



**AVCILAR MUNICIPALITY
STRATEGY DEVELOPMENT DIRECTORATE**

AVCILAR RESILIENCE REPORT

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PREFACE

The concept of urban resilience has gained considerable importance especially in the recent years with regards to ensuring the sustainability of cities against shocks and stresses in those cities such as population increase, migrations, economic challenges, socioeconomic inequalities, natural disasters and threats to security.



This Action Plan has been prepared with the purpose of conducting resilience works started when we took office in the municipality and continued for the last two years, with an integrated approach and a systematic planning method. This Action Plan is a study aimed at, on one hand, demonstrating our perspective as a Local Government on the concept of “urban resilience” in its broadest sense and, on the other, regulating development/governance processes that will be applied to the identified targets. The Action Plan provides measures, responses and rehabilitative solution suggestions towards natural disasters and security problems as well as increasing the quality of life of the city residents, protecting the environment, ensuring socioeconomic equality, supporting disadvantaged groups, and strengthening the weak aspects of the city by conducting a risk analysis of urban strengths and weaknesses.

The most prominent feature of the works conducted to establish resilience in our city is the fact that the implementations in this area are not considered to be limited by the thought of “physical resilience” and the claim that the idea of resilience touches all dimensions of the lives of all living beings as in the international examples of the concept.

Because 1999 earthquake resulted in great casualties, urban transformation was accelerated and considerable ground was covered towards ensuring the structural safety. Urban resilience against and awareness of the citizens towards other risks such as floods, landslides and tsunamis are very important. As the Local Government, we are continuing our awareness-raising efforts and innovative recycling works to ensure sustainability and protect the environment in actuality with faith and persistence. Finally, our activities towards increasing socioeconomic and cultural resilience are also going on without pause.

We gathered these works within the scope of our broad vision of Avcılar2029 that we determined for our city and we think that Avcılar will take its place among the internationally exemplary resilient cities thanks to the solutions brought forth by the “Resilience Action Plan”, conducting our works to reach this target.

Our Resilience Action Plan is a fundamental part of our Avcılar2029 vision and a precursor to the creation of RESILIENT AVCILAR. I hope that our Action Plan will bring good to the whole world starting from Avcılar.

Best regards,
TURAN HANÇERLİ
Mayor of Avcılar

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1 INTRODUCTION

With the number of people living in the cities rapidly increasing in 21st century, the range of risks a city could face and the range and extent of the damages these risks could cause are also increasing. Infrastructural problems, traffic intensity, scarcity of natural resources and their lacking sustainability, unemployment, climate change, epidemics, terror attacks, natural or anthropogenic disasters, migration, famine, unequal distribution of city resources and services are the most important of these risks.

At this point, the concept of urban resilience, which may be defined as the capacity of a city to sustain itself against risks and shocks it faces, gains more significance. The reason for that is that the only way for a city to maintain its presence and secure its future is to develop this capacity; and to increase urban resilience, it is necessary to identify the vulnerability of and potential risks in the city, develop preventive measures, and adopt plans and strategies to immediately rehabilitate the city after a shock or crisis.

In this context, local governments have important duties and responsibilities to ensure the urban resilience of their cities; among which the necessities to be ready against risks, and develop joint strategies with other levels of government as well as other local governments stand out. In accordance with the adopted targets and strategies and within the scope of urban resilience, local governments must take action to conduct preventive efforts against all kinds of shocks and stresses, raise awareness among the people of the city, build a resilient infrastructure and superstructure, create an environmentally friendly city design, encourage the use of sustainable energy resources, conduct recycling efforts, prepare a climate change action plan, and increase the social resilience.

This study aims to show the actions to be taken by our local government Avcılar Municipality to increase the resilience of our city, establish all of its dimensions around our city, and realization of the necessary activities to ensure these targets in line with the mission, vision and strategic plan of our municipality.

2. WHAT IS THE CONCEPT OF RESILIENCE?

Resilience can be defined as researching into an existing system's strengths and weaknesses with the aim of ensuring the sustenance of the present situation in the face of an unexpected shock, disaster, or danger along with rehabilitating and restructuring the resulting social, physical, economic, ecological, and psychological damage as soon as possible, developing preventive policies and strategies afterwards in light of the acquired experience and data.

2.1. What is a Resilient City?

There are many different definitions for urban resilience and some of them are as follows:

Urban resilience: The measurable capacity of any urban system related to withstand the effects of any potential disaster, recover after such effects and ensure the continuity of its own functions. (Lewis, 2020)

According to the definition of United Nations Office for Disaster Risk Reduction, urban resilience is the capacity of an urban system harboring any size of human settlement to sustain itself when it faced a danger.

As defined by Holling (2001) and Alberti et al. (2003), urban resilience is the capability to withstand change before reorganizing for a new system and structure. The argued point is that urban resilience can be created by a state in which ecosystems and people can be in balance at the same time. Therefore urban resilience must rather be defined as the state to be flexible and resistant against unexpected situations than the ability to respond to influences (Berkes, Folke & Colding, 1998).

When we look all these definitions, it is understood that the common point in every definition is the capability of a city to go through any risk with minimum damage and survive with all its components. These components of a city include many ecological, economic, social, cultural, physical and psychological elements which requires that urban resilience must be dealt with in a multidimensional manner. In this respect, the processes in order to establish a multi-layer resilience and make a resilient city are schematized below:



Figure 1. The Process of Creating Resilient Cities (Durmaz A.E., 2021)

2.2. Dimensions of a Resilient City

The dimensions of a resilient city can be split into six categories defined below:

- **Urban Design Layer:** All urban transformation works in the city, reinforcing the infrastructure and superstructure against risks, arranging the streets' width to conform with the standards, organization of parks and green spaces, works towards structuring and settlement suitable with the land within the scope of urban planning, etc. are under this heading.

- **Sustainable Environment and Ecosystem Layer:** Use of recyclable material, sorting wastes, organizing training courses to raise awareness among people in the city about environmental protection and sustainability, permaculture works etc. belong to this category.
- **Natural and Anthropogenic Disasters Layer:** This category includes risk assessment for all natural disasters such as earthquakes, floods, landslides, tsunamis etc. along with anthropogenic disasters such as nuclear, chemical, or biological accidents, preparation for risk minimization, crisis management, and post-disaster rehabilitation and recovery works after disaster.
- **Economy Layer:** This category comprises of actions such as providing the necessary financial power for a city to maintain and rehabilitate itself against all possible shocks and stresses, improving the economic conditions of the people of the city and elimination of income inequality, starting initiatives to provide added value to the city economy and create employment opportunities for city people, and financing the city in all aspects to establish the resilience in the city. Two most important indicators of economic resilience are the employment level and gross domestic product (GDP) of an area. (Coyle, 2014)
- **Social and Cultural Resilience Layer:** Along with the resilience of a city to natural disasters and similar stresses, all works aimed at increasing the welfare of a city such as ensuring that every individual and family, which is the smallest building block of a society, benefits from the resources and services in the city in an equal and just manner, improving the quality of life of individuals, alleviating unemployment and poverty, providing security and developing social projects towards reducing the crime in a city, improving healthcare and education, encouraging people to participate in cultural and artistic activities, supporting disadvantaged groups (elderly, disabled, etc.) to facilitate their integration in the social life, and protecting the cultural memory and legacy of the city are in this category.

	THREATS	VULNERABILITIES	RISKS
SOCIAL STRUCTURE RESILIENCE	<ul style="list-style-type: none"> • Poverty • Natural Disasters • Terrorism • Wars • Famine • Drought • Pandemics 	<ul style="list-style-type: none"> • Loss of socioeconomically depended on resources • Loss of cultural values • Prevention of access to education, healthcare and security services • Weakening or lack of relation networks providing trust, solidarity and information flow 	<ul style="list-style-type: none"> • Complexity uncertainty obscurity • Local and global socioeconomic and political relations • Loss of resource providing cultural services of ecosystems

Table 1. Prominent topics in the concept of social resilience (Altun A., 2011)

- Effective Administration and Service Layer:** This category involves the processes of management, employment and social community, multistakeholder consultation, and evidence-based decision-making. Clean and goal-oriented leadership brings along trust while bringing forth unification and common thoughts shared across a city. Leadership is the basic material to encourage the community and individuals during struggling times. A city administration that makes decisions based on evidences ensures that the city it leads will improve day by day and withstand against shocks and stresses. Cooperation between industries breaks the isolated structure of administration and takes on critical importance in effective decision-making. Multistakeholder consultation processes that include communities and private sector positively affects decision-making. Inclusive administrations support the problem-solving actions of universities and business circles based on research and innovation, realizing the importance of information coming from the ground for identification of local problems. They establish relations between sectors to facilitate support, access to special resources and, coordination of people living in the resilient cities in times of need. Integration and capabilities of administrations is timely and appropriately required for emergencies and capacity creation. (Dinçer Ş.,2016)

3. RESILIENCE POLICIES AND STRATEGIES

3.1. Global Policies

Making cities resilient became more important especially in the 90s along with many international initiatives established and organizations held to start the risk reduction works. The aim of these efforts is to share risk assessments, risk reduction works, and different experiences on disasters of each country on a joint platform, and determine common targets and strategies through consultation.

In this context, United Nations declared the years 1999-2000 as the International Decade for Natural Disaster Reduction - IDNDR. After this, the plan known as the Johannesburg Plan of Implementation published in the international organization held in 1992 in South Africa called the World Summit on Sustainable Development revealed that an integrated, extensive disaster management approach that foresees multiple dangers is needed for the world to be a safer place in the 21st century, resulting in the creation of Yokohama Strategy and Action Plan for a Safer World in the “Reduction of Natural Disaster Damages Conference” held in 1994 in Yokohama, Japan.

According to this plan, it was very important to draft the priority and implementation action plans to develop sustainable development plans, identify disaster risks, and provide definitions for the elimination of the regional and global risks. Various information related to the bases of implementation, initial definitions, identifications, and priorities were defined in this document. The following five special purposes were defined in the United Nations General Assembly on 23 December 2003 with the decision numbered 58/214 towards disaster risk reduction within Yokohama Strategy Document upon which “Hyogo Framework of Action” is based. (Macit İ., 2018)

- i Collecting and reporting results in order to examine Yokohama Strategy Document and Action Plan with the aim of updating the guiding framework related to risk reduction for 21st century,
- ii Defining certain actions that aim to implement the related provisions of the Johannesburg Implementation Plan regarding the weakness, risk assessment, and disaster management of Johannesburg Sustainable Development Plant,

- iii Providing the disaster management institutions and people in the potential disaster areas with trustworthy and utilizable information as stated in the related provisions of the Johannesburg Implementation Plan,
- iv Sharing good practices and lessons learned from efforts towards reducing the effects of disasters within the scope of sustainable development along with identifying and defining related gaps and challenges,
- v Raising awareness about the importance of disaster damage reduction policies, thus encouraging and facilitating the implementation of such policies. Hyogo Framework Action Plan has been created according to the priority areas identified taking Yokohama Strategy Document as the basis. Hyogo Framework Action Plan includes a 10-year planning process. Yokohama Strategy Document puts forth the idea to make the world more resilient against the disasters to come through disaster damage reduction strategies while Hyogo Framework Action Plan identifies the prioritized plans to be prepared.

United Nations established the International Strategy for Disaster Reduction unit under its roof with the purpose of encouraging and observing the implementation of principles and goals determined after the publication of the Yokohama Strategy Document.

Hyogo Action Framework (2005-2015) prepared in the light of Yokohama Strategy Document was accepted in 2005 in Japan by 168 countries, stating three strategical targets and five priorities.

Strategic targets are;

- i Integration of risk reduction strategies with sustainable development policies
- ii Supporting and encouraging not only governments but also CSOs to increase awareness and sensitivity about disasters helping improve their capacities and capabilities.
- iii Integrating the target community and risk reduction approaches with preparation, intervention and rehabilitation programs.

Defined priorities are;

- i Building the risk reduction implementation on an institutional ground, making it a priority on the national and local level
- ii Identifying, assessing, and observing the disaster risks along with developing early warning systems

- iii Using information, innovation and education to create a culture of safety and resilience against disasters on every level
- iv Reduction of main risk causes that lie under disaster risks
- v Disaster preparedness for efficient response on every stage of the society.

Yokohama Strategy Document and Hyogo Framework Action Plan comprise the basis of Sendai Declaration.

Sendai Disaster Risk Reduction Framework (2015-2030) was accepted in the Third United Nations World Conference held in Sendai, Japan on 18 March 2015. Sendai Declaration aims to minimize the disaster risks through effective planning and action on every level, either local, national, regional, or global, approaching all the risks with an integrated point of view utilizing the experience and results gained from the implementation of the Hyogo Framework Action Plan.

Sendai Declaration generally sets forth four priorities.

These priorities are;

- i Understanding the disaster risks,
- ii Strengthening the administration to make it be able to manage disaster risks,
- iii Rapid recuperation after disasters and investing in disaster risk reduction for resilience and,
- iv Developing disaster preparedness to improve efficient response, restructuring, rehabilitation and rescue activities.

Seven global targets have been determined to support the assessment of the progress of this framework towards achieving its expected result and goal. These targets will be measured on the global level and completed with studies that develop appropriate indicators. National targets and indicators will help the framework achieve its expected result and goal. Aforementioned seven global targets are as follows:

- i Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020-2030 compared to the period 2005-2015,

- ii Substantially reduce the number of people affected globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015,
- iii Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030,
- iv Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030,
- v Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020,
- vi Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030,
- vii Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

As seen above, Sendai Declaration Action Plan has gained wider ground compared to the Hyogo Framework Action Plan with the inclusion of disaster management, effective use of resources, information and communication technologies, and informatics systems along with disaster risk reduction until 2030. The adoption of Sendai Declaration revealed that disaster management in its traditional sense is not enough and a new approach is needed. It was understood that modern disaster management processes are a requirement and modern management processes, instead of classical management processes, needed to be included in the disaster management processes. Moreover, a more effective disaster management system had to be created by integrated disaster management models including the technological innovations in the management process for the future. (Macit İ., 2018)

Also in 2012 the “United Nations Resilient Cities Campaign Handbook for Local Government Leaders” was published and 10 items listed below were identified to guide the local governments to increase resilience: (UNISDR, 2012)

1. Organization and coordination based on the participation of citizens and civil society to understand and reduce risks. Forming local unions. Helping all units understand their roles in risk reduction and preparedness.

1.1. What is the local institutions' (including local governments) capacity, information and experience level for disaster risk reduction and climate change?

1.2. Are there any partnerships between the community, private sector, and local governments for risk reduction? If yes, to what extent?

1.3. How much support does the local government provide for helping vulnerable communities (especially the elderly, women, and children) in policy-making, planning, and implementation processes of risk reduction?

1.4. To what extent local governments are involved with the national disaster risk reduction planning?

2. Budgeting for low-income families, communities, private and public sectors and home-owners for risk reduction.

2.1. Do local governments have access to enough financial resources for conducting risk reduction activities?

2.2. Do local governments have enough financial resources for effective risk reduction activities, and an effective disaster response and rescue?

2.3. What is the scope of financial services for reaching out to vulnerable households before disasters?

2.4. What is the extent of micro-financing such as financial aids, loan collaterals, etc. to help affected households restart their life?

2.5. Are there economic incentives for households and business for disaster risk reduction?

2.6. What is the extent of unionization (chambers of commerce, local business associations) of the businesses for business continuity during and after disasters?

3. Providing up-to-date data for dangers and vulnerabilities, preparing risk assessments and using them as basis for zoning plans and plan rulings. Making sure that these plans and data used for the resilience of the city are publicly available and opening them up for discussion.

3.1. What is the extent of disaster risk assessments for vulnerable settlements by local governments?

3.2. Are the risk assessments conducted regularly?

3.3. What is the extent of data regularly provided to the public by local governments in relation with risk reduction measures including the potential dangers and their effects, and early warnings?

3.4. How connected and supportive are the local government risk assessments with and of the neighboring local governments' and national/regional government's risk management plans?

3.5. How included are the disaster risk assessments in the local development plans?

4. Investment for providing the important infrastructure for risk reduction

4.1. What is the extent of consideration of land use policies and planning regulations for house and development infrastructure with regards to the foreseen disaster risks (including climate-related risks)?

4.2. How is the safety of critical public facilities and infrastructural facilities against all dangers and risks sufficiently assessed?

4.3. How sufficient are the measures taken for the protection of critical public facilities and infrastructure during a disaster?

5. Assessing the safety of all educational and healthcare institutions and improving if necessary.

5.1. What is the extent that schools, hospitals and healthcare facilities are specially taken into consideration for the risk assessment of "all dangers"?

5.2. How safe are all the school, hospital and healthcare facilities with regards to their post-disaster recovery capabilities?

5.3. To what extent local governments or other levels of governments have special programs for regularly assessing the maintenance of schools, hospitals, and healthcare facilities being carried out according to the building codes, general safety, risks related to weather etc.?

5.4. What is the frequency of disaster preparedness drills carried out in schools, hospitals and healthcare facilities?

6. Carrying out and having carried out structural arrangements and land use planning that is realistic and in line with the risk. Determining a safe settlement for low-income groups and improving informal settlements as much as possible.

6.1. To what extent risk-sensitive land use regulations, building codes and health-security codes are applied for all development areas and building types?

6.2. How strong are the present regulations of local governments for supporting the reduction of disaster risks?

7. Creating training programs and studies for disaster risk reduction in schools and local communities.

7.1. How methodical are the training programs of local governments for developing behavioral awareness towards disaster risk reduction and settlements' preparedness for disasters? (Programs that are sensitive to cultural diversity and social gender point of view)

7.2. What is the extent of risk reduction training courses delivered by the local government for local authorities and community leaders?

7.3. What lessons and courses are there in schools with regards to disaster risk reduction (including climate-related risks) as part of the syllabus?

7.4. What is the degree of citizens' awareness of evacuation plans and drills?

8. Protecting ecosystems and natural buffer zones against other dangers that may render cities vulnerable such as floods and hurricanes. Adapting to the climate change through good risk reduction practices on structures.

8.1. How well-integrated are the local governments' disaster risk reduction policies, strategies and implementation plans, and present environmental development and natural resource management?

8.2. How supportive are the local governments of the sustainable management, protection, and renovation of ecosystem services?

8.3. To what extent civil society organizations and citizens participate in the sustainable management, protection, and renovation of ecosystem services?

8.4. To what extent is the private sector involved in the implementation of environment and ecosystem management plan in local government?

9. Establishing early warning system and emergency management in the city and making them regular public preparations.

9.1. To what extent local institutions can access financial resources to support recovery and rapid restructuring after forceful disasters?

9.2. To what extent are the early warning systems established and equipped with enough personnel (or on-call personnel) and good resources (redundancy, equipment sufficiency)?

9.3. To what extent do warning systems allow sufficient community participation?

9.4. Do local governments have an emergency operation center or emergency communication system?

9.5. Are there any courses, trainings or drills carried out regularly with the participation of governments, civil society, local leaders and volunteers?

9.6. Is it always possible to access basic resources such as emergency aid kits, shelters, and evacuation routes?

- Aid kit stocks
- Emergency shelters
- Designated safe evacuation routes
- Emergency Plan or community disaster preparedness plans for all great

dangers

10. Addressing the needs of survivors at restructuring centers along with social organizations and volunteer institutions after the disaster, providing them shelters and ensuring their livelihoods.

10.1. Do local governments have resources and experts for the psycho-social (psychological, emotional) effects of disasters on victims?

10.2. How well are the disaster risk reduction measures integrated with post-disaster recovery and rehabilitation?

10.3. Does the Emergency Plan (or a similar plan) include a strategy draft for rescue and restructuring including post-disaster need reassessment and improvement?

One of the organizations and studies towards increasing resilience on an international scale is 100RC (100 Resilient Cities) project. In 2013, Rockefeller Foundation started this project to lead 100 Resilient Cities in helping more cities create resilience against physical, social and economic challenges.

Cities in the 100RC network were provided with the necessary resources to develop a road map for resilience. Until now, 100 cities representing more than a fifth of the world's urban

population were chosen to join the network, more than 50 holistic resilience strategy were created and on 31 July 2019 the 100 Resilient Cities organization ended.

According to the 100RC organization, fragilities that may arise in the cities are shown in the table below:

PHYSICAL CHALLENGES	SOCIAL CHALLENGES	ECONOMIC CHALLENGES	ECOLOGICAL CHALLENGES
Infrastructure Wearing	Old Population	Financial/Economic Crisis	Blizzard (Snow Storm)
Earthquake	Corruption	Insecure Municipal Financial Standing	Climate Change
Energy Insecurity	Crime and Violence	Lack of Affordable Housing	Coastal or Tidal Floods
Fire	Cyber Attacks	Insufficient Investment	Drought
Hazardous Substance Accidents	Population Decrease/Human Resources Movement	Change of Macroeconomic Trends	Environmental Degradation
Insufficient Infrastructure	Pandemics	Undiversified Economy	Extreme Weather Conditions
Insufficient Public Transportation Systems	Displaced Communities/Migrants	Unemployment	Food Insecurity
Insufficient Sanitation Services	Drug and Alcohol Abuse	Poverty	Hurricane/Typhoon/Whirlwind
Illegal Buildings/Settlement	Ethnic Inequality	Economic Inequality	Invasive Species
Infrastructure Defects	Homelessness		Lack of Green Spaces
Energy Outages	Insufficient Education Systems		Liquidization
Structural Racism	Insufficient Healthcare Systems		Loss of Biodiversity
Subsidence	Lack of Social Cohesion		Poor Air Quality
Traffic Congestion	Political Instability		Rain Flood
Traffic Accidents	Weak Management		Sea Level Rise/Coastal Erosion
Uncontrolled Urban Development	Population Growth/Excessive Population Increase		Severe Storm
Landslide	Revolt/Civil Disturbance		Storm Wave
	Terrorist Attacks		Tsunami
	City Disorder		Volcanic Activity
	Youth Deprivation of Rights		Water Insecurity

Table 2. Vulnerabilities Identified by the 100RC organization

3.2. National Policies

Turkish cities became deep risk pools due to natural dangers such as earthquake and flood along with other causes like illegal settlements, dangerous uses in cities, insufficient open green spaces, technical infrastructure problems, and lack of inspections. Identification of risk sectors with urban risk management is important for risk reduction efforts and planning. In current applications, only the risk sectors related to the present building stock are seen important, while these efforts are limited to the identification of the resilience of the buildings in determined areas within the pilot projects against earthquake. It is necessary to create resilient living environments, unify methods and approaches based on disaster risks with the planning system, and integrate this into the institutional structures. (BİB, 2009)

Activities and regulations related to resilience in Turkey significantly changed and became multi-layered especially after the earthquake in 1999 which resulted in a great loss of lives and property. In this respect, new laws, ordinances and regulations have been put into effect.

First, “The Law of Power on Regulations to be Made for Compensation of Damages Caused by Natural Disasters and Measures to be Taken against Natural Disasters” numbered 4452 was introduced on 27 August 1999 with the purpose of eliminating the confusion about authority that arose after the earthquake.

In 2009, AFAD directorships for cities under Special Provincial Administrations and Prime Ministry Disaster and Emergency Management Administration were formed with the Law on the Organization and Duties of the Disaster and Emergency Management Administration numbered 5902.

The aim of the “Urban Transformation Law” introduced in 2012 was to encourage and accelerate the construction of healthy and safe buildings instead of the risky ones in cities as well as ensuring the constructions are conducted in line with scientific and artistic rules.

Along with these, new policies, regulations and legislations continue to be developed in partnership with organizations based abroad. Some of these organizations are as follows: (Lewis, 2020)

World Bank Group: Global Facility for Disaster Reduction and Recovery (GFDRR) Fund has been operating in Turkey since 2007 in urban risk reduction and actively provides support on the matter. In this period, 251.2 million \$ were allocated through the World Bank and 10 projects were either completed or are about to be completed. The general strategy addresses the continuing demands of the Turkish Government to provide support on the matters listed below:

- Extending of the safe schools agenda through construction, maintenance or change of training facilities creating resilience against disasters;
- Developing business continuity planning;
- Creating an analytical basis for supporting the decision-making process regarding cross-sector disaster and climate risks;
- Supporting the implementation of National Disaster Response Plan and National Disaster Risk Reduction Plan;
- Increasing the urban resilience and adaptation capacity for managing seismic and climate-related risks.

United Nations: United Nations System in Turkey comprises of 14 bodies: Food and Agriculture Organization (FAO), International Labor Organization (ILO), International Organization for Migration (IOM), United Nations Development Programme (UNDP), United Nations Department of Safety and Security (UNDSS), United Nations Population Fund (UNFPA), United Nations High Commissioner for Refugees (UNHCR), United Nations Information Centres (UNIC), United Nations Children's Fund (UNICEF), United Nations Industrial Development Organization (UNIDO), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), The United Nations Volunteers (UNV), UN Women, World Food Programme (WFP) and World Health Organization (WHO). Office of the United Nations High Commissioner for Human Rights (OHCHR) and UN Department of Political Affairs, although not registered, actively operate in Turkey.

UN Turkey Development Cooperation Strategy identifies four strategic cooperation areas confirmed by the Turkish Government and UN in Turkey:

- 1) Sustainable and Inclusive Growth and Development
- 2) Democratic Governance and Human Rights
- 3) Gender Equality and Empowerment of Women

4) Migration and International Protection.

Within the first strategic area, UN Country Team undertakes to support the government on “efforts to provide preparedness on the national level in accordance with the Sendai Disaster Risk Reduction Framework and creating resilience in the communities including the most sensitive members”. In this respect, some cities (Antalya, Gaziantep, İstanbul, İzmir, Kocaeli and Yalova) joined UNDRR’s Making Cities Resilient campaign.

However, the most extensive UN program in Turkey belongs to UNHCR. Additionally, UN Office for the Coordination of Humanitarian Affairs works with migrants in Turkey, Jordan or Syria and coordinates the cross-border operations of various UN institutions as well as international, Turkish, and Syrian CSOs based in Turkey.

European Union: European Commission finances three key assistance areas for the government under its EU Regional and Urban Development Policy through the Instrument for Pre-Accession Assistance. These areas include Environment Operational Program, Transportation Operational Program and Regional Competitiveness Operational Program in cooperation with the ministries of Environment and Forestry, Transportation, and Science, Industry and Technology.

SKL International and RESLOG: “Resilience in Local Governance” (RESLOG) is a project (2018-2020) that aims to strengthen the capacities of local government systems by increasing resilience according to the principles of peace and inclusion in Turkey and Lebanon, two countries that were significantly affected by the Syria crisis. RESLOG Project was carried out by Swedish Association of Local Authorities and Regions through its affiliate SKL International. The main purposes of RESLOG Turkey, which is RESLOG’s component in Turkey, are as follows:

- Empowering learning between municipalities and supporting constructions through regional unions;
- Developing integrated planning and governance on the municipal level;
- Developing national migration policies that reflect the local realities and needs.

To achieve these purposes, SKL International formed partnerships with Union of Municipalities of Turkey, Marmara Municipalities Union, and Çukurova Municipalities Union, working together with municipalities and regional municipality unions to support the inclusive and peaceful service provision by municipalities that are affected by the refugee crisis in those areas.

4. AVCILAR DISTRICT RESILIENCE EVALUATION

4.1. Geographical Location and Population

Avcılar is located on the west of İstanbul on the coast of Sea of Marmara, 27 km away from the city center. It is surrounded by the Küçükçekmece Lake and Küçükçekmece district on the east, Yakuplu and Esenyurt districts on the west, Bahçeşehir district on the north, and the Sea of Marmara on the east, having a total area of 42.59 square kilometer. Before the Republic, there was a Greek village on the location of the current core settlement of Avcılar district. This village was around Ambarlı. As Turkish people settled in, agriculture gained importance in the area. After the Republic, on 1924, around 40-50 households of Greek settlers were exchanged with Turkish settlers. The places that had been left empty by the Greek were filled with storehouses (in Turkish, “ambar”) which is the reason why this settlement was later called Ambarlı. As Turkish people settled in, agriculture gained importance in the area. In 1928 a new group of migrants of 35 households bought the 12-thousand-decare Amindos Ranch (now Avcılar) on the north of Ambarlı and settled in the buildings of the ranch. In 1934 the population of the ranch increased, resulting in the area being turned into a village. After the departure of Greek people in 1924, Turkish people from around Thessaloniki, Greece, were brought and settled in this place. Avcılar people, living off agriculture and fishery when the place had been a small village, started to work in the industrial centers found in the area as of 1970s.

Although the population growth in Avcılar district had been below the average numbers until 1950, a great increase of growth rate started this year. The construction of refueling facilities in 1959 and TEK Ambarlı fossil fuel plant in 1964 were the main reasons triggering the increase of the growth rate.

As years went by, for example in 1990, the population of the area went up to 126,282 and in the last 1997 census the number was 214,383. In the following years the population of Avcılar was as follows: 235,113 in 2000 census, 323,596 as of 13 March 2008, 333,944 as of 1 January 2009, and 348,635 as of 1 January 2010. As of 1 January 2012 the population of the district is 383,726. In 2014 the population of the district rose up to 417,852. According to 2019 data of TÜİK (Turkish Statistical Institute), the population of the district is 448,882.

Avcılar consists of 10 neighborhoods listed below:

1. Avcılar Central Neighborhood
2. Ambarlı Neighborhood
3. Cihangir Neighborhood
4. Gümüşpala Neighborhood
5. Denizköşkler Neighborhood
6. Üniversite Neighborhood
7. Mustafa Kemal Paşa Neighborhood
8. Firuzköy Neighborhood
9. Tahtakale Neighborhood
10. Yeşilkent Neighborhood

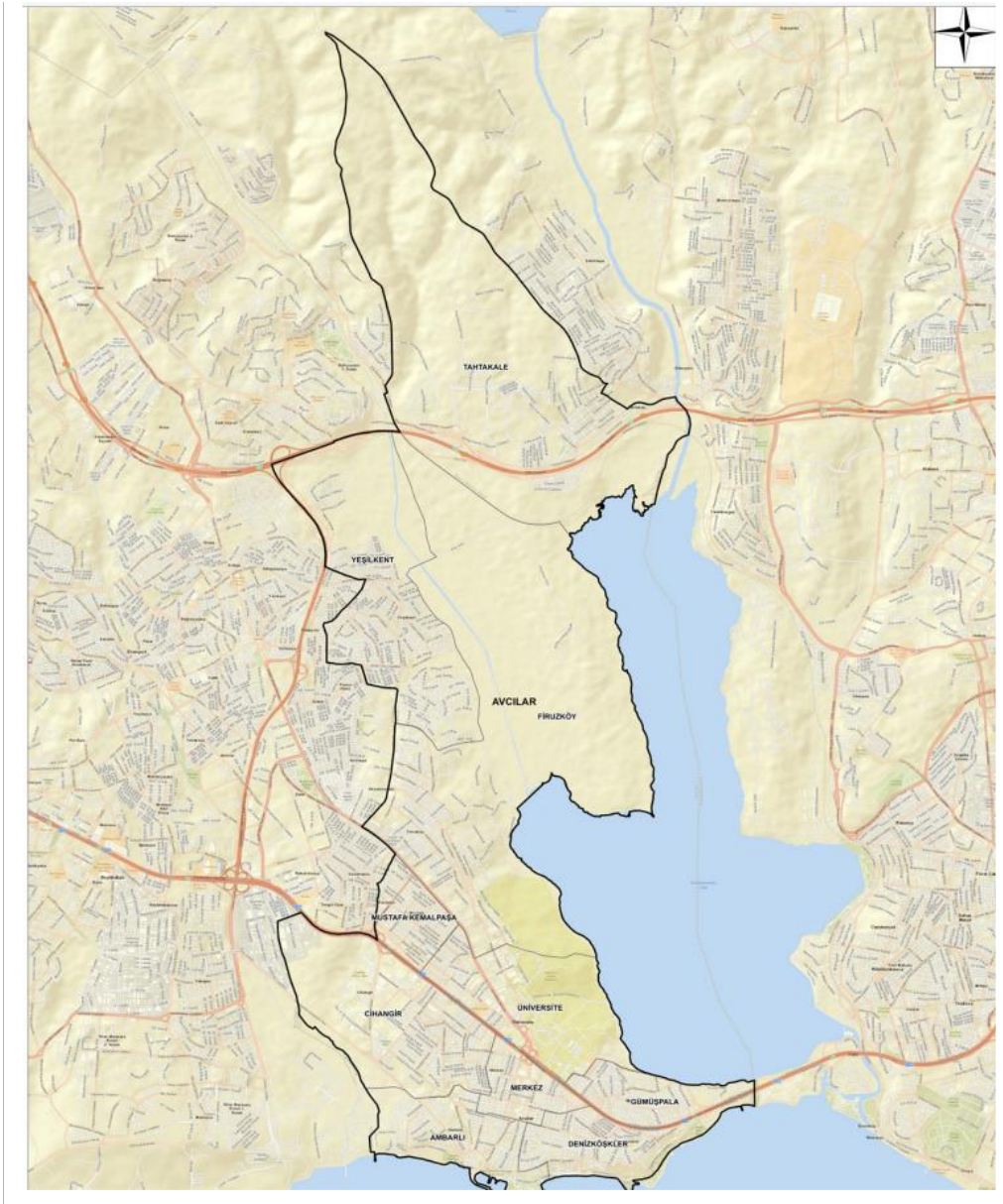


Figure 2. Avcılar District and Neighborhoods (İBB, 2020)

4.2. Socioeconomic Attributes

Although until recently Avcılar had not been a very rich district in societal sense, many social facilities were found in the area with the increase of its population. With the İstanbul University campus moved to Avcılar, the district gained liveliness which in turn enriched the social life in the area. Ambarlı coast line harbors many places such as cafeterias, amusement centers, fish restaurants, etc.

As the industrial facilities in the district developed, fishery, viticulture, and agriculture vanished and gave place to industry, commerce, and amusement-relaxation activities. There are more than 250 industrial facilities actively operating in Avcılar mainly in metal ware, textile, and clothing sectors. In this respect, more than 40% of the population consists of manual laborers, and 10% of tradesmen and government officers.

There is a state hospital in the district and there are family health centers in each neighborhood. There are also many grand private hospitals and medical centers. These substantially meet the medical needs of the people living in the district.

There are many educational institutions in the district. İstanbul University Avcılar Campus and Gelişim University are two important examples of these. There are Engineering, Veterinary, and Business Faculties, and Technical Sciences, Transportation and Logistics, and Physical Education and Sports Vocational Schools in İstanbul University's campus. Barış Manço Cultural Center and Town Centers host training courses free of charge. Social activities and various organizations are also held in these places.

According to the Socioeconomic Development Ranking of Districts Research done in 2017 by the Ministry of Industry and Technology Development Agencies General Directorate, Avcılar ranked 78th across Turkey and 30th in İstanbul.

4.3. Identification of Risks for Avcılar

4.3.1. Natural and Anthropogenic Hazards

Avcılar faced many disasters in history. Some of these disasters are natural such as floods, earthquakes, and landslides and the others are human-made such as industrial accidents, falling planes, and terrorist attacks.

The natural disasters occurred in Avcılar in the last 2000 years are given in the table below;

Date	Description
14.12.557	A great mass move and landslide happened. Substantial structural damages occurred on the west side of the Küçükçekmece Lake. According to Ambraseys, these areas where the structural damages had happened are on the east of Avcılar and Firuzköy.
10.07.1894	The second earthquake that caused a landslide happened. This earthquake caused a 3-kilometer-long and 8-centimeter-wide slit parallel to the coast on the east side of the Ambarlı Village in Avcılar District. After the earthquake, landslides happened in Sirkeci and Eminönü. Also, some slits parallel to the coast formed in Esenköy. Some subsidences and slits, longest of which was 200 meters, formed in Adalar, which was affected most by the earthquake. Some subsidences were observed on the surface in Sivriada due to the landslides. Some slits formed in Suriçi in the area from Balıkpazarı to Limon Pier and in front of the Sirkeci Pier along with some subsidences on the ground. The ground subsided to some extent in Ortaköy causing the mosque near the sea to bend approximately 2 centimeters.
21.01.1975	1 technician died in the Ambarlı Power Plant due to an accidental explosion. The energy boiler that was decommissioned due to an explosion in the Ambarlı Hydroelectric Plant was replaced with another one whose production was completed in 1977, increasing the energy production capacity of the plant.
30.01.1975	On the evening of 30 January, the plane from İzmir to İstanbul could not land in Yeşilköy due to a blackout on the airfield and fell into the sea off the Ambarlı coast. 41 people died in the accident.
30.01.1989	A landslide happened in Ambarlı. A natural gas pipe has exploded due to the

	landslide, resulting in the temporary loss of natural gas.
13.08.1990	Especially Üsküdar, Avcılar, Gaziosmanpaşa, Beykoz, Kadıköy, Küçükköy, Beşiktaş and Fatih districts were affected by the heavy rain, and basements and lower floors were inundated. Water flooding the main streets disturbed the vehicle traffic.
29.09.1998	Rainfall in 29-30 September severely disrupted the life in İstanbul. Floods occurred in Alibeyköy, Kocasinan, GOP, Güngören, Merter and Avcılar. Train departures were canceled or delayed because TCDD Halkalı Terminal Train Station was flooded.
04.7.1999	1 died and 30 injured in the explosion of a bomb placed in a trash can in Avcılar.
17.08.1999	Lives and property lost due to soil amplification as the result of 7.4-magnitude earthquake (see EQ-1999-0000-İstanbul) that occurred around İzmit.
09.08.2002	The rain that started at 20:00 lasted one and a half hours resulting in the flooding of streets. Many houses and workplaces in some districts including Maltepe Beykoz, Eyüp, Kartal, Gaziosmanpaşa, Avcılar, Esenler, Bayrampaşa, Şişli and especially Kadıköy, Üsküdar, Ümraniye, Bağcılar and Beşiktaş were inundated due to flooding of some rivers.
01.04.2004	438 houses were damaged due to landslide occurring in Avcılar Ambarlı Neighborhood, Badem, Bayırlı and Bahçe streets.
21.06.2004	256 workplaces were inundated in 5 districts. In a statement from AKOM, it was told that the rain was heavy especially in Avcılar and Esenyurt, it exceeded the normal seasonal level in a shorter time than expected and caused adversities.
26.06.2004	A landslide occurred in Ambarlı in 2004 due to extreme snowfall.
05.12.2004	After a landslide had caused a 7-floor building to collapse, 19 buildings were evacuated. 38 houses were started to be observed for risks. Avcılar Balaban area was declared a disaster area. The area of effect of the landslide had a width of 700 meters and a length of 350 meters with a slide surface of 13 meters to 40 meters. One of the main reasons of the landslide in the area was that the water accumulated due to rainfall and garden watering was not drained.
04.07.2005	More than 500 houses and workplaces on the Anatolian side were inundated due to the rain that started in the morning. Rain water covered the E-5 highway leaving many vehicles stranded. Flooding occurred in Gaziosmanpaşa, Bahçelievler, and Küçükçekmece on the European side. Ayamama, Tavukçu,

	Çinçin, and, in Pendik, Kemikli rivers were flooded. A 20-meter part of Plevne Street subsided. Many houses were inundated in Pendik, Maltepe, GOP, Eyüp, Ümraniye, Kadıköy, Sultanbeyli, Sarıgazi, Samandıra, Tuzla, Üsküdar, Esenler, Bakırköy, Bahçelievler, Ataköy, Bağcılar, Avcılar, Beyoğlu, Güngören, K. Çekmece, Halkalı, Yeşilköy and Şişli districts.
23.06.2010	Ground floors and basements of some buildings in some districts including Avcılar, Bahçelievler, Zeytinburnu and Bağcılar were inundated due to heavy rain in İstanbul. İstanbul Metropolitan Municipality Fire Department stated that nearly 30 calls on flooding were received since the previous night.
28.10.2010	Due to excessive precipitation, 3 sewer lines flooded. There were also inundations in Ambarlı, Avcılar, and some districts of Kadıköy, Arnavutköy and Büyükçekmece.
07.08.2014	İstanbul Metropolitan Municipality stated that the amount of precipitation due to heavy rain starting in the afternoon was between 7 to 25 kilograms per square meter, the speed of wind rose up to 55 km/h before the rain and blackouts occurred in some parts of İstanbul. The amount of the precipitation was between 7 to 25 kilograms per square meter in 10 minutes during the rain which fell on the whole coastline of İstanbul. It was found that the precipitation entering from the Thrace region was effective and caused damage in Avcılar, Küçükçekmece, Başakşehir, Bakırköy, Bağcılar and Bahçelievler districts.
04.09.2014	The open dumper of a tanker going in the Topkapı direction carrying chemicals hit the pedestrian overpass in Avcılar at one of the most busy points of İstanbul traffic. A part of the overpass collapsed with a loud noise. The collapsed part of the overpass fell down on the tanker that hit it and another minibus. 1 died and 4 was injured in the accident. After the accident, traffic on the E-5 highway were stopped both ways. The congestion in the traffic covered an area from Esenyurt to Mahmutbey. The starting point of the congestion was the connection road in Levent. E-5 road was reopened to traffic after 5 hours. Because the tanker was filled with liquid glucose, the streets were foamed to prevent any possibility of fire. Citizens were warned not to get close to the area.
21.08.2015	İstanbul Metropolitan Municipality departments received 191 flooding and inundation calls due to the intermittent heavy rain across the city. İSKİ, Road Maintenance, Fire, and Waste Management Departments responded to the received calls. Calls were received from E-5 Haramidere junction, Ambarlı junction, Esenyurt Fatih industrial site and Arnavutköy Bolluca.

Table 3. Disasters Occurred in Avcılar District in the Last 2000 years (Ergenç N., 2016)

It is understood that natural and anthropogenic disasters that occurred before still pose a serious risk for the district due to Ambarlı Natural Gas Refueling Facility continuing to operate; landslide and earthquake risks subsisting with regards to the geological and topographical ground attributes and active fault lines; and infrastructure works not being improved sufficiently for resilience against floods and natural disasters. Especially the Great İstanbul Earthquake poses a significant threat of loss of lives and property and infrastructural problems due to the intensity of old and risky buildings; presence of illegal settlements because of the lack of zoning plans in some neighborhoods; and the ground attributes of the districts.

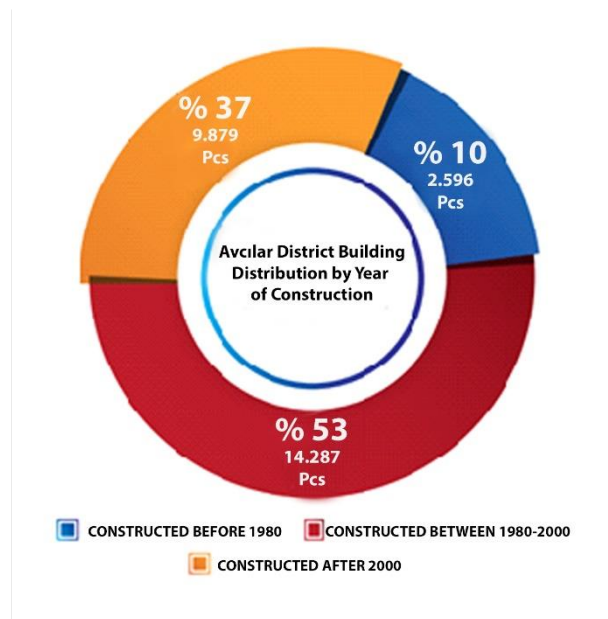


Figure 3. Avciilar District Buildings by Year of Construction (İBB, 2020)

Neighborhood	VERY HEAVILY DAMAGED	HEAVILY DAMAGED	AVERAGELY DAMAGED	SLIGHTLY DAMAGED
AMBARLI	26	105	388	634
ÇİHANGİR	37	169	688	1.171
DENİZKÖŞKLER	33	138	516	843
FİRÜZKÖY	19	150	676	1.005
GÜMÜŞPALA	27	115	446	750
MERKEZ	17	64	253	471
MUSTAFA KEMALPAŞA	21	91	416	821
TAHTAKALE	5	52	321	658
ÜNİVERSİTE	12	64	276	480
YEŞİLKENT	36	313	1.565	2.452
TOTAL	233	1.261	5.545	9.285

Table 4. Avciilar District Building Damage Estimation by Neighborhood for Scenario Earthquake (Mw:7.5) (İBB, 2020)

Neighborhood	CAUSALTIES	SEVERELY INJURED	HOSPITALIZED	SLIGHTLY INJURED
AMBARLI	67	35	191	364
CİHANGİR	87	46	252	496
DENİZKÖŞKLER	74	39	212	409
FİRUKÖY	18	7	61	135
GÜMÜŞPALA	63	34	184	353
MERKEZ	44	23	124	241
MUSTAFA KEMALPAŞA	47	25	134	274
TAHTAKALE	3	1	26	76
ÜNİVERSİTE	19	9	55	113
YEŞİLKENT	43	20	146	338
TOTAL	465	239	1.385	2.799

Table 5. Avcılar District Casualty and Injury Estimations by Neighborhood for Scenario Earthquake (İBB, 2020)

In addition, Avcılar has a coastline both on Küçükçekmece Lake and the Sea of Marmara meaning that the Denizköşkler, Gümüşpala, and Ambarlı neighborhoods on and around Avcılar coastlines are under serious threat of tsunami and flooding in case an earthquake on the expected scale actually happens. It is estimated that a 0.541-km² area in 6 neighborhoods, covering 1.29% of Avcılar in total, will suffer from floods due to tsunami. The distribution of the tsunami flooding area by the neighborhoods in the district and flooding percentages are shown in the chart and table below. According to the results of the assessment, Denizköşkler Neighborhood flooding area percentage is 17.52%. Gümüşpala Neighborhood follow this with 12.73%. The highest flooding depth value calculated is 5.20 meters for Denizköşkler Neighborhood.

Neighborhood	Max. Flood Depth	Average Flood Depth	Flood area m ²	Total NBHD Area km ²	Flood area %
DENİZKÖŞKLER	5.20	1.14	296.925	1.695	17.52
GÜMÜŞPALA	4.54	0.89	146.200	1.148	12.73
AMBARLI	4.77	1.97	96.000	1.841	5.22
ÜNİVERSİTE	0.36	0.21	950	2.835	0.03
FİRUKÖY	0.30	0.15	825	12.488	0.01
TAHTAKALE	0.13	0.11	75	11.427	0.00

Table 6. Avcılar District Flooding Analysis Results by Neighborhood (İBB, 2020-1)

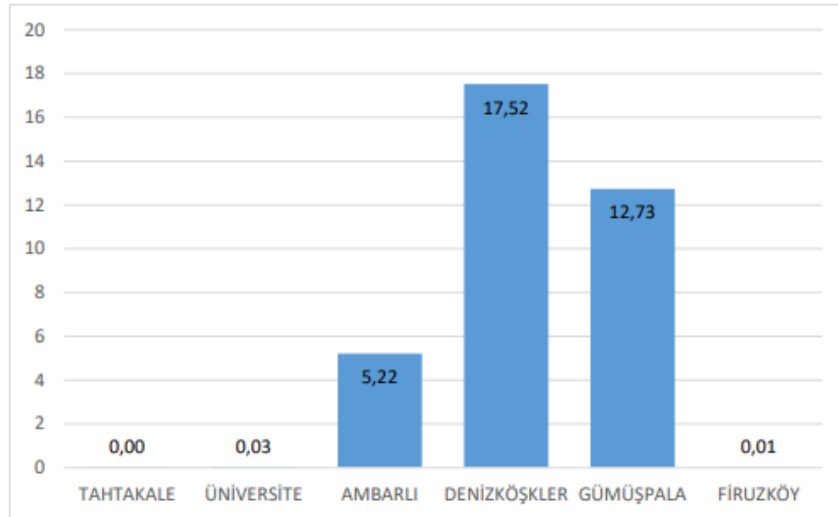


Figure 4. Avcılar District Flooding Area Chart Based on Neighborhoods (İBB, 2020-1)

4.3.2. Risks Related to Environment and Ecosystems

Ecosystems and natural environments in urban areas are subjected to pressure by the usual consequences of urbanization such as population growth, increased constructions, and industrialization. This pressure causes changes in all ecosystems in cities and sometimes disruptions in the systems. As a result of these changes, the benefits of the ecosystems are reduced, urban resilience and consequently it's components such as welfare level and standards of life of citizens are lowered, and vulnerabilities related to human health arise.

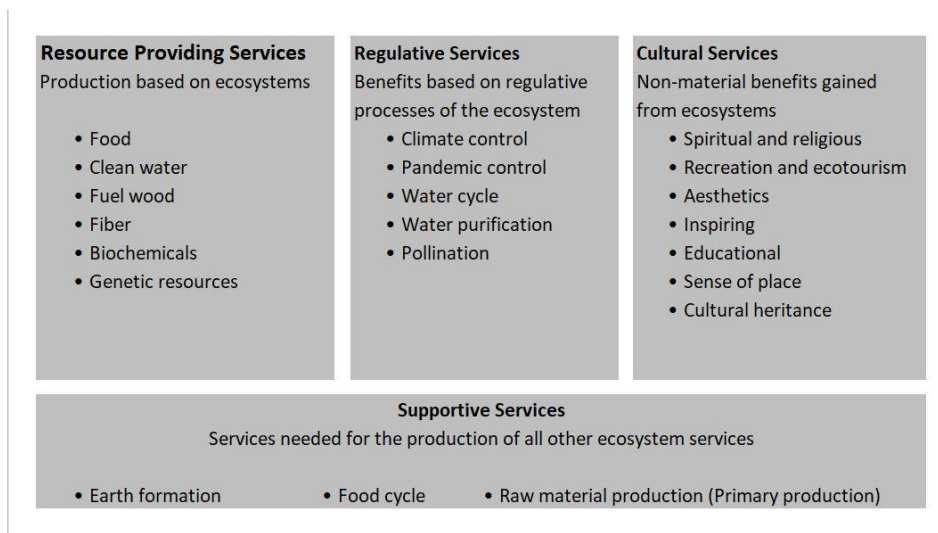


Table 7. Ecosystem Services (MA.,2005)

Urbanization exacerbates many environmental and ecosystem-related problems like air pollution, sea and lake pollution, lower diversity of plants and animals, static disruptions due

to human-made changes on natural topography, and climate change. In turn, these problems directly affect human health negatively.

The most critical of these threats is the climate change, in other words, the change in the climate of the earth globally or regionally in a period of some decades or longer, caused by the increase in the greenhouses gases in the atmosphere due to human activity. The concept of climate change is defined by IPCC as “the climatic changes that arise in time as a result of natural changes or human activities”. (IPCC, 2016)

Negative impacts of the global climate change affects Turkey as it does the whole world.

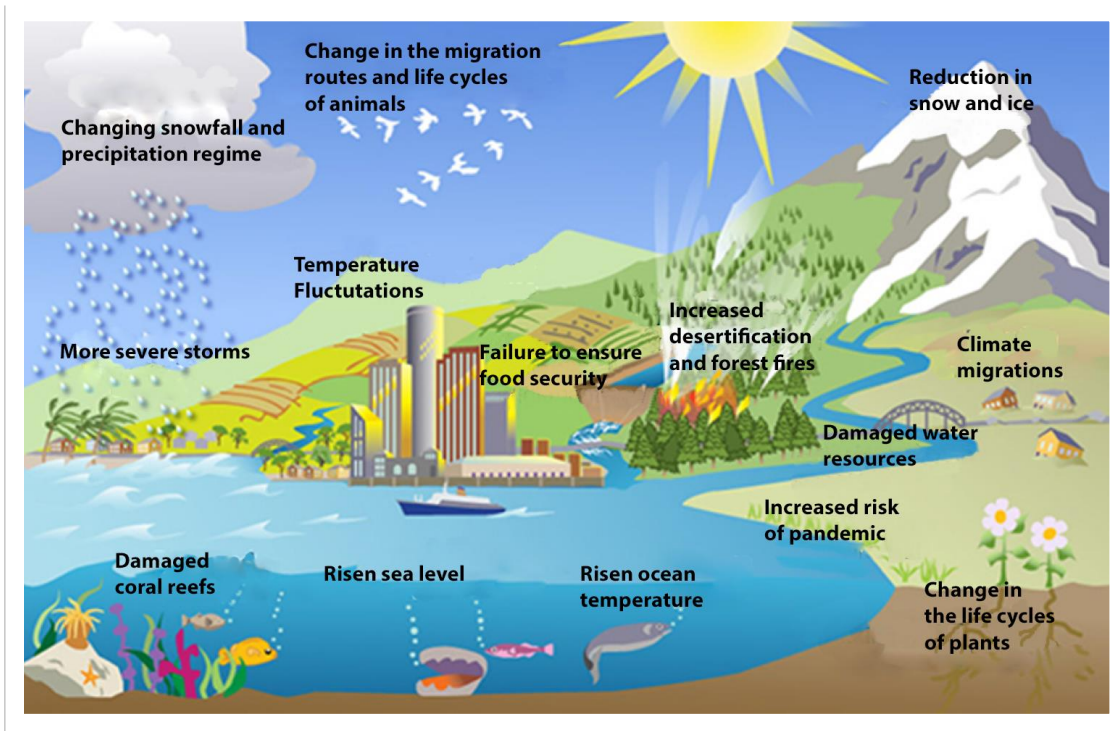


Figure 5. Impacts of the Climate Change (Tuğaç Ç., 2019)

The impacts of the climate change can be observed as scarcity in water and food, storms, droughts, fluctuation in temperature, change in the migration routes of animals, differentiation of life cycles of plants and animals, increase in the pandemics, desertification, floods, fires, and secondary effects of these. These impacts affect the whole world and naturally pose a risk to Avcılar too.

Mucilage issue, recently becoming a main topic of conversation and demonstrating the pollution of the Sea of Marmara, poses a serious problem for Avcılar. It is obvious that the

mucilage will cause the biodiversity in the Sea of Marmara to be lost, disruptions will arise in the sea ecosystem, and the prestige and aesthetic value of the Avcılar Beach, which is very important for the recreational activities of Avcılar citizens, will be damaged. In addition, gradually increasing pollution in Küçükçekmece Lake previously caused negative effects such as mass death of fish, unpleasant smell and contamination. Considering the fact that lake side is also important for recreational activities and the prestige of the city, it is understood that the pollution of the lake is another important risk for Avcılar. Moreover, some other local environmental risks specific to Avcılar except for the mentioned regional ones are listed below:

- The amount of green space being lower than world standards and insufficiency of green space per person due to the district's intensity of population and constructed environment;
- Excessive amounts of waste due once more to the intensity of the population and these wastes not being recycled to the benefit of the nature;
- Sustainable energy sources (solar power, wind power) not being preferred or encouraged;
- Urban ecosystem and natural materials that do not damage the environment not being prioritized in service works;
- People of the city not being aware or sensitive enough on environmental consciousness or sustainability;
- Harmful gases emitted by many factories situated in the district increasing the air pollution.

4.3.3. Works Towards Socioeconomic Inequalities, Protection of the Cultural Memory, Social Harmony and Security Risks

In urban systems, the socioeconomic aspect includes the most complex and interactive components of the system. Resources and processes representing integrated human systems are important complements that ensure resilient flexibility on the city level. Social resources that have different components such as knowledge, culture, belief, population, financial capital, workforce, and institutional structure are important parts of human ecosystems. Ensuring the resilient flexibility on the city level is only possible through resilience, adaptation, and flexibility capacities of the communities residing in the city against natural or human-made disasters. As a result, socioeconomic aspect in resilient flexible

urban planning has critical importance and must be managed with detailed analyses. Cities having a heterogeneous structure in terms of financial activities are the key areas for ensuring the economical aspect of resilient flexibility because in addition to growth and development opportunities they have, negative factors like poverty and economic crises are intensively effective in these places. The sectoral diversity cities need to have gains importance as the economic tendencies and markets change, and affects the urban resilient flexibility attribute. (Aydın T., 2019) Poverty is the most vulnerable point of the present-day cities because it brings along the creation of a population that cannot keep up with urban economic, scientific, and technological developments, and participate in the urban production. In this process, poverty may reach to such a point that it becomes unpreventable. The impoverished people in the social structure who do not have access to clean food and water as well as health, education, and security services constitutes the most vulnerable and sensitive group in the society. For this reason, the cities where the impoverished population is the majority are thought to be the more vulnerable ones. (Altun A., 2011)

In light of all this data, it is understood that it is important to socioeconomically reduce the poverty of the local people and regulate income inequality, which is one of the most important components of urban resilience; ensure that people benefit equally from the education, healthcare, infrastructure and superstructure, and security services provided by central or local governments; protect the cultural identity of the city, ending discrimination based on gender, supporting disadvantaged groups such as the elderly, disabled, minorities etc. for creating the social resilience in the city.

When the socioeconomic status of Avcılar is examined, it is seen that the socioeconomic development level of the neighborhoods vary. Based on the data from 2016, a socioeconomic development index on neighborhood level has been created in a study conducted under the “Mahallem İstanbul” (My Neighborhood İstanbul) project supported by İstanbul Development Agency. The scores of neighborhoods on a scale of 100 can be seen the table below:

Cihangir NBHD	38,4
Mustafa Kemal Paşa NBHD	34
Denizköşkler NBHD	45,7
Tahtakale NBHD	44,3
Yeşilkent NBHD	24,9
Gümüşpala NBHD	35,6
Ambarlı NBHD	34,7
Merkez NBHD	60,8
Firuzköy NBHD	31,8
Üniversite NBHD	58,2

Table 8. Social Development Index of Avcılar District Neighborhoods, 2016

In addition, migration problems that unexpectedly arise in cities due to reasons such as wars, economic factors, and natural disasters may cause adversity between local people and refugees. The fact that approximately 4 million Syrian people migrated to Turkey and refugees settled in various cities in the country is an example of this. Considering that Avcılar also has many refugees and asylum-seekers some of whom don't speak Turkish, need time to adapt to the social life in the city, are experiencing economical problems, in need of psychological support due to emotional damages they suffer caused by the war; their children's education is interrupted and the possibility that they may be excluded or may not be accepted by a part of the local people, it is understood that a risk of social adversity is present for Avcılar.

One of the inevitable results of the globalization process is that cities have become the focal points of all types of conflicts and attacks. Traditional security measures and law enforcement forces are proven to be insufficient against the terror attacks carried out in cities today. Prevention of terror-related problems requires coordinated efforts by not only the central government but also the local government. Cities in Turkey have experienced serious terrorist attacks in recent years. As an example of this, 1 person died and 30 injured in an explosion of a bomb left in a trash can in Avcılar in 1999. Again in 2007, 5 people were injured because of bomb placed at the Mustafa Burcu Park in Ambarlı coast. It can be said that terror is an element of risk threatening peace, tranquility, and security in Avcılar as it is for every other city.

4.4. Sustained Risk Prevention, Reduction and Readiness Works

4.4.1. Reduction and Prevention Works Related to Natural and Anthropogenic Hazards

Local governments have responsibilities towards predicting, managing and reducing disaster risks, establishing early warning systems and act in accordance with these, and create certain disaster management structures. In this context, Avcılar Municipality conducts preparation works towards risks related to natural and anthropogenic hazards:

- Studies towards identification of the risky buildings and urban transformation works are conducted in Avcılar district in the city of İstanbul under the heading of “Earthquake-oriented Urban Transformation Master Plan”. In addition, “Earthquake Precursors Observation Station” that aims to collect signs of possible earthquakes in Avcılar which suffered a big loss in the 1999 earthquake was opened in August 2015. Thanks to the station situated 10 kilometers away from the fault line in the Sea of Marmara, underground moves are observed with the aim of detecting an earthquake before it happens and estimate its magnitude. Monthly maintenances and reports of the Earthquake Precursors Observation Station established in Firuzköy Neighborhood are regularly conducted and produced.



Figure 6. Earthquake Precursors Observation Station



Figure 7. Earthquake Precursors Observation Station Maintenance Works

- 9 containers that contain 960 pieces of 38 different items of search and rescue materials along with first kits were kept ready in every neighborhood with their monthly cleaning and periodic maintenance carried out in 2020 for the purpose of facilitating the effective participation of neighborhood residents in the search and rescue activities until the arrival of professional response teams at the event scene in case of a disaster under “Disaster Station Project” (AFİS).



Figure 8. AFİS Container Works



Figure 9. AFİS Container Works-1

ITEM No.	CONTAINER ADDRESS	CONTAINER NUMBER (Piece)
1	Firuzköy Mah. İlçe Emniyet Md. Yanı Nesrin Cuma İbiş Parkı	2
2	Tahtakale Mah. Avcılar Bel. Ispartakule Ek Hizmet Binası Bahçesi	1
3	Tahtakale Mah. Avcılar Bld. Kültür Merk. Ek Hizmet Binası Bahçesi	1
4	Merkez Mah. Spor Sk. Avcılar Polis Merkezi Bahçesi	3
5	Merkez Mah. Avcılar Bel. Bülent Ecevit Parkı	1
6	Firuzköy Atatürk Spor Kompleksi	1

Table 9. AFİS Container Locations

- Smart Poles placed in 3 gathering areas with the purpose of benefiting from the clean energy in the nature can provide continuous charging and free wi-fi services. Periodic maintenance of the Smart Poles providing continuous charging and free wi-fi services that work on solar power were carried out regularly in 2020.

- A 10-person team of Avcılar Municipality personnel participated in the Civil Defense Expert Trainer Training in AFADEM Center in Ankara between 11-14 November and received their certificates. All municipality personnel were given disaster awareness training in many schools.
- ABAG (Avcılar Municipality Disaster Volunteers) project was launched to create a team of volunteers in the city in case of a possible disaster. The aim is to create a systematic volunteer network with an extensive training program that includes regular training meetings every month with the participation of citizens that wish to be disaster volunteers.
- ABİS (Disaster Information System) implemented in the official website of the municipality ensures that all contact information of all vital centers during a disaster are up to date and available for local people to access through an online map.
- Avcılar District Disaster and Emergency Operation Plan (ADOP) in which target problems were defined and their solutions were produced was prepared and published on the official website of the municipality with the purpose of defining the duties of departments of Avcılar Municipality and how they are to provide the emergency services in order to reduce the unknowns and uncertainties during disasters and emergencies according to the disaster risk levels specified in the İstanbul Provincial Disaster Response Plan (TAMPIST) under local action planning. Within the scope of this operation plan, duty and responsibility distribution in the institution is made beforehand to ensure that a more effective and rapid disaster response is carried out during a disaster.
- “Avcılar District Gathering Areas and Tent Areas” study that has started in 2015 and uninterruptedly continuing since then is being conducted in coordination with İstanbul Governorship Provincial Disaster and Emergency Directorship. The number of gathering areas is increased to 42 in the meeting held on 10 December 2019 in İstanbul Governorship Provincial Disaster and Emergency Directorship. The updated number of the gathering areas by neighborhood was embedded on the satellite images in the ABİS (Disaster Information System) section of the website.

- Considering the fact that zoning plan changes that allow the stimulation of urban transformation under the Law on Transformation of Areas under Disaster Risk numbered 6306 are necessary in Avcılar district where buildings that don't include engineering services, are non-resilient against earthquakes, violating planning principles, and/or zoning regulations are predominant, plan notes were developed to encourage the participation of the public and facilitate their reconciliation with the implementers and added to the plan notes of implementation zoning plans in effect. The changes prepared for plan notes of 1/1000 implementation zoning plans were resolved by the Avcılar Municipality District Council Resolution dated 08 October 2019 and numbered 2019/64 and the "Changes for Plan Notes of 1/1000 Avcılar District Implementation Zoning Plans" that aim to return the lost total construction area rights regarding the lots in the planning zone borders were confirmed by İstanbul Metropolitan Municipality Mayor's Office on 15 May 2020.
- AVBEL was founded as an affiliate to accelerate the urban transformation in the area and ensure that projects are implemented correctly, completely, in time and in a way that benefits the property owner the most. Many preventive works and risk analyses were conducted to accelerate the urban transformation and define the attributes of Avcılar. All buildings in Avcılar were examined in the risk analyses by neighborhood and risky buildings were identified.

ZONING	NEIGHBORHOOD	1ST PRIORITY RISKY AREAS	2ND PRIORITY RISKY AREAS	STRUCTURES BEFORE 1999	AREAS THAT DO NOT REQUIRE EMERGENCY RESPONSE	TOTAL STRUCTURES
1st ZONE	Merkez	169	445	382	120	1.116
	Ambarlı	202	422	881	200	1.705
	Denizköşkler	547	375	943	292	2.157
	Cihangir	293	412	1.202	1.063	2.970
2nd ZONE	Gümüşpala	327	284	981	444	2.036
	Üniversite	136	79	477	362	1.054
	Mustafa Kemal Paşa	170	200	933	736	2.039
3rd ZONE	Yeşilkent	55	77	6.364	2.070	8.567
	Firuzköy	32	66	1.862	1.113	3.073
	Tahtakale	25	258	1.984	597	2.864
GRAND TOTAL		1,957	2,618	19,109	3,897	27,581

Table 10. Building information by region

With urban transformation gaining pace in the last year through both zoning plan changes and the founding of AVBEL, the potential loss of lives and property as a result of a disaster in the city has been reduced.

4.4.2. Reduction and Prevention Works Against Risks Related to Environment and Ecosystems

Many actions have been taken with the purpose of preventing and reducing the damages on environment and ecosystems that occur as a result of urbanization, and contributing to development of a sustainable environment.

- Analyses were carried out to prevent all types of environmental pollution including air, water, noise, smell etc. Field works were conducted and public services were provided in accordance with the demands of citizens.
- The works towards sorting and recycling of wastes according to their types were expedited with the purpose of implementing the sample waste management plans to prevent the damages on environment from wastes.
- Asbestos Inventory Reports are prepared by experts for building destruction on the stage of issuance of destruction permit in order to prevent the negative effects of asbestos and other dangerous wastes that cause many respiratory diseases, notably lung cancer, on public health.
- All sanitary and non-sanitary businesses operating in the district whose operations were reported with regards to environmental pollution (air, water, waste, noise, view, etc.) were inspected in accordance with the related regulations ensuring that business implemented the necessary cautions and resolved the reported issues.
- Herbal oil waste collection campaigns were organized to increase the sensitivity about the environment and waste reduction week activities were done. Smart recycling and animal food machines were placed at certain points in the district to draw attention to returning recyclable wastes to economy by recycling and

change/develop waste handling habits of residents in the district. These machines help to the collection of recyclable wastes (plastic and glass bottles, metal boxes etc.) on the one hand and every piece of waste put in the machines contribute to the feeding of street animals with food and water support on the other hand.



Figure 10. Smart Recycling Machines

- With the purpose of minimizing the negative effects of the measures taken to fight against Covid-19 pandemic affecting the whole world since 2019 and the wastes created due to these measures, the citizens were informed of hygienic actions that contribute to protection from the pandemic and measures to prevent the increase in the water consumption because of the pandemic by saving water through short animation films on the social media. Waste collection cans were placed at some gathering areas where the use of masks and gloves was intensive. In addition to the routine cleaning works carried out since the beginning of the pandemic, disinfection works were also conducted in and around parks, streets, public institutions, transportation stations, and buildings.
- “Cities for Climate” declaration stating that local governments will do their part to make cities just, egalitarian, and livable keeping the global warming under the limit of 1.5 degrees until 2030 was signed on 5 December 2019 with the purpose of preventing the damage caused by the climate change within the frame of the vision set forth by the Paris Agreement. In this context Sustainable Energy and Climate Action Plan was prepared. For this reason, a greenhouse gas inventory report on district scale was prepared based on the data collected by identifying

the greenhouse gas emission sources. Meetings and workshops with the institutional stakeholders were organized according to this report.

- A permaculture department was established in the municipality that carries out works towards the collection of organic wastes for making compost and using it in green space arrangement preventing bad smells caused by organic wastes by natural manners.
- Use of natural materials such as sand and tree bark instead of petroleum products like rubber for parks and environmental arrangement works was encouraged. In addition, works towards reducing the water use in green space arrangement such as preferring ground cover plants and reducing the grass use are continuing. New park arrangement works are also in order to increase the green space area in the city.

4.4.3. Works Towards Socioeconomic Inequalities, Protection of the Cultural Memory, Social Harmony and Security Risks

Activities conducted in the district towards increasing social resilience are as follows:

- Art, designing, and language courses for both children and adults are offered in the Culture Centers and Town Houses that belong to the municipality.



Figure 11. Art-Culture Courses

- 80 in folk dance, 70 in goblet drum, and 50 in violin, a total of 200 kids were taught different courses within the scope of children's education study by Romani Culture,

Art, and Education Workshop opened in 2020 for the Romani people who are in the minority status in the district.



Figure 12. Romani Culture Art and Education Workshop

- Free of charge theater and art events were organized and artists facing economic challenges due to pandemic were given the opportunity to perform online shows.
- Masks designed specifically for the hearing-impaired, which is a disadvantaged group in the society, were handed out free of charge during the pandemic. Free of charge domiciliary cleaning and nursing services are provided to the disabled and elderly. Medical materials and wheelchairs are provided also free of charge for sick and disabled people. Consultation services and sign language training are offered for disabled people. A disabled wellness center was established for the education and rehabilitation of both physically and mentally disabled people.



Figure 13. Gülten Nakipoğlu Wellness Center for Disabled People



Figure 14. Gülten Nakipoğlu Wellness Center for Disabled People-1

- Impoverished children were handed out tablets with the purpose of contributing to the provision of equal education opportunities. Within the scope of “Read Avcılar” project, many books including question banks and school books were opened to access.
- Free of charge sports (basketball, volleyball, table tennis, chess, karate, etc.) works were carried out for supporting the well being of the people.
- 470 households facing economic challenges accounting for a total of 326,218 people are provided with hot meals two times a day. In addition, 21,100 food aid boxes were delivered to homes in 10 neighborhoods by Social Support Services Directorate.

- Free of charge public transportation services were provided to the elderly and disabled. In addition, “baby taxi” service was started for transferring mothers to hospitals for the delivery operation.
- Ambarlı Women’s Handiwork Market where 20 booths were set up by women to show their products was established with the purpose of supporting women economically. Women’s Consultation Center where experts see women to provide them with consultation services was commissioned for informing and guiding women in legal, psychological, and social matters helping prevent violence against women. Seminars and trainings are given on subjects such as social gender equality, violence against women, women’s health, etc.



Figure 15. Women’s Handicraft Market



Figure 16. Women’s Consultation Center

- Social Gender Equality Department was established to conduct works towards making, implementing, and institutionalizing policies related to all disadvantaged groups in the society from the perspective of social gender equality.

- Consultation services are provided to women, families, and children who apply to the Psychological Support Services Department. In addition, trainings and seminars are offered on various matters such as School of Marriage and Life, Anger Management, Stress Management, Anxiety Disorder and Coping Methods, Depression, Adaptation Problems in Children and Coping Methods, etc.
- The factory of a smart phone production company operating on the global scale was established in the district creating an employment opportunity for 2000 people with the encouragement of the municipality in increasing the economic resilience of the city and supporting the regional industrial diversity. In addition, works towards establishing an “Entrepreneurship Center” were started to decrease the unemployment rate in the city. Besides, Career Days were organized where employers and job seeker can find each other.
- Regular protection and inspection works are conducted for protecting the cultural memory in the cultural assets of the city, especially the Ancient City of Bathonea which is the most important cultural and historical asset in the city.



Figure 17. Ancient City of Bathonea

5. AVCILAR MUNICIPALITY RESILIENCE ACTION PLAN

A resilience action plan can be created for Avcılar by integrating the concept of resilience in all plans and services prepared or carried out by the municipality based on conducted risk assessments, and measures and reduction works for Avcılar district mentioned above.

In this context, some strategic targets (listed below) in the Avcılar Municipality Strategic Plan are the pillars of the Resilience Action Plan:

ST. 4.1: Developing Environmentally Friendly Projects towards Mitigating the Effects of Urbanization and Climate Change Implementing Exemplary Waste Management Applications

ST. 6.1: Building Living Spaces That Extend Modern Architecture Protecting the Cultural Memory of the City

ST. 6.2: Developing Livable Infrastructure and Superstructure in Public Outdoor Areas

ST. 6.3: Increasing Emergency Capacity and Awareness

ACTION 1. Preventing Dangers and Damages Caused by Natural Disasters

RESILIENCE DIMENSION	Natural Disaster
PRIORITY	Critical
TARGET	Minimizing risks such as loss of lives and property, disruptions in the infrastructure and superstructure, and weakening in the urban economy caused by natural disasters such as earthquakes, floods, and landslides

ACTION 1.1.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Accelerating the preparation processes of zoning plans for ensuring the construction of disaster-resilient buildings and prevention of illegal settlements in Yeşilkent, Tahtakale, and Firuzköy neighborhoods currently lacking zoning plans.	Planning and Projects Directorate	Development and Urbanization Directorate, Urban Transformation Directorate	İstanbul Metropolitan Municipality, Ministry of Environment and Urbanization

ACTION 1.2.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Advancing urban transformation endeavors	Urban Transformation Directorate	Development and Urbanization Directorate, Planning and Projects Directorate, AVBEL	İstanbul Metropolitan Municipality, Ministry of Environment and Urbanization

ACTION 1.3.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Strengthening and renewing the infrastructure and superstructure to be resilient against disasters	Civil Works Directorate	Development and Urbanization Directorate, Park and Garden Works Directorate	İstanbul Metropolitan Municipality

ACTION 1.4.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Ensuring necessary measures and precautions are taken against possible secondary risks and disasters that can be caused by Natural Gas Refill Facilities and Waste Water Treatment Facilities in case of a natural disaster	Environmental Protection and Control Directorate	.....	İstanbul Metropolitan Municipality, EÜAŞ

ACTION 1.5.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Coordinating and realizing the precautionary actions identified by the İstanbul Metropolitan Municipality against the possible tsunami risk in Denizköşkler, Gümüşpala, and Ambarlı neighborhoods	Civil Works Directorate	Development and Urbanization Directorate	İstanbul Metropolitan Municipality

ACTION 1.6.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Providing a secure and accessible place for the crisis desk with the purpose of conducting post-disaster response efforts	Private Secretariat Directorate	.....	AFAD

ACTION 1.7.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Developing the Disaster and Emergency Action Plan, conveying the duties and responsibilities of every assigned directorate and officer in the institution with official written documents	Support Services Directorate	.....	.....

ACTION 1.8.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Increasing the number of post-disaster gathering points	Support Services Directorate	Development and Urbanization Directorate, Planning and Projects Directorate	AFAD

ACTION 1.9.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Stocking the necessary equipment and other materials towards meeting the basic shelter, food, water, and first aid needs of the local people during the first 72 critical hours after the disaster	Social Support Services Directorate	Support Services Directorate	İstanbul Metropolitan Municipality

ACTION 1.10.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Placing AFİS containers to other neighborhoods than Firuzköy, Tahtakale and Central Neighborhoods where they are already present in the district	Support Services Directorate	Civil Works Directorate	AFAD

ACTION 1.11.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Accelerating coordination and rescue efforts during disasters by creating teams of “neighborhood disaster volunteers” through neighborhood administrations, giving attendant ID cards to all team members	Social Support Services Directorate	Sanitary Works Directorate, Support Services Directorate, Transportation Services Directorate	AFAD

ACTION 1.12.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Ensuring a volunteer first aid team is formed in every neighborhood consisting of doctors, nurses, and psychologists providing voluntary services	Sanitary Works Directorate	Social Support Services Directorate	Neighborhood administrations

ACTION 1.13.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Regularly offering up-to-date disaster training courses for both institutional personnel and citizens, employing necessary emergency drills	Support Services Directorate	Human Resources and Training Directorate, Press and Public Relations Directorate	AFAD

ACTION 1.14.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Identifying and mapping the transportation routes to be used during disasters and informing the citizens about the matter	Transportation Services Directorate	Development and Urbanization Directorate	İstanbul Metropolitan Municipality

ACTION 1.15.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Identifying the “documents to be saved first” at the risk of getting lost or damaged due to the disaster, creating backups and uploading them into the digital archives	Editorial Affairs Directorate	Information Processing Directorate	.....

ACTION 1.16.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Allocating a part of the budget to be used only during times of disasters and/or for works related to disasters	Financial Services Directorate	Private Secretariat Directorate	.....

ACTION 1.17.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Ensuring the continuation of communication during disasters by opening a Municipal Radio Channel in case that communication may be interrupted because of the power outages during disasters	Press and Public Relations Directorate	Information Processing Directorate, Support Services Directorate	.....

ACTION 2. Prevention of Risks to the Environment and Ecosystems

RESILIENCE DIMENSION	Sustainability of Environment and Ecosystem
PRIORITY	Medium
TARGET	Minimizing all pollution in the environment and ecosystems caused by urbanization, ensuring the sustainability of biodiversity and natural resources, and protecting human health as a result.

ACTION 2.1.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Preventing damage to nature and human health by using environmentally friendly materials in urban design works. Changing petroleum-based flooring materials currently being employed in parks, using groundcover plants instead of grass which consumes excessive amounts of water, using perennial plants instead of seasonal plants, making arrangements to increase the area of green space per person in the city.	Park and Garden Works Directorate	Civil Works Directorate	.....

ACTION 2.2.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Performing encouragement and promotion activities, and social media campaigns for informing the public and raising awareness within the scope of waste management and permaculture efforts	Environmental Protection and Control Directorate	Press and Public Relations Directorate	.....

ACTION 2.3.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Implementing the decisions made within the scope of Climate Action Plan	Environmental Protection and Control Directorate	All directorates	.....

ACTION 2.4.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Providing energy for municipal operations by setting up solar and wind power systems to utilize sustainable energy resources, and performing pioneering studies for this purpose. In addition, changing the electric poles in the district with LED lamps consuming less energy or poles that run on solar energy.	Civil Works Directorate	.....	TEDAŞ

ACTION 2.5.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Working towards encouraging (for example, by tax discounts) the use of environmentally friendly materials in new buildings that will be constructed in the city together with institutions of higher levels, organizing seminars on green building systems	Development and Urbanization Directorate	Urban Transformation Directorate, AVBEL	Ministry of Environment and Urbanization

ACTION 2.6.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Giving basic applied agriculture and gardening training courses to increase the citizens affection towards and awareness of nature, awarding certificates, helping volunteering citizens participate in green space maintenance, and arrangement works conducted by the municipality	Park and Garden Works Directorate	Human Resources and Training Directorate	.....

ACTION 2.7.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Conducting improvement efforts in coordination with higher levels of authorized institutions for protecting the bodies of water such as seas and lakes, with special focus on the mucilage problem which is one of the most serious recent topical issues	Environmental Protection and Control Directorate	.....	İstanbul Metropolitan Municipality, Ministry of Environment and Urbanization

ACTION 2.8.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Organizing “most beautiful balcony” or “most beautiful garden” competitions to promote the citizens’ affection towards nature	Park and Garden Works Directorate	Press and Public Relations Directorate	.....

ACTION 2.9.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Designing an area of scouting and organizing activities there to evoke an affection in children towards camping and scouting, and raise awareness of protecting the environment among them	Park and Garden Works Directorate	Civil Works Directorate	.....

ACTION 3. Socioeconomic Inequalities, Protection of the Cultural Memory, Conducting Works towards Social Adaptation and Preventing Security Risks

RESILIENCE DIMENSION	Social Resilience
Priority	Medium-Low
TARGET	Improving the socioeconomic conditions in the city, establishing an environment of peace and security, protecting cultural memory, eliminating social disparities and enhancing the citizens' quality of life

ACTION 3.1.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Conducting urban designing works that assist in providing security in the city along with the traditional security measures. In this context, Significantly pedestrianizing the downtown area in line with the "Steel Belt" approach and preventing direct vehicle traffic, creating open designs in landscape arrangements disallowing any secret points, replacing the poor quality city furniture with new equipment reinforced with steel and concrete	Park and Garden Works Directorate, Civil Works Directorate	Development and Urbanization Directorate, Planning and Projects Directorate	İstanbul Metropolitan Municipality

ACTION 3.2.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Placing cameras and emergency buttons in city parks, and increasing the lighting in streets and parks to improve security in the city	Park and Garden Works Directorate, Civil Works Directorate	Support Services Directorate	TEDAŞ

ACTION 3.3.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Organizing meeting and socializing events for residents of neighborhoods in the city to enhance neighborhood culture and solidarity among neighbors (Paşaeli Picnic Area or Social Facilities can be used for this purpose)	Cultural and Social Affairs Directorate	Women and Family Services Directorate, Human Resources Directorate	NBHD Administrations

ACTION 3.4.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Offering free of charge Turkish language courses to prevent the social disparities between the local people and the increasing number of refugees migrating to the city in the recent years because of the Syrian war, most of whom do not speak Turkish	Women and Family Services Directorate	Cultural and Social Affairs Directorate	.....

ACTION 3.5.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Organizing awareness-raising seminars targeting both local people and refugees to facilitate the adaptation of the refugees and reducing the negative approach of local people towards refugees, organizing various trips, picnics, and sportive events especially with participation of women and children to encourage socializing between different groups of people	Cultural and Social Affairs Directorate	Women and Family Services Directorate, Human Resources Directorate	NBHD Administrations

ACTION 3.6.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Allocating a certain number of stalls in a neighborhood bazaar to the disabled people and women in that neighborhood to promote the participation of women and disabled people in the economy (due to Women's Handicraft Bazaar having a limited capacity)	Women and Family Services Directorate	Real Estate and Expropriation Affairs Directorate, Social Support Services Directorate	....

ACTION 3.7.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Offering free of charge vocational courses and organizing free of charge (transportation to be provided by the municipality) collective art events such as museum or theater visits aimed only at women or girls, considering the fact that women and girls cannot adequately participate in the social life because of reasons related to supposed security, social beliefs and patterns, and heavy domestic responsibilities	Women and Family Services Directorate	Transportation Services Directorate, Cultural and Social Affairs Directorate	.....

ACTION 3.8.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
A one-time provision of house cleaning and childcare informing visit services and meal support for a certain period for the households where puerperal women who need care and assistance because of their health conditions live	Women and Family Services Directorate	Sanitary Works Directorate, Support Services Directorate, Social Support Services Directorate	.....

ACTION 3.9.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Collecting the used secondhand toys from families who wish to donate them, gifting animal food for street animals, books or saplings in return, supporting the impoverished children by delivering the collected toys to the children of families in need, and evoking affection in children towards nature and animals	Women and Family Services Directorate	Social Support Services Directorate, Veterinary Works Directorate	.....

ACTION 3.10.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Supporting disadvantaged students by uploading narrated audio book versions of question banks and textbooks, and subtitled videos relating to verbal lessons in the digital library within the scope of "Read Avcılar" project for the benefit of hearing impaired and visually impaired	Press and Public Relations Directorate	Information Processing Directorate	.....

ACTION 3.11.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Facilitating exchange between generations and creating motivation in elderly people by organizing meetings between elderly people in the elderly day care center and students of a chosen pilot school in our district through free of charge transportation service for care centers or organizing meeting days in social facilities	Social Support Services Directorate	Women and Family Services Directorate, Cultural and Social Affairs Directorate	.....

ACTION 3.12.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Protecting all the cultural and historical assets of the city in coordination with higher levels of institutions by conducting risk assessments for them with the purpose of sustaining cultural memory	Planning and Projects Directorate	.....	Ministry of Culture

ACTION 3.13.	DIRECTORATE IN CHARGE	INTERNAL STAKEHOLDER	EXTERNAL STAKEHOLDER
Opening a cafe (for example, Down Cafe) where only disabled people work in one of the major and busy parks such as Paşaeli City Park or Mustafa Burcu Park, or the Disabled Wellness Center opened by the municipality to help disabled people participate in the social life and socialize, and raising social awareness; using the acquired income for activities related to disabled people or disabled people's associations	Civil Works Directorate	Park and Garden Works Directorate	.....

CONCLUSION

The aim of this study is identifying the risks in Avcılar district, assessing the current activities, and creating the Resilience Action Plan to increase the resilience of the city against natural and anthropogenic disasters as well as socioeconomic, cultural, and environmental risks.

Along with the known serious risks in Avcılar in relation with the natural disasters, social disparities caused by the recent sudden increase of migrant population are lately attracting attention. In addition, economic, environmental, psychological and sociological problems due to Covid-19 pandemic arose in Avcılar, as they did all around the world, negatively affecting the city and the quality of life of the citizens. Many operations were conducted in this process for responding the mentioned challenges and strengthening the vulnerable aspects of the district. Although these operations substantially supported the urban resilience, they are open to improvement with respect to the risks, needs and potentials of the district.

In the last section of the study, a resilience action plan has been prepared for these social, environmental and cultural aspects of the city that are open to improvement and stakeholders in and out of the institution that will conduct the operations and activity offers have been identified. In addition, Avcılar Municipality Emergency Action Plan that was previously prepared by the municipality to increase the resilience of the city against natural disasters has been complemented.

The aim of this report is planning and developing Avcılar to be resilient against natural and anthropogenic disasters, in a culturally productive, socioeconomically just and environmentally sustainable manner. The importance of the resilience operations to be conducted in accordance with the Avcılar Municipality Strategic Plan can be understood better considering the fact that all operations conducted by local governments towards urban resilience contribute both to the country's and the whole world's resilience and sustainability.

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