystem is sound and diverse	Society is inclusive and cohesive
Infrastructure can meet basic needs	Citizens' networks in communities are active
Adequate natural resources are available	Neighbourhood is safe
Coherent policy towards land use	Citizens enjoy healthy lives

Source: OECD, Resilient Cities [2].

Measuring resilience.

Various approaches and methods are being developed by international organizations to provide countries with a comprehensive framework for Resilience. For example, The City Resilience Index (CRI) and Making Cities Resilient 2030 should be briefly mentioned here. Local specific scientific studies are also carried out in order to monitor the progress of the SDG 11 targets at the local level, and these efforts, by further detailing, are aimed to localize the global higher level of targets and indicators (Yamasaki, Yamada, 2022).

The City Resilience Index (CRI) is developed by Arup for the Rockefeller

Foundation's 100 Resilient Cities programme. CRI is intended for all member cities to adopt and implement as a tool for measuring progress towards overall resilience over time. The CRI comprises four dimensions: health and well-being; economy and society; infrastructure and ecosystems; and leadership and strategy (World Cities Report 2022 : 301).

According to the UNDRR , Making Cities Resilient 2030 (MCR2030) initiative is a cross-stakeholder approach for improving local resilience through advocacy, sharing knowledge and experiences, establishing mutually reinforcing city-to-city learning networks, injecting technical expertise, connecting multiple layers of government and building partnerships. In accordance with Sustainable Development Goal 11 (SDG11) "Make cities and human settlements inclusive, safe, resilient and sustainable", and other global frameworks including the Sendai Framework for

Disaster Risk Reduction, the Paris Agreement and the New Urban Agenda, MCR2030 aims to ensure cities become inclusive, safe, resilient and sustainable by 2030 (UNDRR , Making Cities Resilient 2030).

The resilience approach has now widened its scope to cover natural and un natural hazards to the society such as earthquakes, floods, wildfires and socio-political violence events. Local governments has a vital role to play along with national governments and international bodies to tackle the risks and shocks. It is inevitable that the economic developments that are taking place with the rapid urbanization observed especially in the developing countries must continue on the axis of resilient cities as well as being sustainable.

The physical and organizational development of cities in a way that is not resiliant causes economic and human losses that cannot be overcome in cases such as possible earthquakes or floods. Many international organizations such as UNDRR, UNHabitat, UNDP, OECD, ICLEI, EU, WorldBank contribute to the approach of developing resilient cities and communities.

However, it is of course up to national governments, and especially local governments, to carry out this task. In order to achieve SDG 11 objectives, it is seen that all relevant parties contribute to the conceptualization, provision of financial resources, and the creation of other organizational structures for implementation and monitoring.

Literature:

1. Doğaner, A. , 2022, "Sürdürülebilir Ekonomik Kalkınma için Türkiye'de Dirençli Şehirler", Çevre, Şehir ve İklim Dergisi. Yıl: 1. Sayı: 2. ss. 59-80. URL: https://dergipark.org.tr/tr/download/article-file/2442029 (Last accessed: 28.01.2023).

2. OECD, Resilient Cities , URL: https://www.oecd.org/cfe/regionaldevelopment/resilient-cities.htm (Last accessed: 06.02.2023).

3. Pickett S.T.A., Cadenasso M.L., J.M. Grove, Resilient cities: meaning, models, and metaphor for integrating the ecological, socio-economic, and planning realms, Landscape and Urban Planning, Volume 69, Issue 4, 2004. P. 369-384, ISSN 0169-2046.

4. United Nations Climate Change Secretariat, 2017, Technical Paper, Opportunities and options for integrating climate change adaptation with the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction 2015–2030. URL: https://unfccc.int/sites/default/files/resource/techpaper_adaptation.pdf (Last accessed: 28.01.2023).

5. UNDRR, 2023, Making Cities Resilient 2030 (MCR2030). URL: https://mcr2030.undrr.org/ (Last accessed: 28.01.2023).

6. UNDRR, 2020, Human Cost of Disasters : An overview of the last 20 years 2000-2019. URL: https://www.undrr.org/publication/human-cost-disasters-overview-last-20-years-2000-2019 (Last accessed: 28.01.2023).

7. UNISDR International Strategy For Disaster Reduction, 2009, Terminology on Disaster Risk Reduction, URL: https://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf (Last accessed: 28.01.2023).

8. World Cities Report 2022 , United Nations Human Settlements Programme (UN-Habitat) URL: https://unhabitat.org/wcr/ (Last accessed: 28.01.2023).

9. Yamasaki K., Yamada T., 2022, A framework to assess the local implementation of Sustainable Development Goal 11, Sustainable Cities and Society, Volume 84, ISSN 2210-6707, URL: https://doi.org/10.1016/j.scs.2022.104002 (Last accessed: 28.01.2023).