**CLIMATE AND DISASTER RESILIENT CITIES PROJECT**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**

**FOR KOCAELI PROVINCE**

**DRAFT**

**AUGUST, 2025**

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**List of Abbreviations**

|  |  |
| --- | --- |
| ABPRS | Address Based Population Registration System |
| ARAAD | Transformation of Areas Under Disaster Risk |
| AFAD | Disaster and Emergency Management Presidency |
| BAT | Best Available Environmental Option |
| C-ESMP | Contractor ESMP |
| CDRC | Climate and Disaster Resilient Cities |
| CERC | Contingent Emergency Response Component |
| CoC | Code of Conduct |
| COD | Chemical Oxygen Demand |
| CIMER | Presidential Communications Center |
| DSI | State Water Affairs Directorate General |
| ESAP | Environmental and Social Action Plan |
| ESF | Environmental and Social Framework |
| ESHS | Environmental, Social, Health and Safety |
| ESIA | Environmental and Social Impact Assessment |
| ESMF | Environmental and Social Management Framework |
| ESMP | Environmental and Social Management Plan |
| ESS | Environmental Social Standard |
| EU | European Union |
| FAR | Floor Area Ratio |
| FI | Financial Intermediary |
| GDP | Gross Domestic Product |
| GHG | Greenhouse Gas |
| GIIP | Good International Industry Practices |
| GM | Grievance Mechanism |
| GT | Government of Türkiye |
| GPS | Global Positioning System |
| GRS | Grievance Redress Service |
| GRF | Grievance Registration Form |
| IBA | Important Bird Area |
| IBRD | International Bank for Reconstruction and Development |
| ILBANK | Iller Bankasi Anonim Sirketi |
| ILO | International Labor Organization |
| KADEM | Women and Democracy Foundation |
| KBA | Key Biodiversity Area |
| KSO | Kocaeli Chamber of Industry |
| KOTO | Kocaeli Chamber of Commerce |
| KPI | Key Performance Indicator |
| LMP | Labor Management Procedures |
| MAM | Marmara Research Center |
| MARKA | East Marmara Development Agency |
| MoEUCC | Ministry of Environment, Urbanization and Climate Change |
| MoH | Ministry of Health |
| MoLSS | Ministry of Labor and Social Security |
| NDELV | Number of Days Exceeding the Limit Value |
| O.G. | Official Gazette |
| OHS | Occupational Health and Safety |
| OIZ | Organized Industrial Zone |
| PAPs | Project Affected Persons |
| PIF | Project Introduction File |
| PM10 | Particulate Matter (with diameter ≤ 10 µm) |
| PPE | Personal Protective Equipment |
| PMU | Project Management Unit |
| POM | Project Operations Manual |
| Project | Climate and Disaster Resilient Cities Project |
| R&D | Research and Development |
| RF | Resettlement Framework |
| RP | Resettlement Plan |
| SEA/SH | Sexual Exploitation and Abuse / Sexual Harassment |
| SEGE | Socio-Economic Development Index |
| SEP | Stakeholder Engagement Plan |
| SuTP | Syrians under Temporary Protection |
| TMMOB | Türkiye Union of the Chambers of Architects and Engineers |
| TOKİ | Directorate of Housing Development Administration |
| ToR | Terms of Reference |
| TUBITAK | Turkish Scientific and Technical Research Institute |
| TurkStat | Turkish Statistical Institute |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UTP | Urban Transformation Presidency |
| WB | World Bank |
| WBG | World Bank Group |
| WHO | World Health Organization |
| WWTP | Waste Water Treatment Plan |

# 1. PROJECT DESCRIPTION

The Climate and Disaster Resilient Cities (CDRC) Project[[1]](#footnote-1), funded by the World Bank, aims to enhance access to seismic and climate resilient housing, urban infrastructure, and services in selected provinces in Türkiye. This Project will support the Government of Türkiye (GT) in tackling the challenges related to climate and disaster resilient housing and infrastructure interventions, focusing on the provinces of Istanbul, Izmir, Kocaeli, Sakarya, Kahramanmaras, Manisa and Tekirdag. These provinces were selected as all are highly vulnerable to the impacts of natural hazards and climate change such as flooding, drought, and heat waves; and, most importantly, all are located in areas with high seismic risk.

The Project includes five components with different implementing agencies:

* Component 1: Institutional strengthening to enable conditions for urban resilience (Urban Transformation Presidency (UTP)[[2]](#footnote-2), Ministry of Environment, Urbanization and Climate Change [MoEUCC])
* Component 2: Expanding access to resilient housing (UTP, MoEUCC)
* Component 3: Investments in climate and seismic resilient urban infrastructure (ILBANK)
* Component 4: Project Management, Monitoring and Evaluation

4a: For Component 1, 2 and 5 (UTP, MoEUCC)

4b: For Component 3 (ILBANK)

* Component 5: Contingent Emergency Response Component (CERC)

This Environmental and Social Management Plan (ESMP) for Kocaeli Province focuses on Component 2 of the Project and is designed to inform the stakeholders, especially those who will implement and be parties to the subprojects for resilient housing, of the potential environmental and social risks and impacts as well as the ways to address these impacts and risks in line with the Türkiye’s legislation and the World Bank’s (WB) environmental and social (E&S) standards.

This province-based ESMP lays out the legal and institutional framework pertaining to the matters of environmental and social governance to which the stakeholders must adhere. In this context, stakeholders’ engagement meetings have been conducted, and details of these meetings are presented in Annex 3. The ESMP introduces environmental features of the province in terms of water resources, nature, natural protected areas, urban areas, seismicity, air quality, waste management etc. The document also provides a comprehensive overview of the socioeconomic context of Kocaeli and its districts as well as other social baseline conditions. This ESMP is intended to serve as a reference document for preparation of E&S governance documents such as E&S impact assessments, Contractor ESMP (C-ESMP) checklists, Environmental and Social Action Plan (ESAP), other documents for screening, monitoring & evaluation and so on.

The CDRC Project involves significant construction activities which are expected to generate numerous E&S impacts and risks that need to be addressed. Potential E&S risks and impacts may arise during the implementation of demolition and reconstruction activities of risky buildings in the scope of Component 2, which finances sub-loans for rightsholders to retrofit or rebuild their housing units to be more resilient to the impacts of seismic and other hazard risks. Some of the primary environmental risks/impacts include air pollution, noise pollution, water pollution, traffic accidents due to improper signs and planning, asbestos and its related incidents and so on. On the other hand, livelihood loss, temporary and permanent displacement of owners and tenants resulting from the rehabilitation/reconstruction of housing units/workspaces, inadequate outreach and stakeholder engagement, lack of dissemination of information about or access to grievance mechanisms for workers and/or Project-affected people, exclusion of poorer or vulnerable/disadvantaged individuals/groups from Project benefits can be highlighted as some of the major social risks/impacts. This ESMP details and classifies these risks and impacts and helps users explore acceptable ways to address them.

The ESMP also outlines the mitigation measures, monitoring and administrative roles and responsibilities to be taken during Project implementation to prevent or eliminate adverse environmental and social impacts in Kocaeli province. This ESMP is aligned with the project’s Environmental and Social Management Framework (ESMF)[[3]](#footnote-3), Stakeholder Engagement Plan[[4]](#footnote-4) (SEP) and Labor Management Procedures[[5]](#footnote-5) (LMP) of the CDRC Project. Sub-project (building) specific C-ESMP Checklists will be developed, based on this ESMP, to address the potential environmental and social risks of each relevant sub-project in Kocaeli province.

The Kocaeli ESMP is a living document that will be updated whenever necessary and it is the responsibility of the sub-project contractors to be fully aware of its contents. The Contractors are expected to provide relevant training to staff and ensure that measures/commitments are implemented to ensure compliance with this ESMP.

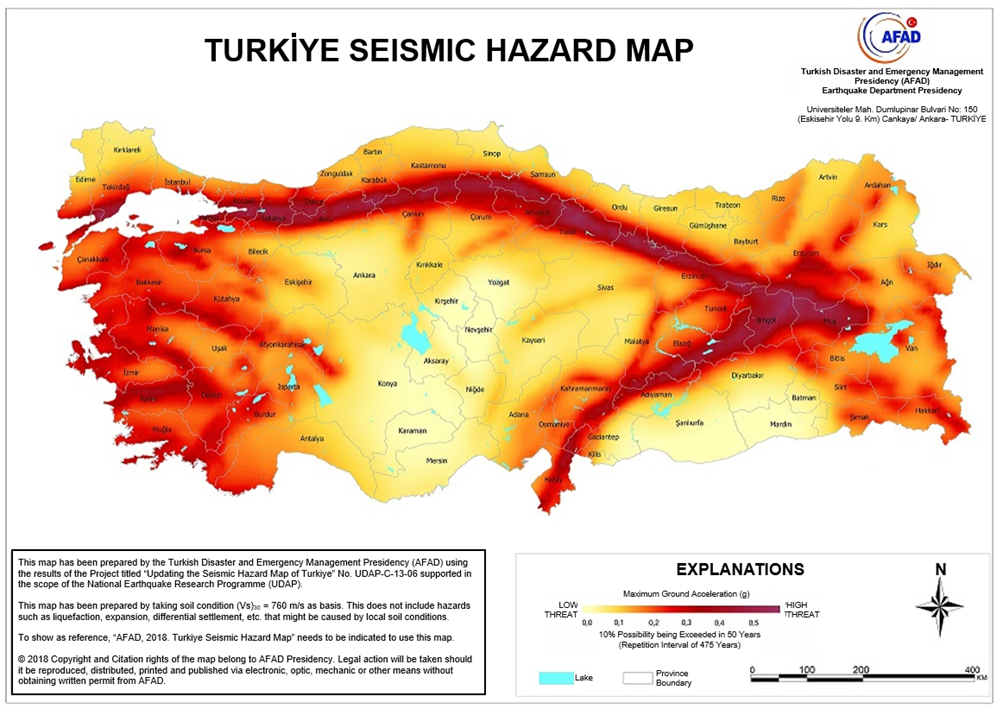
The national legal framework, including environmental and social legislation, OHS legislation as well as, labor-related regulations relevant to the implementation of the project is presented in Annex 1.

## 1.1. Objectives of Climate and Disaster Resilient Cities Project

Türkiye is prone to climate and disaster risks with about 70 percent of Türkiye’s population living in high and medium-high risk seismic zones. Moreover, many settlements are increasingly exposed to flooding and extreme weather events. In 2023 alone, 1475 extreme events occurred, caused mainly by heavy rains/floods, windstorms, snow and hail. Climate models predict this trend to continue with increasing anomalies in precipitation patterns with more frequent extreme rain and flooding, as well as protracted drought and wildfires, and sea-level rise. Accordingly, climate and disaster risks pose a significant risk to lives and livelihoods, and housing & other assets in parallel.

Thus, Project Development Objective (PDO) of the CDRC Project is to increase access to seismic and climate resilient housing, urban infrastructure and services in selected provinces in Türkiye. This Project will support the GT in tackling the challenges related to climate and disaster resilient housing and infrastructure interventions, focusing on the provinces of Istanbul, Izmir, Kocaeli, Sakarya, Kahramanmaras, Manisa and Tekirdag. These provinces were selected as all are highly vulnerable to the impacts of natural hazards and climate change such as flooding, drought, and heat waves; and, most importantly, all are located in areas with high seismic risk (see Figure 1). The main activity carried out by the UTP in Kocaeli within the scope of this project is supporting resilient housing through financing urban transformation in the province in line with the new code.

Figure : Türkiye Seismic Hazard Map



***Source:*** *AFAD, 2018*

## 1.2. Potential Sub-projects and Project Activities in Kocaeli

The specific justification of Component 2 is the requirement for climate and disaster resilient housing, which will highly contribute to the overall resilience of the selected provinces against climate and disasters. Specifically, the GT faces several challenges in the implementation of the national regulatory framework supporting seismic and climate-resilient urban transformation. Key challenges include the need for greater affordability of retrofitting or demolishing and reconstructing risk-prone housing to meet resilient and energy-efficient standards, leveraging available resources and mobilizing finance for municipalities to increase investments in resilient urban infrastructure. Accordingly, the sub-project types relevant to the activity to be performed can be listed as follows:

* **Type-I:** *The sub-projects with* ***demolition and reconstruction*** - buildings were registered as risky buildings, however, no demolition activity has been performed at the time of loan application,
* **Type-II:** *The sub-projects with* ***retrofitting*** - buildings were registered as risky buildings, however, loan application is made only for retrofitting rather than demolition and reconstruction, and
* **Type-III:** *The sub-projects with* ***only reconstruction*** - buildings were registered as risky buildings and demolished before loan application, and the application is only made for reconstruction.

According to the records of the Urban Transformation Presidency, a total of 6,233 buildings in Kocaeli Province have been identified as risky structures. These buildings comprise 13,507 residential units and 1,958 commercial units, amounting to a total of 15,465 independent units located in risky buildings.[[6]](#footnote-6) Some of these buildings that have not yet been demolished (Type 1 and Type 2), and some that have been demolished but awaiting reconstruction activities (Type 3) are expected to constitute the potential sub-projects of the project in Kocaeli Province under the Component 2.

Table : Risky Building Status by District in Kocaeli Province

| **District** | **Number of Buildings** | **Number of Residential Units** | **Number of Commercial Units** | **Total Number of Independent Units** |
| --- | --- | --- | --- | --- |
| Derince | 232 | 452 | 91 | 543 |
| Dilovası | 74 | 92 | 24 | 116 |
| Darıca | 954 | 2,383 | 246 | 2,629 |
| Çayırova | 328 | 689 | 108 | 797 |
| Gölcük | 182 | 404 | 76 | 480 |
| Gebze | 2,665 | 5,682 | 550 | 6,232 |
| Karamürsel | 207 | 543 | 64 | 607 |
| Kartepe | 174 | 260 | 63 | 323 |
| Körfez | 230 | 490 | 86 | 576 |
| Kandıra | 17 | 23 | 7 | 30 |
| Başiskele | 194 | 299 | 65 | 364 |
| İzmit | 976 | 2,190 | 578 | 2,768 |
| **TOTAL** | **6,233** | **13,507** | **1,958** | **15,465** |

***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

Apart from the application and implementation processes of the three types of sub-projects, Component 2 of CDRC Project involves also a lot of communication, stakeholder engagement, information dissemination and consultation activities. The Kocaeli PMU Office, opened in April 2025, is to serve as the central hub for these activities.

## 1.3. Project Benefits and Positive Impacts

The main potential positive environmental and social benefits and impacts of the activities and sub-projects linked to resilient housing are as follows:

* The fact that risky buildings are generally built at an earlier date than non-risky buildings cause the energy efficiency of the former residences failing to meet current standards and practices. Within the scope of the Project, the reconstruction of buildings will reduce the use of energy for air conditioning and heating, with the construction of well-insulated houses.
* Emissions, which decrease directly with the decrease in the use of fuel for heating and indirectly with the decrease in the use of electricity for air conditioning, will have a positive impact on both air quality and climate change.
* Within the scope of Component 2, during the reconstruction of structures in certain neighborhoods in Kocaeli where coal is still used for heating purposes, the heating systems can be operated with fuels with lower carbon emissions, thus positive effects will emerge in terms of both air quality and climate change.
* In the scope of national legislation, the Planned Areas Zoning Regulation was amended at the beginning of 2021 and a new obligation was introduced. Accordingly, the mechanical installation Projects of the buildings to be built on parcels larger than 2000 m² must include a rainwater collection system for the rainwater to be collected from the roof surface, if necessary, to be filtered and collected in a tank and used in building toilet flushes. Within the scope of the Project, sub-projects that will be included in this scope will indirectly contribute to water efficiency.
* Risky structures will be reconstructed into disaster-resistant structures by demolishing the structures identified as risky and constructing or reinforcing safe structures in compliance with the standards.
* Low-income households or vulnerable groups living in risky structures will be able to obtain safe housing by taking advantage of appropriate loan opportunities and rent support.
* Awareness about risky structure and urban resilience will be raised by explaining the Project to the public within the scope of stakeholder engagement activities and making it public.

# 2. ENVIRONMENTAL AND SOCIAL BASELINE AND PROJECT SITE CONDITIONS

This section presents the environmental and social baseline conditions for Kocaeli Province where the CDRC Project will be implemented. The environmental baseline provides information on the province's water resources, natural protected areas, urban areas, seismic activity, air quality and waste management. The social baseline describes the existing social conditions in the province, such as the demographic situation in the province and districts, including information on vulnerable groups, such as Roma population and Syrians under temporary protection (SuTP), education and socioeconomic level as well as cultural heritage. The baseline presents relevant issues for specific investments in Kocaeli Province under the CDRC Project implemented by MoEUCC. This section reflects statistics and facts on the ground, for more qualitative information and stakeholder opinions Check Annex 3 Minutes of the Meetings.

## 2.1. Environmental Baseline Conditions

### 2.1.1. Water Resources and Potential of Kocaeli Province

Kocaeli is a province located in the northwestern region of Türkiye, forming part of the Marmara Region. Bordering the provinces of Sakarya, Bursa, Yalova, and Istanbul, Kocaeli is geographically positioned between 40°31′ and 41°13′ North latitudes and 29°22′ and 30°21′ East longitudes. The province covers a total surface area of 3,397 km² and consists of 12 administrative districts. The maximum elevation reaches approximately 1,602 meters above sea level.

The mountain ranges extending across the Kocaeli Peninsula display ridgelines positioned closer to the Gulf of İzmit and the Marmara Sea. This topographic configuration results in relatively longer river systems flowing toward the Black Sea. Hydrographic networks originating within the provincial boundaries are distributed between catchments that discharge into the Black Sea and those that flow into the Marmara Sea. [[7]](#footnote-7)

#### 2.1.1.1. Surface waters

###### 2.1.1.1.1. Rivers and Streams

There are no major rivers flowing through Kocaeli; however, the province contains numerous small-scale streams and creeks that significantly contribute to the regional hydrographic system. The Sakarya River, located near the province, serves as a key regional water resource. Additional components of the hydrological network include Dilovası Creek, various streams in Kandıra, and the tributaries feeding the Yuvacık Dam.

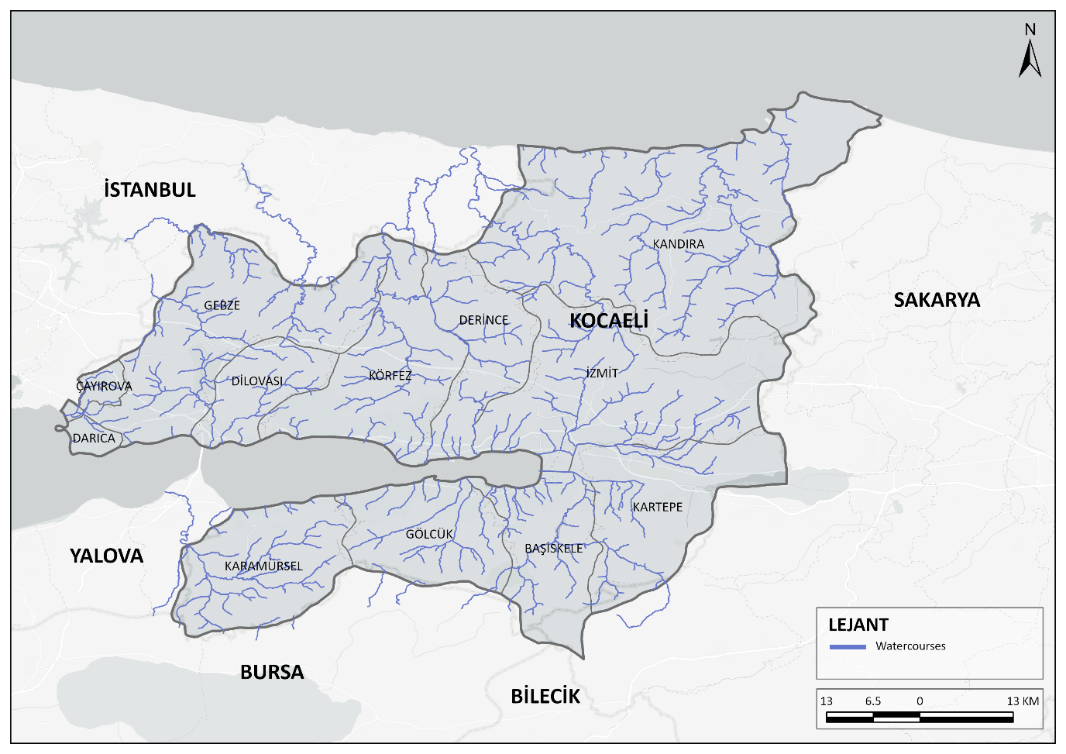
Riva (Çayağzı) Creek, with a total length of 71 kilometers, originates near Tepecik Neighborhood in Gebze and discharges into the Black Sea, to the east of the Bosphorus entrance. Göksu Creek, also known as Ağva Creek, rises near Karayakuplu Neighborhood and reaches the Black Sea in Ağva. Yulaflı Creek, another watercourse flowing into the Black Sea, has a length of 43 kilometers. Darlık Creek, which forms the basis for the Darlık Dam supplying water to Istanbul, also originates within the administrative borders of Kocaeli. Kocadere Creek, beginning in Denizli Neighborhood, stretches for 50 kilometers and flows into the Black Sea.

Sansu Creek, located in the Kandıra district, is the principal stream that both originates and terminates within Kocaeli. Kaynarca Creek, also rising in Kandıra, is the final tributary that merges with the Sakarya River, ultimately reaching the Black Sea. Kirazdere Creek, which originates in the Samanlı Mountains, discharges into the Gulf of İzmit. Construction of the Kirazdere Dam on this watercourse was completed in 1997.

Dilderesi Creek, located in the Gebze district and extending for 12 kilometers, passes south of Pelitli Village and north of Tavşanlı Neighborhood before reaching the Gulf of İzmit.

Among the watercourses within the province, Domuz Creek has the greatest length at 5.34 kilometers, while Kiraz Creek is the shortest at 1.30 kilometers. Sub-basin analysis indicates that the Domuz Creek sub-basin covers the largest area, representing 29% of the total, whereas the Çınarlı Creek sub-basin constitutes the smallest, with a 6% share. [[8]](#footnote-8)

Figure : Rivers and Streams of Kocaeli



***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

Table : Streams of Kocaeli Province

| **Stream Name** | **Total Length (km)** | **Flood Discharge (m³/s)** | **Starting and Ending Points Within the Boundaries of The Province** | **Tributary Stream** | **Characteristics** |
| --- | --- | --- | --- | --- | --- |
| Kumla- Akarca Stream | 28.000 | Q100=775.00 | İzmit-Akmeşe Ridges  The Gulf of İzmit | Akarca Stream  Kumla Stream (Yirim Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Kiraz Stream | 47.750 | Q100=597.00 | Başiskele–Samanlı Mountains The Gulf of İzmit | Bakırlı Stream Keten Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Aygır Stream | 8.299 | Q100=73.1 | The Foothills of the Kartepe–Kuzu Plateau  Lake Sapanca | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Koca Stream | 5.400 | Q100=24.8 | Başiskele- Kestane Düzü Hill  Kiraz Stream | - | The stream is classified as a side stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Bakırcı Stream | 3.500 | Q100=13.60 | Başiskele-Hacı Ömer Hill  Kiraz Stream |  | The stream is classified as a side stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Ayani Stream | 2.500 | Q100=6.00 | Başiskele- The Foothills of Mount Hamza  Kiraz Stream | - | The stream is classified as a side stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Çınarlı Stream | 16.200 | Q100=88.00 | Derince-  The Gulf of İzmit | Hasan Stream Ebekaya Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Çenesuyu Stream | 8.600 | Q100=44.00 | Derince- Çene Mountain  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Hisar Stream | 13.562 | Q100=307.00 | Gölcük- The Ezirgan Ridge  The Gulf of İzmit | Beylik Stream Şevkatiye Karanlık Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Burma Stream | 2.625 | Q100=22.00 | Körfez-Yayla Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Kavak Stream | 2.250 | Q100=32.00 | Körfez-Dömelet Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Büyük Kışla Stream | 1.750 | Q100=8.00 | Körfez-Yayla Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Domuz Stream | 3.125 | Q100=19.70 | Körfez-Eren Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Zeytin Stream | 4.375 | Q100=40.00 | Körfez-Geren Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Ayvacık Stream | 2.630 | Q100=22.00 | Körfez-Karaağaç Spring  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Kıble Stream | 2.875 | Q100=24.50 | Körfez-The East of Erentepe  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Hamza Stream | 6.125 | Q100=89.00 | Körfez-Belen Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Hereke Köyiçi Stream | 2.250 | Q100=102.00 | Körfez- The East of Erentepe  The Gulf of İzmit | Köy Stream Kangallı Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Sarmaşık Stream | 3.900 | Q100=48.00 | Körfez-Ballıköy Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Ağa Stream | 10.000 | Q100=111.00 | Körfez-Büyük Gürgen Hill  The Gulf of İzmit | Küçükağa Stream Erikli Stream Heybetli Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Keten Stream | 8.940 | Q100=70.00 | Kartepe-Ketendüzü Hill  Mücadele Kanalı Bakırlı Stream | Karanlık Stream Fındıksuyu Stream | The stream is classified as a side stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Aydın Bey Stream | 7.200 | Q500=30.00 | Gölcük-Samanlı Mountain  The Gulf of İzmit | Pazar Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Değirmendere | 6.500 | Q100=77.00 | Gölcük-Samanlı Mountain  The Gulf of İzmit | Bozukyol Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Halıdere | 6.500 | Q100=26.00 | Gölcük-Samanlı Mountain  The Gulf of İzmit | Yukarı Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Ulaşlı Stream | 2.800 | Q100=23.50 | Gölcük-Köklük Başı Hill  The Gulf of İzmit | Çelebahçe Stream Karaca Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Yalak Stream | 37.100 | Q100=478.00 | Karamürsel-Küçük Dikmentepe  The Sea of Marmara | Topçu Stream Avcı Stream Kayapurçek Stream Derbent Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Saz Stream | 9.750 | Q100=133.00 | Gebze-Sancak Tepe  The Sea of Marmara | Taşar Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Dil Stream | 17.000 | Q100=371.00 | Gebze-Denizli Köyü  The Gulf of İzmit | Tavşanlı Stream Balıklaya Stream Gürlek Stream Değirmen Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Köy Stream | 5.500 | Q100=51.00 | Körfez-Hacı Hasan Tepe  The Gulf of İzmit | Kavaklar Boğazlı Stream | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Gıcık Stream | 2.550 | Q100=21.00 | Körfez- Dömalet Hill  The Gulf of İzmit | - | The stream is classified as a main stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Açma Stream | 9.500 | Q100=62.00 | Kartepe-Keltepe  Derbent  Drainage Canal | Kadı Konağı Stream | The stream is classified as a side stream and is not suitable for transportation, water sports, aquaculture, or fishing. |
| Hamamsu Stream | 9.500 | Q100=94.00 | Kartepe-Keltepe  Derbent Drainage Canal | Kovan Stream | The stream is classified as a side stream and is not suitable for transportation, water sports, aquaculture, or fishing. |

***Source:*** *Republic of Turkiye, Governorship of Kocaeli, Provincial Directorate of Environment, Urbanization and Climate Change, Kocaeli Province 2023 Environmental Status Report, 2023.*

###### 2.1.1.1.2. Natural Lakes, Ponds

A 7-kilometre section of Lake Sapanca lies in the western part of Kocaeli Province. The total surface area of the lake is 47 km². The lake borders the settlements of Uzuntarla, Maşukiye, and Eşme. Kirazdere Dam, which supplies drinking water to the city of İzmit, has formed an artificial lake with a surface area of 1.74 km². Yuvacık Dam Lake, another artificial lake, which was created as a result of water accumulation behind the dam constructed by Kocaeli Metropolitan Municipality to meet the city's water demand.

Table : Existing Lakes, Ponds and Reservoirs

| **Name of Lake, Reservoir or Pond** | **Volume (hm³)** | **Annual Flow (hm³/year)** | **Elevation (Altitude)** | **Purpose of Use** |
| --- | --- | --- | --- | --- |
| Lake Sapanca\* | - | 129.5 | 30m | Drinking and domestic water (Adapazarı, Tüpraş, Petkim, and surrounding areas) |
| Başiskele – Yuvacık (Kirazdere) Dam | 60.6 | 220 | 108.50 m | Drinking water, irrigation, or energy production |
| Karamürsel – İhsaniye Dam | 8.97 | 25.44 | 69 | Drinking water |
| Bıçkıdere Pond | 2.39 | 1.45 | 12 | Irrigation and flood prevention |
| Kurtdere Pond | 1.25 | 1.05 | 17 | Irrigation and flood prevention |
| Şeytandere Pond | 2.34 | 2.18 | 19 | Irrigation and flood prevention |
| Bayraklı Pond | 1.36 | 1.25 | 20.5 | Irrigation and flood prevention |
| Şahinler Pond | 1.45 | 3434 | 20.5 | Irrigation |
| Arıklar Pond | 11.75 | 8.15 | 21 | Irrigation |
| Kızderbent Pond | 3.88 | 6.18 | 35.5 | Irrigation |
| Kandıra-Safalı Pond | 1.17 | 0.47 | 15 | Irrigation |
| Karamürsel-Tepeköy Pond | 0.36 | - | 21 | Irrigation |
| Karamürsel-İnebeyli Pond | 1.823 | 1.7 | 24.5 | Irrigation |
| İzmit-Çayırköy Flood Barrier | 1.8 | - | 11 | Flood protection (İzmit Plain) |
| Kandıra-Sarnıçlar Flood Barrier | 4 | - | 23 | Flood protection (Kandıra–Namazgah Stream) |
| İzmit-Hatipköy Hatipdere Flood Barrier | 0.167 | - | 12 | Flood protection (Hatipköy, Yenidoğan, D-100 Highway) |

\*Lake Sapanca is a freshwater lake located within the borders of Sakarya and Kocaeli provinces. It serves as a significant source of drinking and domestic water for the surrounding settlements.

***Source:*** *Republic of Türkiye, Governorship of Kocaeli, Provincial Directorate of Environment, Urbanization and Climate Change, Kocaeli Province 2023 Environmental Status Report, 2023.*

#### 2.1.1.2. Ground Water

The table below presents the groundwater potential of four major plains where hydrogeological investigations have been conducted within the boundaries of Kocaeli Province. Each plain is defined by its total surface area, drainage basin, and the amount of groundwater that can be safely extracted on an annual basis. İzmit–Gölcük–Sapanca Plains have the highest potential, covering a surface area of 242 km² and a drainage basin of 1,120 km². The total groundwater reserve amounts to 64 million m³ per year, with Sapanca Plain accounting for the largest share (20.5 million m³/year). Tütünçiftlik–Yarımca–Derince Plain covers an area of 26.1 km² and has a drainage basin of 55 km². The annual groundwater reserve is 4.5 million m³. Gebze–Dil Plain, despite having a surface area of only 4 km², offers a reserve of 2.5 million m³ annually due to its 130 km² drainage basin. This plain holds strategic importance for industrial use. Gebze–Çayırova Plain covers 15 km² with a drainage basin of 51 km². The groundwater reserve reaches 3.7 million m³ annually and is significant for both urban and industrial purposes.

Table : Groundwater Resources and Potential in Kocaeli Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of Plain** | | **Total Plain Area (km²)** | **Drainage Basin Area (km²)** | **Annual Groundwater Reserve (10⁶ m³/year)** |
| Sapanca-İzmit-Gölcük Plains |  | 242 | 1120 | 64 (Total) |
| Sapanca | - | - | 20.5 |
| İzmit | - | - | 3.7 |
| Gölcük | - | - | 6.5 |
| Tütünçiftlik-Yarımca-Derinca Plain | 26.1 | | 55 | 4.5 |
| Gebze-Dil Plain | 4 | | 130 | 2.5 |
| Gebze-Çayırova Plain | 15 | | 51 | 3.7 |

***Source****: Republic of Türkiye, Governorship of Kocaeli, Provincial Directorate of Environment, Urbanization and Climate Change, Kocaeli Province 2023 Environmental Status Report, 2023.*

### 2.1.2. Current Status of Waste Water in Kocaeli Province

Below is the list of the wastewater treatment plants in operation in Kocaeli province displaying their capacities and the population benefiting from them.

**Urban Sewerage System and Wastewater Treatment Plant Services**

Conversion of existing wastewater treatment plants into biological treatment facilities is under consideration as part of the efforts to combat the mucilage observed in the Sea of Marmara.

Table : Status of Urban Wastewater Treatment Plants in Kocaeli Province

| **District** | **Name of Wastewater Treatment Plant** | **Type of Wastewater Treatment Plant** | | | **Current Capacity (m³/day)** | **Amount of Wastewater Treated/**  **Discharged (m³/year)** | **Average Served Population** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Physical** | **Biological** | **Advanced** |
| Başiskele | Başiskele Kullar Wastewater Treatment Plant |  | x |  | 166,450 | 37,066,609 | 447,500 |
| İzmit | İzmit Plajyolu Advanced Biological Wastewater Treatment Plant |  | x | x | 10,000 | 24,318,300 | 300,000 |
| İzmit Akmeşe Biological Wastewater Treatment Plant |  | x |  | 300 | 109,500 | 2,000 |
| İzmit Hakkaniye Biological Wastewater Treatment Plant |  | x |  | 300 | 109,500 | 2,000 |
| İzmit Umuttepe (Modüler) Advanced Biological Wastewater Treatment Plant \*\* |  | x | x | 1,000 | 365,000 | 5,000 |
| İzmit 42 Evler Advanced Biological Wastewater Treatment Plant |  | x | x | 24,984 | 9,119,248 | 300,000 |
| Gebze | Gebze Cumaköy Advanced Biological Wastewater Treatment Plant |  | x | x | 1,000 | - | 5,000 |
| Gebze İleri Biological Wastewater Treatment Plant |  | x | x | 2,000 | 31,512,937 | 670,000 |
| Gebze Balçık Nature-Based Wastewater Treatment Plant | x |  |  | 400 | 146,000 | 2,600 |
| Dilovası | Dilovası Köseler Advanced Biological Wastewater Treatment Plant |  | x | x | 1,000 | 9,464,516 | 5,000 |
| Dilovası Tavşancıl Advanced Biological Wastewater Treatment Plant |  | X | X | 1,000 | - | 5,000 |
| Dilovası Advanced Biological Wastewater Treatment Plant |  | x | x | 25,.000 | 9,125,000 | 170,000 |
| Körfez | Körfez Biological Wastewater Treatment Plant |  | x |  | 45,000 | 21,744,495 | 295,000 |
| Gölcük | Gölcük Yeniköy Biological Wastewater Treatment Plant |  | x |  | 54,600 | 22,861,909 | 320,000 |
| Karamürsel | Karamürsel Advanced Biological Wastewater Treatment Plant |  | x | x | 12,000 | 4,380,000 | 80,000 |
| Karamürsel Valideköprü Biological Wastewater Treatment Plant |  | x |  | 240 | 87,600 | 1,500 |
| Derince\* | Derince Çavuşlu Biological Wastewater Treatment Plant |  | x |  | 450 | 164,250 | 3,000 |
| Kandıra | Kandıra Advanced Biological Wastewater Treatment Plant |  | x | x | 6,000 | 2,190,000 | 40,000 |
| Kandıra Seyrek Biological Wastewater Treatment Plant |  | x |  | 600 | 219,000 | 3,000 |
| Kandıra Sucuali Biological Wastewater Treatment Plant |  | x |  | 600 | 219,000 | 3,000 |
| Kandıra Bağırganlı Biological Wastewater Treatment Plant |  | x |  | 600 | 219,000 | 3,000 |
| Kandıra Sarısu Biological Wastewater Treatment Plant |  | x |  | 200 | 73,000 | 1,000 |
| Kandıra Cebeci Advanced Biological Wastewater Treatment Plant |  | x | x | 9,000 | 3,285,000 | 60,000 |

\*Designed by the Housing Development Administration of the Republic of Türkiye (TOKİ) as 10 modules. Construction of the first 5 modules was completed and delivered to the relevant institution on 24/10/2019. The operational treatment facilities are listed in the table.

\*\* Izmit Umuttepe Modular Wastewater Treatment Plant was designed as 10 modules. The first phase included the construction of 5 modules. If needed, the remaining 5 modules will be completed in the second phase, allowing the facility to operate with a total of 10 units.

***Source:*** *General Directorate of Kocaeli Water and Sewerage Administration*

### 2.1.3. Assessment of Surface and Groundwater Resources in Kocaeli Province

The monitoring stations for agricultural nitrate pollution in surface and groundwater resources located in Kocaeli Province are presented below. All of the identified water sources are used for irrigation purposes [[9]](#footnote-9).

Table : Status of Surface Water and Groundwater Resources

| **Type of Water Source** | **Name of Water Source** | **Monitoring Location** | **Annual Average Nitrate Level (mg/L)** |
| --- | --- | --- | --- |
| Surface Water | Derbent Stream | Kartepe | 3,00 |
| Surface Water | Yanıkdere | Kartepe | 2.00 |
| Surface Water | Kocabaşın Stream | Kartepe | 2.75 |
| Surface Water | Çamdibi | Gölcük-Karamürsel | 2.50 |
| Surface Water | Bayraktar | İzmit | 7.75 |
| Surface Water | Denizli-Kiremirlidere | Gebze | 4.00 |
| Surface Water | Sevindikli- Seralar | Körfez | 4.25 |
| Surface Water | Avcıköy-Akçat | Karamürsel | 7.25 |
| Surface Water | Ümmiye | Gölcük | 2.25 |
| Surface Water | Semetler | Karamürsel | 3.00 |
| Surface Water | İhsaniye | Karamürsel | 2.00 |
| Surface Water | Cumaköy | Gebze | 5.25 |
| Surface Water | Ovacık | Gebze | 6.25 |
| Surface Water | Kadıllı | Gebze | 2.50 |
| Surface Water | Himmetli | Körfez | 4.25 |
| Surface Water | Çavuşlu | Derince | 6.25 |
| Surface Water | Çıraklı | Derince | 9.00 |
| Surface Water | Alihocalar | Körfez | 8.00 |
| Surface Water | Siretiye | Gölcük | 2.25 |
| Surface Water | Akçaova | Kandıra | 4.00 |
| Surface Water | Tatarahmet | Kandıra | 2.00 |
| Surface Water | Naipköy | Körfez | 4.00 |
| Surface Water | Kurtdere Pond | İzmit | 2.00 |
| Surface Water | Akmeşe | İzmit | 2.75 |
| Surface Water | Mecidiye | İzmit | 2.25 |
| Surface Water | Seyitaliler-Arıklar Pond | Kandıra | 2.00 |
| Surface Water | Kazandere | Başiskele | 2.00 |
| Surface Water | Çakırcaali | Kandıra | 2.00 |
| Surface Water | Yuvacık | Başiskele | 2.25 |
| Surface Water | Kullar | Başiskele | 3.00 |
| Surface Water | Hikmetiye | Kartepe | 3.25 |
| Surface Water | Aksığın | Başiskele | 2.00 |
| Surface Water | Doğantepe | Başiskele | 2.00 |
| Surface Water | Karagöllü | Derince | 6.00 |
| Surface Water | Tavşanlı | Gebze | 4.25 |
| Surface Water | Babaköy Coast | Kandıra | 5.00 |
| Surface Water | Tepeköy | Kandıra | 8.50 |
| Surface Water | Goncaaydın | Kandıra | 2.00 |
| Surface Water | Karatepe | Başiskele | 2.50 |
| Groundwater | General Directorate of State Hydraulic Works (DSİ) Well | Başiskele | 2.00 |
| Groundwater | Nursery Well of the Provincial Directorate of Agriculture | Başiskele | 2.00 |
| Groundwater | Müpa Mantar | İzmit | 2.00 |
| Groundwater | Himmetli Well | Körfez | 6.33 |
| Groundwater | Karapınar Well | Karamürsel | 3.33 |
| Groundwater | Karaahmetli Well | Karamürsel | 2.00 |

*\* The analysis of water quality (for both surface and groundwater) was conducted in accordance with the “Regulation on the Protection of Groundwater Against Pollution and Deterioration” published in the Official Gazette dated April 7, 2012 and numbered 28257, and the “Amendment to the Regulation on Surface Water Quality” published in the Official Gazette dated August 10, 2016 and numbered 29797. The table presents nitrate pollution data associated with agricultural activities.*

*\* Nitrate levels ranging between 7–9 mg/L may pose a potential risk over time in areas of intensive agricultural activity. Locations such as Upper Tepeköy (8.50 mg/L) and Çıraklı (9.00 mg/L) should be subject to regular monitoring.*

***Source:*** *Republic of Türkiye, Governorship of Kocaeli, Provincial Directorate of Environment, Urbanization and Climate Change. Kocaeli Province 2023 Environmental Status Report. Kocaeli, 2023.*

Table : Assessment of Agricultural Nitrate Contamination

|  |  |
| --- | --- |
| **Nitrate Level (mg/L) Status** | **Explanation** |
| 0-10 | Very Good / Generally Represents Natural Background Level |
| 10-25 | Good / Slight Agricultural İmpact May Be Present |
| 25-50 | Moderate/Risk of Agricultural Pollution Exists |
| >50 | Unsuitable/Not Suitable for Drinking Water; Excessive Fertilizer Use or Leakage May Be Present |

***Source:*** *World Health Organization, 2011. Guidelines for Drinking-water Quality, 4th Edition.*

### 2.1.4. Nature

#### 2.1.4.1. Flora

Kocaeli has a diverse ecological structure that includes both land and water ecosystems, ranging from sea level up to 1,601 meters in elevation. The province features rich vegetation, shaped by the influence of the Black Sea ecosystem in the north and the Mediterranean ecosystem in the south. The Samanlı Mountains, known for their high biodiversity, contain various tree species such as beech, hornbeam, oak, chestnut, and linden. Several endemic and rare plant species native to Türkiye, such as Kilyos Düğmesi (Centaurea kilaea), İstanbul Nazendesi (Stachys istanbulensis), Hoşkangal (Ferula halophila), and Sıktarlakuşu (Salvia kronenburgii), naturally occur in Kocaeli. In addition, rare species like Riva Sığırkuyruğu (Verbascum rivale) and Eğri Lale (Tulipa sprengeri) are also naturally found within the province[[10]](#footnote-10).

There are a total of 1,938 plant species in Kocaeli, and 3.66% of them (71 species) are endemic. The most significant species found only in Kocaeli is Crocus keltepensis (Keltepe Crocus). In addition, the province hosts 752 medicinal plant species, 84 poisonous plant species, and 14 orchid species that grow naturally. Due to this remarkable biodiversity, the vegetation of Kocaeli is considered a sensitive ecosystem that requires protection[[11]](#footnote-11).

Table : List of Endangered Rare and Endemic Plants of Türkiye

| **Name of Species** | **Turkish Name** | **Endemism Status** | **Observed Locations** | **Status (Literature+IUCN)** |
| --- | --- | --- | --- | --- |
| Crocus keltepensis | Keltepe Crocus | Endemic to Kocaeli | Kocaeli (Keltepe – Kartepe) | CR – Critically Endangered (IUCN Red List) |
| Aubrieta ekimii | Kocaeli obrizyası | Endemic to Kocaeli | Kocaeli (Maşukiye – Kartepe) | CR – Critically Endangered (IUCN Red List) |
| Centaurea kilaea | Kilyos düğmesi | Endemic to Türkiye | İstanbul (Kilyos), Kocaeli (Kandıra) | EN – Endangered (IUCN Red List) |
| Verbascum bugulifolium | Riva sığırkuyruğu | Endemic to Türkiye | İstanbul (Riva), Kocaeli, Sakarya | Widespread – Sensitive species |
| Lophiolepis ligularis | Kör kazankulpu | Endemic to Türkiye | İstanbul, Kocaeli, Bursa | Rare – Vulnerable to habitat loss |
| Lophiolepis byzantina | Hoş kangal | Endemic to Türkiye | İstanbul (Belgrad Ormanı), Kocaeli | Widespread – Threatened species |
| Lophiolepis sintenisii | Kör kenger | Endemic to Türkiye | Kocaeli, Bolu, Bilecik | Rare – Local populations only |
| Cardamine anatolica | Anadolu köpükotu | Endemic to Türkiye | Marmara ve Batı Karadeniz ormanları | Moist forest-dependent – Fragile habitat |
| Verbascum degenii | Degen sığırkuyruğu | Endemic to Türkiye | İstanbul, Kocaeli, Sakarya | Regionally distributed – Rare |

***Source:*** *Nature Association (Doğa Derneği), Plants of Kocaeli*

Kocaeli Province is one of the prominent areas in the Marmara Region in terms of biological diversity. The northern parts of the province, influenced by the Black Sea climate, and the milder southern slopes offer a range of microhabitats, supporting various endemic plant species.

Two species exclusive to Kocaeli (Crocus keltepensis and Aubrieta ekimii), along with seven plant species that are endemic to Turkey that also grow naturally in Kocaeli. Most of such species depend on sensitive habitats such as forest clearings, stream slopes, moist forest understories, and coastal sand dunes.

The status of these plants has been examined, with three of them classified under the IUCN Threat Categories as "Critically Endangered (CR)" and "Endangered (EN)." The remaining species are described in national literature as "regionally distributed," "rare," or "vulnerable to habitat loss," indicating their high conservation priority, as can be seen in Table 8.

The rapid urbanization in Kocaeli poses a significant threat to the habitats of these species. Therefore, conservation strategies should take into account not only international categories but also the national level of ecological sensitivity.

#### 2.1.4.2. Fauna

A total of 130 bird species have been identified in Kocaeli. These species belong to 16 orders and 38 families. Of the 130 species, 87 are from the order Passeriformes (songbirds). The presence of forested areas has notably increased the diversity of songbirds. Water sources like Yuvacık Dam and Hüseyinli Pond attract 9 species of waterfowl. Due to its role as a drinking water source, the lake level and coastal habitats in the region function differently from traditional "waterfowl habitats"; however, they remain important stopover locations for migration and feeding. It has been observed that 42 species breed in the region (either as residents or summer migrants). Additionally, 46 species are summer migrants, 21 are winter migrants, and 21 are passage migrants. A total of 21,223 individuals have been counted, with a peak in species count observed in April (during the spring migration period). Two bird species are classified as "Near Threatened (NT)." Ficedula semitorquata (Semi-collared Flycatcher) is a summer migrant, while Sitta krueperi (Krüper’s Nuthatch) is a resident species, partially endemic to Anatolia[[12]](#footnote-12)

Among the mammal species recorded in Turkey, rodents (Rodentia) are the most represented group with approximately 70 species, 17 of which are found in Kocaeli. Bats (Chiroptera) are represented by over 30 species in Turkey, with 17 species expected to be found in Kocaeli. Carnivores (Carnivora) are represented by approximately 20 species in Turkey, 9 of which are found in Kocaeli. Insectivores (Insectivora) are represented by around 15 species in Turkey, with 6 species in Kocaeli. Artiodactyls (Cetartiodactyla) are represented by over 10 species in Turkey, with only 3 species recorded in Kocaeli. Lagomorphs (Lagomorpha) have a low number of species in Turkey, with just 1 species present in Kocaeli. These data indicate that approximately 35% of Turkey's mammalian diversity is found in Kocaeli, and the region's mammalian fauna is concentrated in certain orders. However, it is emphasized that most of these species were identified through literature reviews and possible distribution analyses, rather than direct field studies.

As a result of studies conducted in Kocaeli, a total of 252 bird species from 50 families have been recorded. In the Yuvacık Dam Region, 130 species were identified; 165 species in the Kandıra-Sarısu Region; 44 species in the Kocaeli City Forest and Umuttepe Campus; and 93 species in the İzmit Bay Wetland Area. These studies show that Kocaeli has a rich bird fauna due to its diverse ecosystems.

According to literature studies conducted in Kocaeli, 29 reptile species from 11 families have been recorded. The only direct study in the region was conducted by Baran et al. (2001), which identified Vipera transcaucasiana, Zamenis longissimus, and Anguis fragilis. Three species of turtles are found in Kocaeli, with Mauremys rivulata and Emys orbicularis living in freshwater, while Testudo graeca inhabits terrestrial areas.

Among lizards, 14 species from four families are expected to be distributed in the region. Mediodactylus kotschyi and Hemidactylus turcicus are species that can adapt to urban environments, while larger species like Lacerta trilineata and Lacerta viridis are found in forest edges and open areas. Legless lizards, such as Anguis fragilis and Pseudopus apodus, may also be found in the region.

In Kocaeli, 12 species of snakes from four families have been recorded. Natrix tessellata and Natrix natrix live in freshwater, while harmless species like Dolichophis caspius, Zamenis longissimus, and Coronella austriaca are more common in open areas and rocky regions. Among the venomous snakes in the region are Montivipera xanthina and Vipera transcaucasiana, which are generally found in rocky and bushy areas. Studies show that Kocaeli has a highly diverse reptile fauna, but further field studies are needed to clarify species distribution.

The inland water fish data for Kocaeli are based on the 2021 Environmental Status Report of Kocaeli Province. A total of 27 fish species from 10 different families have been recorded in Kocaeli's inland waters. Gaygusuz et al. (2015) identified species such as Carassius gibelio, Squalius pursakensis, Rutilus rutilus, Rhodeus amarus, Gobio gobio, Cyprinus carpio, Pseudorasbora parva, Lepomis gibbosus, Gambusia holbrooki, Esox lucius, Cobitis vardarensis, Alburnus istanbulensis, Petroleuciscus borysthenicus, and Phoxinus phoxinus in 12 reservoirs. Innal and Erk'akan (2006) reported the presence of Atherina boyeri in Lake Sapanca. The presence of Alburnus alburnus in Kocaeli was mentioned by Çiçek et al. (2015), but no further details were provided. [[13]](#footnote-13)

### 2.1.5. Protected Nature

Information related with internationally recognized areas together with province and relevant triggering species’ information is presented.

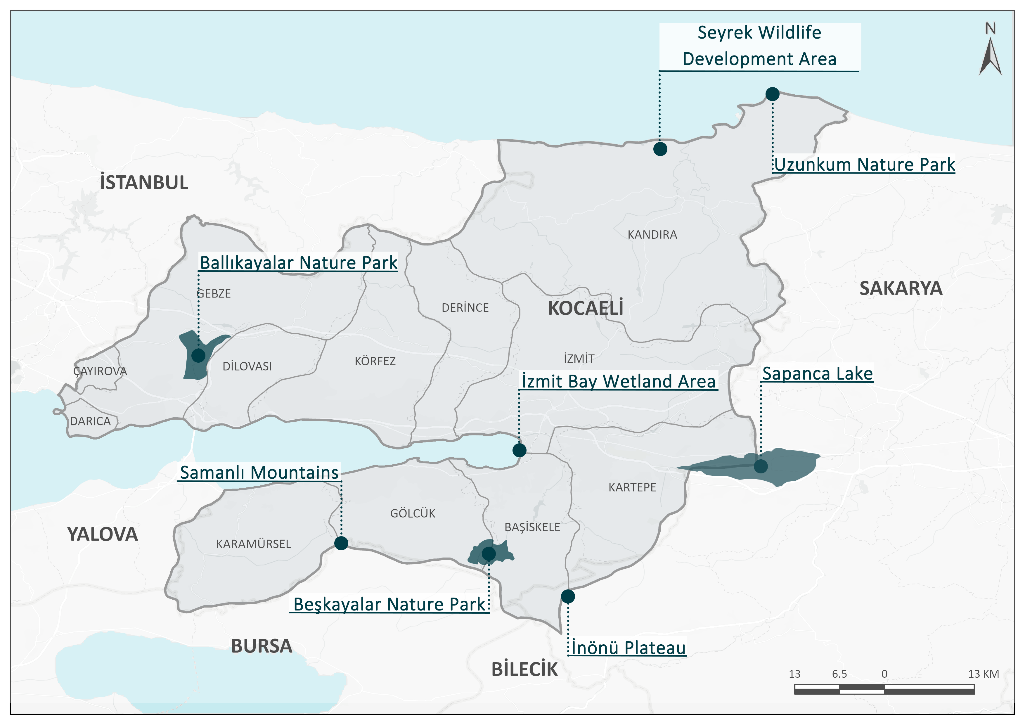
Table : Internationally Recognized Areas within Provinces and Relevant Triggering Species

| **Province** | **Internationally Recognized Area** | **Triggering Species** | **Threats** | | |
| --- | --- | --- | --- | --- | --- |
| **1st Degree Threats** | **2nd Degree Threats** | **3rd Degree Threats** |
| Kocaeli- Sakarya | Sapanca Gölü | Birds, (Elmabaş Patka) | Environmental System Degradation | Dams and Water Management | Withdrawal of Water (Agricultural Use) |
| Kocaeli- Sakarya | Sakarya Deltası | Birds, (Red Velvet) | Pollution | Industrial and Military Wastewaters |  |
| Agriculture and Aquaculture | Annual and Perennial Non-Timber Products | Agricultural Industrial Farming |
| Kocaeli- İstanbul | Pendik Vadisi | Plants, (Delicate autumn crocus) |  |  |  |

***Source:*** *Key Biodiversity Areas*

The natural areas in Kocaeli Province, when evaluated under the Important Plant Areas (IPA) criteria, are found to include various habitats with high ecological value. Specifically, the Samanlı Mountains, shown in Figure 3, are part of the nationally designated IPAs due to their rich forest flora and high endemism rate. Wetland and coastal ecosystems such as Lake Sapanca, the İzmit Bay Wetland Area, and Uzunkum Nature Park meet the potential IPA criteria due to their unique plant communities. Additionally, Ballıkayalar and Beşkayalar Nature Parks can be considered micro-IPA areas due to their karstic and forested structures. İnönü Plateau and Seyrek Wildlife Development Area, with their high altitudes and semi-natural characteristics, are potential habitats for rare plant species.

Figure : Important Plant Areas in Kocaeli



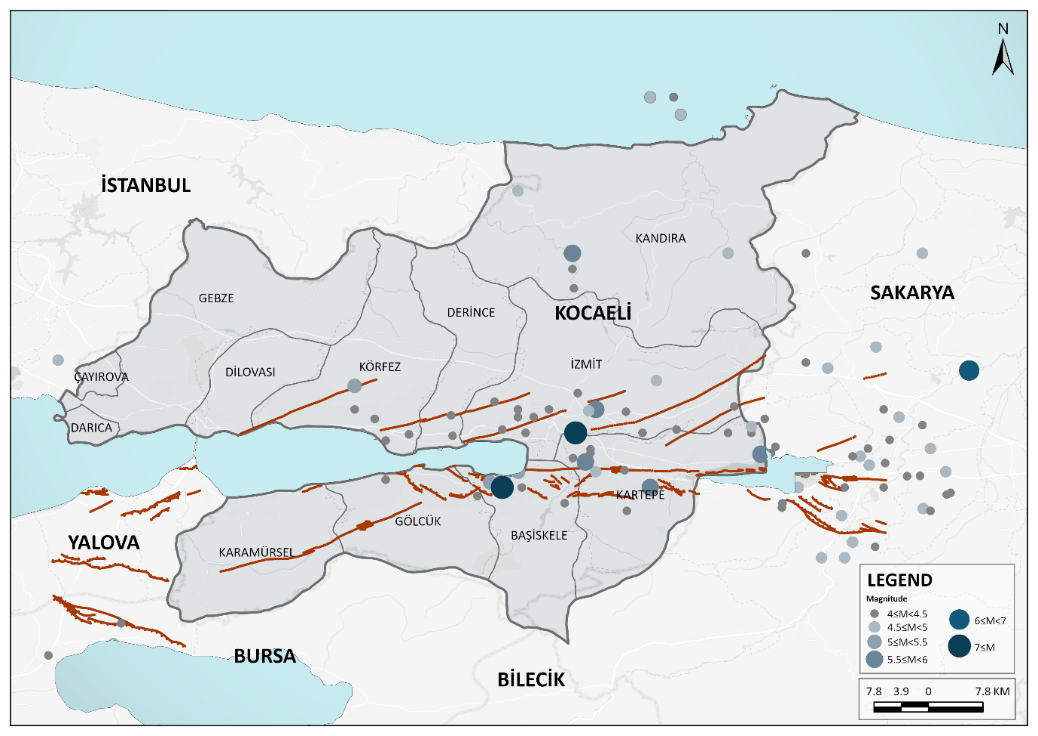
***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

### 2.1.6. Seismicity

Kocaeli Province is located on the northern branch of the North Anatolian Fault Zone (NAFZ) and is highly prone to earthquakes due to the fact that much of its settlement areas are situated on young, unconsolidated alluvial deposits. Particularly, districts such as Izmit, Derince, and Gölcük are positioned on basins (depressions) that contain young, unconsolidated Quaternary alluvium. Additionally, the earthquake risk is heightened by the influence of the northern and southern branches of the NAFZ, which have a high potential to generate strong earthquakes.

The Marmara Region has been the center of many civilizations throughout history, making it one of the regions with the best-documented historical earthquakes in the world. Especially, Nicomedia (modern-day Izmit) has frequently experienced destructive earthquakes since the Roman period. Earthquakes in the years 29 AD, 358, 362, 446, 478, 554, 740, 989, 1064, 1567, 1672, 1719, 1754, 1878, and 1894 caused significant loss of life and physical destruction in İzmit and its surroundings. For example, the 1719 earthquake is recorded to have caused the deaths of 6,000 people, and the 1754 earthquake resulted in 2,000 deaths. The 1894 earthquake, although centered in Istanbul, is considered to have had its primary source in the Çınarcık Basin and the Hersek-Yalova line.

Figure : Past Earthquakes and Their Distributions



***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

Table : Calculated Values for the Magnitude–Earthquake Frequency Relationship

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Magnitude Range (M)** | **Number of Earthquakes (N)** | **Average Magnitude (M<sub>avg</sub>)** | **Cumulative Number of Earthquakes (ΣN)** | **Annual Frequency (ΣN/t)** |
| 4.0 ≤ M < 4.5 | 135 | 42,437 | 247 | 2.47 |
| 4.5 ≤ M < 5.0 | 76 | 46,882 | 112 | 1.12 |
| 5.0 ≤ M < 5.5 | 20 | 5,165 | 36 | 0.36 |
| 5.5 ≤ M < 6.0 | 11 | 56,636 | 16 | 0.16 |
| 6.0 ≤ M < 6.5 | 2 | 6.3 | 5 | 0.05 |
| 7.0 ≤ M < 7.5 | 3 | 7.2 | 3 | 0.03 |

***Source:*** *Republic of Türkiye, Kocaeli Governorship, Provincial Directorate of Disaster and Emergency Management and AFAD, 2021. Provincial Disaster Risk Reduction Plan.*

When considering both historical and instrumental data, Kocaeli and its surrounding area emerge as one of Turkey's most critical earthquake zones, constantly at seismic risk due to both active fault lines and unconsolidated soil structure. The ground conditions amplify the amplitude and duration of seismic waves, significantly increasing the impact of tremors, especially in structures built on unconsolidated and thick sedimentary deposits. This situation necessitates that the earthquake-soil relationship be a fundamental consideration in engineering planning in Kocaeli, and that active or buried faults be identified using geophysical methods to guide construction decisions at the local level. When evaluating the region’s geological structure, historical earthquake history, and local soil characteristics together, Kocaeli stands out as one of the areas in Turkey with the most significant earthquake hazard.

### 2.1.7. Air Quality

Among the various environmental parameters influenced by demolition and construction activities, particulate matter (PM) emissions stand out as the most significant factor impacting air quality. In the following sub-titles, the situation of the provinces in this context has been evaluated based on the data of the Continuous Monitoring Centre[[14]](#footnote-14) of the MoEUCC.

According to national legislation, the annual average of PM10 value must meet the limit of 40 µg/m3 for the protection of human health, and the 24-hour average must not exceed the limit of 50 µg/m3 more than 35 times a year. These limits were in line with the internationally accepted World Health Organization (WHO) reference values until September 2021. However, the new reference values published by WHO in September 2021 indicate a value of 45 µg/m³ on a 24-hour average and 15 µg/m³ on an annual average for PM10.

Monitoring of the particulate matter parameter (as PM10) in Kocaeli was carried out with a total of 10 fixed measurement stations in 2024 (from 01.01.2024 to 01.01.2025). The data summarizing the measurement results of these stations are provided in the table below.

Table : Summary of PM10 Results According to 24-Hour Measurements in Kocaeli in 2024

| **Station** | **Minimum Value Measured (µg/m³)** | **Maximum Value Measured (µg/ m³)** | **Date of Minimum Value Measured** | **Date of Maximum Value Measured** | **Annual Average (µg/ m³)** | **NDELV\*** | **Percentage of Valid Data (%)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Kocaeli Alikahya | 8.05 | 213.55 | 27.12.2024 | 2.04.2024 | 44.94 | 107 | 97.54 |
| Kocaeli Dilovası | 12.46 | 105.59 | 9.01.2024 | 2.10.2024 | 36.10 | 31 | 45.90 |
| Kocaeli Dilovası OSB 1 | 4.64 | 145.68 | 16.11.2024 | 2.10.2024 | 39.58 | 95 | 94.54 |
| Kocaeli Gebze | 10.29 | 158.58 | 21.01.2024 | 30.03.2024 | 47.13 | 116 | 99.73 |
| Kocaeli Gölcük | 8.35 | 157.64 | 31.01.2024 | 2.10.2024 | 34.95 | 50 | 95.90 |
| Kocaeli İzmit | 9.74 | 186.70 | 21.01.2024 | 2.10.2024 | 67.32 | 220 | 97.81 |
| Kocaeli Kandıra | 8.69 | 150.63 | 9.08.2024 | 25.04.2024 | 32.25 | 18 | 81.97 |
| Kocaeli Körfez | 16.24 | 98.59 | 10.01.2024 | 2.10.2024 | 35.77 | 45 | 98.36 |
| Kocaeli Merkez | 10.96 | 144.01 | 9.01.2024 | 2.04.2024 | 41.55 | 91 | 99.18 |
| Kocaeli Yeniköy | 8.27 | 148.22 | 8.06.2024 | 2.10.2024 | 32.79 | 53 | 99.73 |

*\*Number of days exceeding the 50 µg/m3 limit value to be complied with according to national legislation*

***Source:*** *Republic of Türkiye, Ministry of Environment, Urbanization and Climate Change, General Directorate of Geographical Information Systems.*

When the data given in the Table 11 and national legislation limits/WHO reference values are examined together; it can be seen that,

• The annual averages of measurements conducted in 2024 at the Kocaeli Alikahya, Kocaeli Gebze, Kocaeli İzmit, and Kocaeli Merkez stations exceed both the national regulatory limit (40 µg/m³) and the WHO reference value (15 µg/m³).

• It is observed that the annual average measurements at all stations exceed the WHO reference value (15 µg/m³).

### 2.1.8. Waste Management

#### 2.1.8.1. Excavation and Construction/Demolition Waste Management Capacity and Details

Within the scope of excavation and construction-demolition waste management, information regarding the excavation soil disposal sites, excavation soil recovery, and construction-demolition waste recovery facilities in Kocaeli are presented in Table 12.

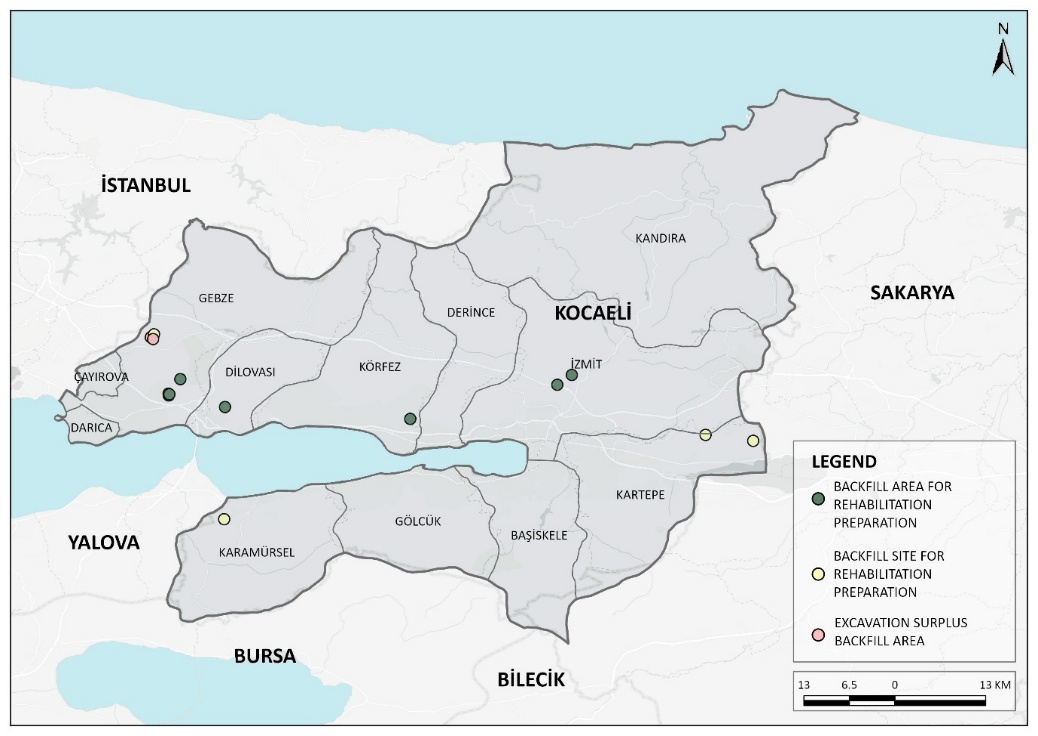
Table : Excavation Soil Sites and Construction/Demolition Waste Recovery Facilities in Kocaeli

| **Name of The Facility** | **Activity** | **Location** | **Operator** |
| --- | --- | --- | --- |
| Çerkeşli Neighborhood | Fill Area for Rehabilitation Preparation Purpose | Dilovası District | Kent Konut |
| Kirazpınar Far | Fill Area for Rehabilitation Preparation Purpose | Gebze District | Kent Konut |
| Kirazpınar Maden Yapı 1 | Fill Area for Rehabilitation Preparation Purpose | Gebze District | Kent Konut |
| Kirazpınar Maden Yapı 2 | Fill Area for Rehabilitation Preparation Purpose | Gebze District | Kent Konut |
| Ayhanlar | Fill Area for Rehabilitation Preparation Purpose | Gebze District | Kent Konut |
| Balçık Mah. (DHL) 1 | Fill Area for Rehabilitation Preparation Purpose | Gebze District | Kent Konut |
| Balçık Mah. (DHL) Yanı 2 | Excavation Excess Fill Area | Gebze District | Kent Konut |
| Balçık Mah. (DHL) Yanı 3 | Excavation Excess Fill Area | Gebze District | Kent Konut |
| Sepetçiler | Fill Area for Rehabilitation Preparation Purpose (3rd Stage) | İzmit District | Kent Konut |
| Gökçeviran | Fill Area for Rehabilitation Preparation Purpose | İzmit District | Kent Konut |
| Dereköy | Fill Area for Rehabilitation Preparation Purpose | Karamürsel District | Karamürsel Municipality |
| Ketenciler | Fill Area for Rehabilitation Preparation Purpose | Kartepe District | Kent Konut |
| Eşmeahmediye | Fill Area for Rehabilitation Preparation Purpose | Kartepe District | Kent Konut |
| Belen Stone Quarry | Fill Area for Rehabilitation Preparation Purpose | Körfez District | Kent Konut |

***Source:*** *Kocaeli Metropolitan Municipality*

Thirteen of the areas listed in Table 12 are operated by Kent Konut, and one is operated by Karamürsel Municipality. These areas are located in different districts of Kocaeli, with the majority in Gebze, and some in İzmit, Kartepe, Karamürsel, Körfez, and Dilovası districts. The majority of the areas are classified as fill areas designated for rehabilitation preparation, while some are identified as excavation spoil excess fill areas.

Figure : Locations of Waste Management Facilities in Kocaeli

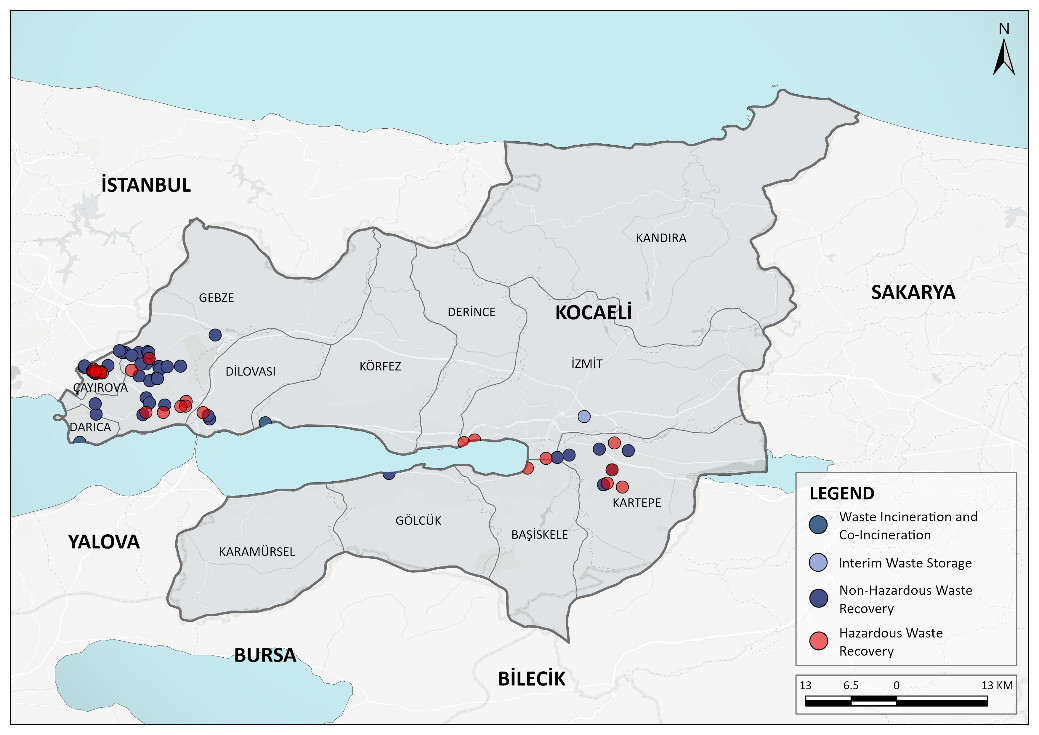


***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

#### 2.1.8.2. Hazardous Waste Management Capacity

In Kocaeli, there are a total of four waste incineration and co-incineration facilities, as IZAYDAŞ, Nuh Cement Industry, OYAK Cement Factories, and Kartepe Industrial Recycling Industry. Additionally, there is one interim waste storage facility operated by IZAYDAS. In the province, 41 non-hazardous waste recovery facilities and 30 hazardous waste recovery facilities are in operation. The locations of licensed waste management facilities in Kocaeli Province are shown in Figure 6.

Figure : Waste Facilities in Kocaeli Province



***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

#### 2.1.8.3. Asbestos

Asbestos is another issue to be considered in terms of both environmental / public health and occupational health and safety. However, it should be noted here that it is not possible to make a quantitative or spatial assessment of the asbestos status of the building stock of the provinces. However, it will be obliged to perform asbestos inventory studies before the demolition of any building within the scope of sub-projects. Furthermore, the Regulation on Demolition of Buildings has entered into force as of July 1, 2022, which stipulates asbestos inventory studies to be conducted at national level. The asbestos inventory studies can only be performed by an accredited company with a license on asbestos identification in solid sample as per the national legislation. According to the list of certified organizations of the Ministry of Labor and Social Security (MoLSS), General Directorate of Occupational Health and Safety, there are a total of 10 laboratories authorized in this context in Türkiye and all of them are located in the province of İstanbul (7 in the Asian side and 3 in the European side). For this reason, it will be necessary to obtain services from these companies in İstanbul before any demolition activity to be carried out.

The management of asbestos-containing waste with the codes 17 06 01 (insulation materials containing asbestos) and 17 06 05 (construction materials containing asbestos) in Kocaeli is carried out by IZAYDAS (İzmit Waste and Residue Treatment, Incineration and Recycling Corporation). This facility is authorized for the acceptance and disposal of asbestos-containing waste. IZAYDAS is Turkey's first waste disposal facility and ensures the safe disposal of hazardous waste.

## 2.2. Social Baseline

### 2.2.1. Kocaeli Province Population Status

Kocaeli, with a population of approximately 2.2 million by the end of 2024, is the tenth largest city in Turkiye. The population of Kocaeli, which has 12 districts, has been steadily increasing every year since 2008. The population of Kocaeli, which was 1,490,358 in 2008, has risen to 2,130,006 in 2024. 51% of the population are male and 49% are female. The population trends of Kocaeli are shown in Figure 7. The annual population growth rate of Kocaeli is above the national average of Turkiye.

Figure : Population Trend of Kocaeli

***Source****: TurkStat, the results of Address Based Population Registration System, 2007-2024*

The population of Kocaeli has steadily increased from 2008 to 2024, rising from approximately 1.49 million to 2.13 million, demonstrating a growth of over 43% in 16 years. The annual population growth rate was at a very high level in 2008, most likely due to administrative regulations, migration movements, or changes in the registration systems. The growth rate, which decreased to its lowest point in 2012, followed a fluctuating trend in the following years, reaching above 30% during the 2017–2018 period but declining again starting in 2019. After 2021, the growth rate continued to fluctuate, with an overall downward trend observed.

As can be seen in Table 13, it is evident that the total dependency ratio is lower than the national average, while the average household size is higher than the national average.

Table : Total Age Dependency Ratio and Average Size of Households in Kocaeli

|  |  |  |
| --- | --- | --- |
| **Population** | **Türkiye** | **Kocaeli** |
| Total Age Dependency Ratio (%) | 46.12 | 43.6 |
| Average Size of Households (Number) | 3,11 | 3,2 |

***Source:*** *TurkStat, The results of Address Based Population Registration System, 2024.*

The age pyramid of Kocaeli is given in Figure 8. When comparing the population pyramids of Kocaeli in 2007 and 2024, a significant shift in the demographic structure of the province is observed. In 2007, the pyramid displayed a broad base with a narrowing top, characteristic of a young population. However, in 2024, it is evident that the middle age groups (30-49 years) have significantly expanded, and the pyramid shape has increasingly resembled a bell curve. This indicates that the population of Kocaeli is aging, yet individuals of working age (25-64 years) still make up the majority. Compared to 2007, there is a relative shrinkage in the younger age groups (0-14 years), while there is a noticeable increase in the older age groups. These trends reflect a decline in fertility rates, longer life expectancy, and a shift toward an aging but still productive population structure.

Figure : The Change in the Population Pyramid of Kocaeli

***Source****:* *TurkStat, The results of Address Based Population Registration System, 2007 and 2024*

### 2.2.2. Education in Kocaeli Province

The educational data of Kocaeli Province demonstrates that the literacy and education levels in Kocaeli are higher than the national average of Turkiye. The educational attainment, which represents the highest level of education completed by an individual, is provided in Figure 9 and Figure 10. Although there is a difference in the education levels between men and women at the primary and secondary education levels, this gap decreases at the higher education level.

Figure : Adult Education Level in Kocaeli

*\* Adult refers to ages between 25 and 64.*

***Source:*** *TurkStat National Education Statistics, 2024*

Higher education level is an important factor contributing to individual’s employability or income. In general, the percentage of adults attained higher education levels in Kocaeli is higher than the national average in Türkiye as shown in Figure 10.

Figure : Percentage of Adult Education Levels in Kocaeli and Türkiye

\* *Adult refers to ages between 25 and 64.*

***Source:*** *TurkStat National Education Statistics, 2023.*

Looking at the 2023/24 education year, Kocaeli has around 980 public schools affiliated to the Ministry of National Education at all levels of education, 19 thousand 432 classrooms, and a total of 441 thousand 747 students are receiving education in these schools. Of 441 thousand 747 students in Kocaeli, 141 thousand 129 of them are in primary school, 125 thousand 251 of them are in lower secondary school and 118 thousand 81 are in secondary education. The net enrolment rates in Kocaeli for the 2023/24 education year are 93.12 %. In Kocaeli, 118 thousand 81 are in secondary education: A total of 34.43% prefer Vocational and Technical Education, 5.8% prefer Religious Education, and 18.46% prefer Open Education. Meanwhile, 41.29% are studying in General Secondary Education institutions.[[15]](#footnote-15)

There are three universities located in Kocaeli Province: Gebze Technical University, Kocaeli University, and Kocaeli University of Health and Technology, including two public and one private/foundation university. [[16]](#footnote-16)

Gebze Technical University holds a significant position in terms of technology and industry cooperation due to its proximity to the TUBITAK Marmara Research Center (MAM) and the Valley of Informatics, as well as its location near the Gebze Organized Industrial Zones. Innovation-focused projects are being developed through its Technopark and research and development (R&D) centers.

Table : Education Level Distribution in Kocaeli Province

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Education Status** | | | | | |
| **Education Status (6+years)** | **Total** | **Male** | **Female** | **Male Proportion** | **Female Proportion** |
| Illiterate | 30,612 | 5,553 | 25,059 | 0.6 | 2.6 |
| Literate, No Formal Education Completed | 170,005 | 76,348 | 93,657 | 7.9 | 9.8 |
| Primary School | 364,579 | 147,880 | 216,699 | 15.3 | 22.7 |
| Secondary School or Equivalent Vocational School | 336,087 | 178,320 | 157,767 | 18.4 | 16.5 |
| Primary Education | 129,212 | 68,799 | 60,413 | 7.1 | 6.3 |
| High School or Equivalent Vocational School | 508,958 | 293,853 | 215,105 | 30.4 | 22.6 |
| College or Faculty | 341,132 | 175,136 | 165,996 | 18.1 | 17.4 |
| Master's Degree and Above | 41,070 | 22,212 | 18,858 | 2.3 | 2 |
| Unknown | 12,053 | 6,241 | 5,812 | 0 | 0 |
| Total | 1,933,708 | 974,342 | 959,366 | 0 | 0 |

***Source:*** *TurkStat, Population Statistics, 2023*

Figure : Percentage of Educational Level in Kocaeli Province

***Source:*** *TurkStat, Population Statistics, 2023*

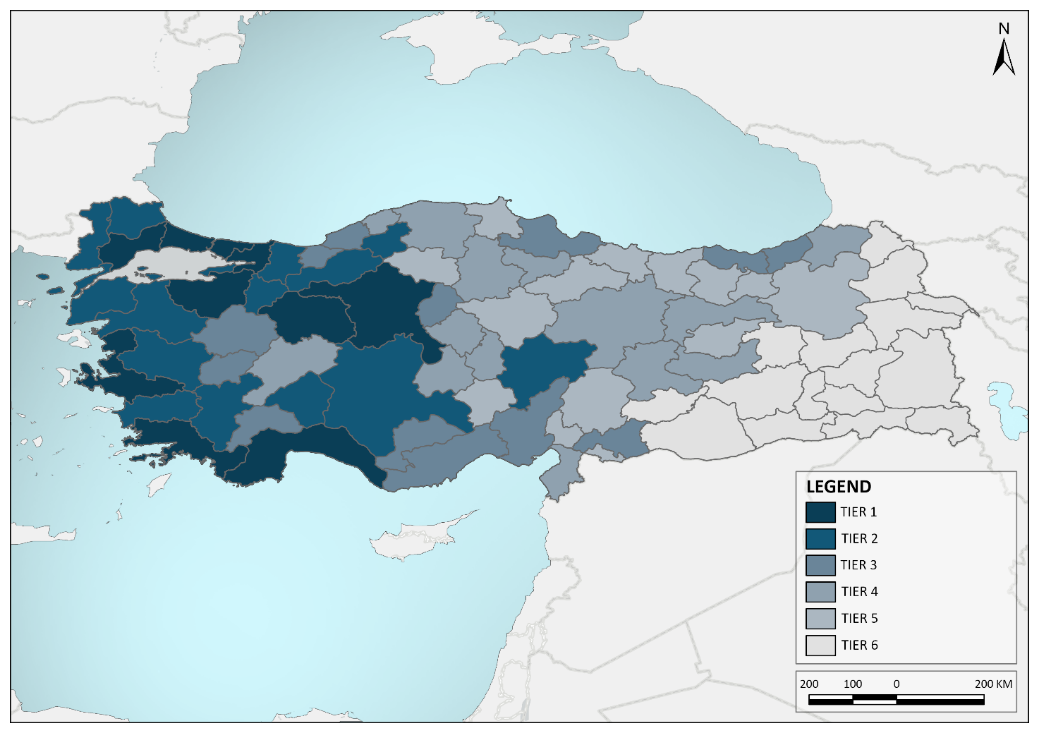
The level of educational attainment in Kocaeli exceeds the national average in Türkiye. Illiteracy is limited to a small segment of the population. However, it is noteworthy that the number of illiterate women is nearly five times higher than that of illiterate men. Approximately half of the population consists of high school and university graduates, who form the core of the province’s workforce.

For further details, please refer to Table 14 and Figure 11.

### 2.2.3. Socio-Economic Status of Kocaeli Province

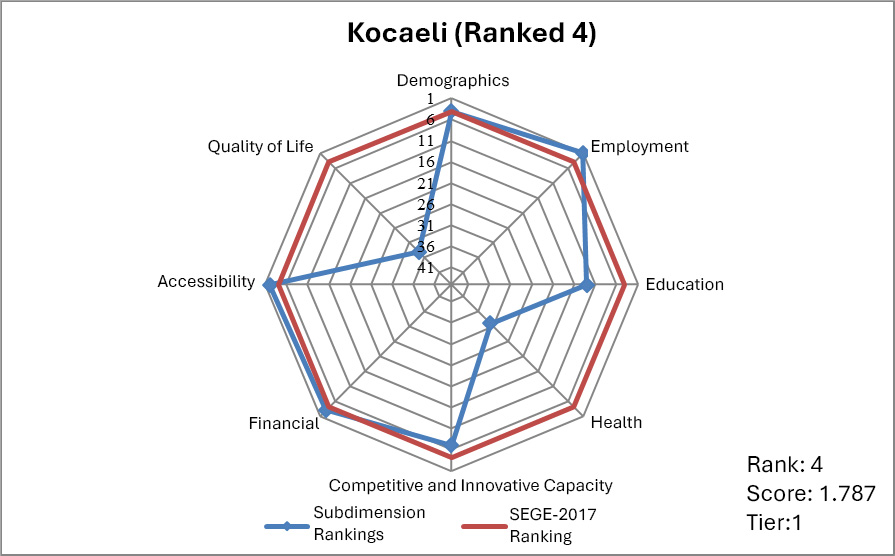
According to the Socio-Economic Development Ranking of Provinces and Regions Research conducted by the Ministry of Industry and Technology, in 2017, Kocaeli Province was ranked as the fourth most developed province in Turkiye with a score of 1,787. The study employs SEGE (socio economic development index) which analyzes the development levels of provinces via using 52 different variables that focusing on socio-economic dimension.*[[17]](#footnote-17)*

Figure 12: Development Agencies Gen. Directorate. 2017 SEGE Studies

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Source: Republic of Türkiye Ministry of Industry and Technology, General Directorate of Development Agencies. SEGE Studies, 2017.

Figure 13: 2017 SEGE Study of Kocaeli Province



Source: Republic of Türkiye Ministry of Industry and Technology, General Directorate of Development Agencies. SEGE Studies, 2017.

It is seen that the provinces in first-tier[[18]](#footnote-18), which include the most developed provinces, generally increase the welfare levels of other provinces around them.

Socio-economic development rankings of the districts of Kocaeli are presented in Table 15.

According to the "Socio-Economic Development Ranking Research of Districts" conducted by the Ministry of Industry and Technology in 2022, Gebze is the most developed district in Kocaeli. With a score of 2,334, Gebze ranks 34th nationwide. Izmit, with a score of 2,023, ranks 44th, while Başiskele, with a score of 1,562, ranks 70th. When looked at the other districts, a decline in national development rankings is observed in both of these districts.

Table : Socio-economic Development Rankings of the Districts of Kocaeli

| **District** | **National Development Rank** | | | **Kocaeli Development Rank** | | | **Development Level** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2004** | **2017** | **2022** | **2004** | **2017** | **2022** | **2004** | **2017** | **2022** |
| Gebze | 4 | 14 | 34 | 2 | 1 | 1 | 1 | 1 | 1 |
| İzmit | - | 36 | 44 | - | 2 | 2 | - | 1 | 1 |
| Kartepe | - | 125 | 157 | - | 3 | 6 | - | 2 | 2 |
| Başiskele | - | 134 | 70 | - | 4 | 3 | - | 2 | 2 |
| Gölcük | 67 | 137 | 147 | 5 | 5 | 5 | 2 | 2 | 2 |
| Derince | 38 | 155 | 185 | 4 | 6 | 7 | 2 | 2 | 2 |
| Körfez | 3 | 159 | 211 | 1 | 7 | 10 | 1 | 2 | 2 |
| Çayırova | - | 161 | 135 | - | 8 | 4 | - | 2 | 2 |
| Karamürsel | 100 | 206 | 252 | 6 | 9 | 11 | 2 | 2 | 3 |
| Darıca | - | 208 | 202 | - | 10 | 9 | - | 2 | 2 |
| Dilovası | - | 264 | 187 | - | 11 | 8 | - | 3 | 2 |
| Kandıra | 433 | 378 | 456 | 7 | 12 | 12 | 3 | 3 | 4 |
| Merkez | 11 | - | - | 3 | - | - | 1 | - | - |

*\** *In 2004, the districts of İzmit, Kartepe, Başiskele, Çayırova, Darıca, and Dilovası were excluded from the scope of the study, as they were not officially recognized as districts within the boundaries of Kocaeli Metropolitan Municipality at that time. In subsequent reports, all districts falling within the updated municipal boundaries were included in the research.*

***Source:*** *Ministry of Industry and Technology; General Directorate of Development Agencies, Research for the Socio-Economic Development Ranking of Districts, 2004, 2017 and 2022*

When comparing the years 2017 and 2022, a general decline in the national development rankings of Kocaeli's districts is noted. However, significant changes have occurred in the development rankings within the province. Başiskele and Gölcük districts have risen to higher ranks, securing the 3rd and 5th positions, respectively, compared to previous years. Notably, Çayırova has moved up from 8th to 4th place. Kandıra and Karamürsel continue to be the least developed districts in Kocaeli. In contrast, Dilovası and Çayırova have shown significant improvements in the development ranking. Additionally, Dilovası has advanced from the third level of development to the second level.

### 2.2.4. Vulnerable Groups

The potential vulnerable groups in Kocaeli are considered but not limited to the following:

* Women-headed households
* Disabled people,
* Elderly persons,
* Poor households (including those with many children) & people without any social security insurance (including unemployed young population, households with child workers),
* Migrants / SuTP / Other ethnic groups,
* Persons and groups whose livelihoods are dependent on the structures subject to the Project who will be permanently displaced, economically and physically (e.g., supers).

All vulnerable groups listed above — whether they are owners, tenants, or holders of limited real rights — will be preliminarily identified during the application process of the building for financing under the CDRC Project. Following the building’s acceptance into the Project, they will be fully identified in the building-specific Resettlement Plans (RPs), defined as beneficiaries within the scope of the Project, and will be eligible for the additional interest rate discount.

#### 2.2.4.1. Migrants and Syrians under Temporary Protection (SuTP)

Households with migrants and SuTP who are residing/working as owners or tenants in the project provinces will be able to benefit from supports or rental assistance when they meet the conditions for applying for credit or assistance.[[19]](#footnote-19)

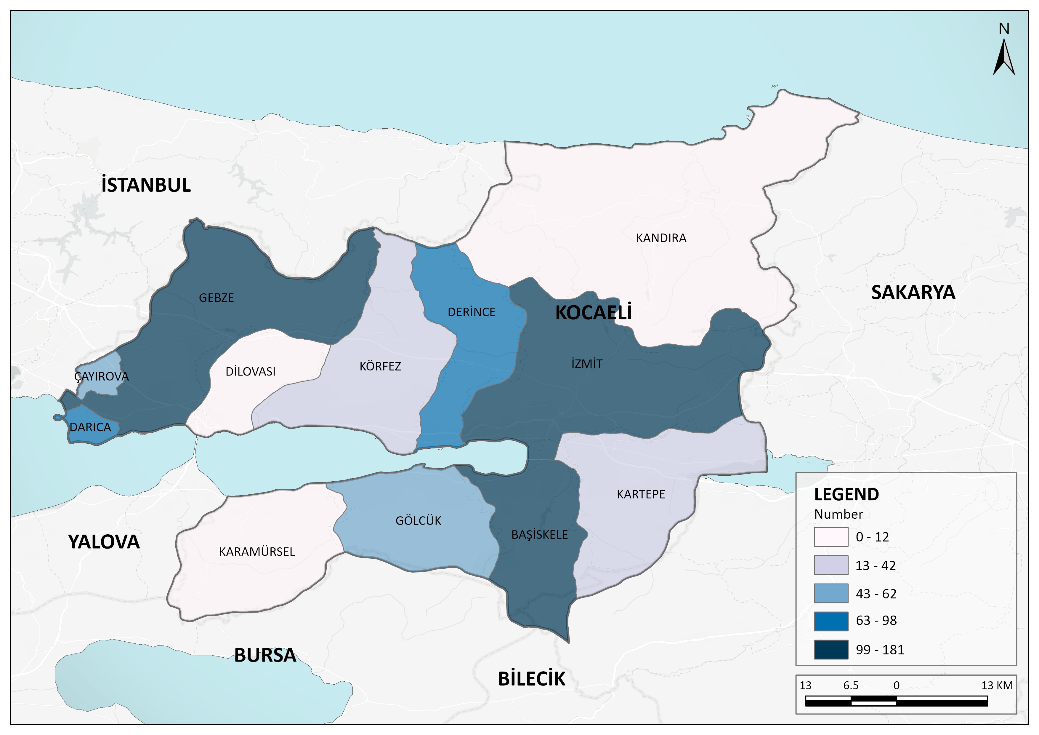
As of October 2022, the number of the SuTP in Türkiye is 3,622,486. While 1.5 percent of Syrians live in temporary shelters, 98.5 percent of them live in cities and villages. In Kocaeli, the number of SuTP is 48,831. When compared to the total population of the province, this represents 2.24%, placing Kocaeli in 19th place among the 81 provinces of Türkiye in terms of proportion of SuTP in population. The number and percentage of SuTP living in the project provinces and the ranking of the provinces in terms of both number and percentage of SuTP are given in Table 16.

Table : Population and Percentage of SuTP in Kocaeli

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Province** | **Population of Province** | **Population of SuTP** | **Percentage of SuTP** | **Rank of the province in terms of population of SuTP** | **Rank of the province in terms of percentage of SuTP** |
| Kocaeli | 2,130,006 | 48,831 | 2.01 | 14 | 19 |

***Source:*** *Republic of Türkiye, Ministry of Interior, Presidency of Migration Management, 2025.*

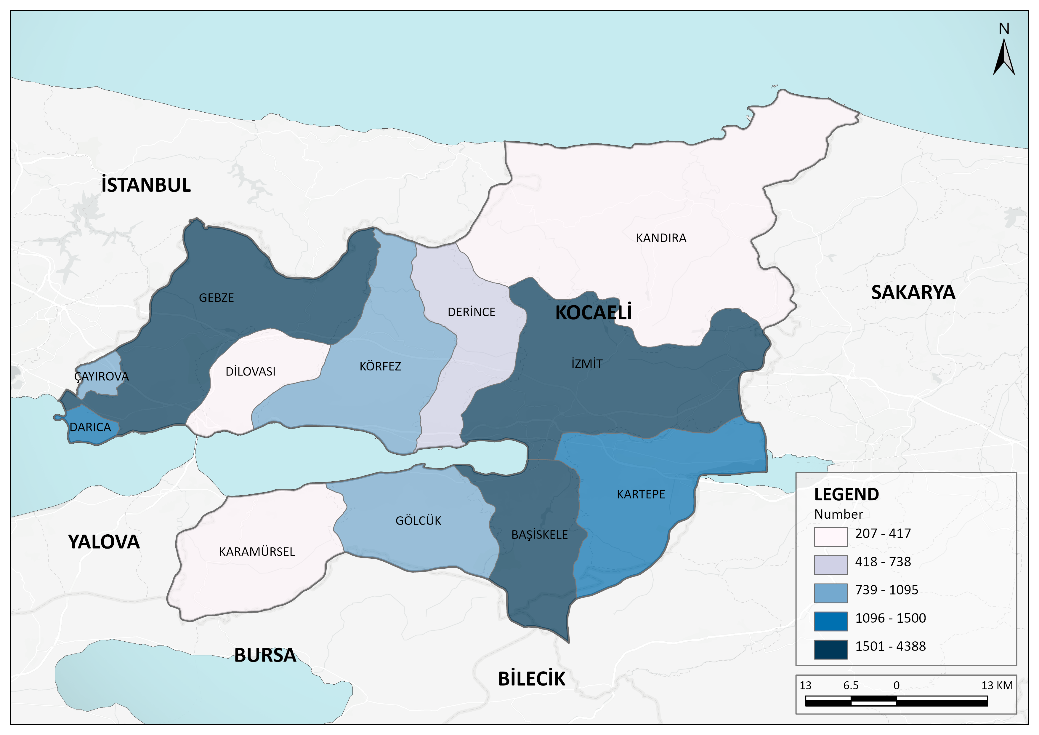
Figure : Syrian Population by District in Kocaeli Province According to the Address-Based Population Registration System

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***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

According to the Address-Based Population Registration System data dated December 2024, a total of 17,608 foreign nationals resides in Kocaeli Province. Based on the number of foreign nationals, the top five districts are İzmit, Gebze, Başiskele, Darıca, and Kartepe, respectively. (see Figure 15 ).

Figure : Foreign National Population by District in Kocaeli Province According to the Address-Based Population Registration System



***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

#### 2.2.4.2. Roma Population

Within the scope of the project, the Roma were evaluated as the ethnic group that stands out in terms of vulnerability.

Roma population generally lives in the most disadvantaged areas and in the poorest districts of cities. The main policy areas that Roma should receive support from, which are stated in the “Strategy Document for Roma Population” of the Ministry of Family and Social Policies, and the observations made during the preparation of the strategy document regarding these policy areas are as follows: [[20]](#footnote-20)

* **Education:** Roma children cannot benefit from education opportunities sufficiently and their absenteeism is high. Some Roma children are unable to continue their education because their families cannot afford to pay for their education or they have to work to support their families, while some of the children who attend school drop out because they think they are facing social exclusion.
* **Employment:** There is not enough data on the situation of Roma population in the labor market. However, the general opinion and observations are that Roma population mostly work in precarious, unqualified and low-status jobs. Thus, their income is not regular and is far from satisfying the needs of their families.
* **Shelter:** The houses they live in are physically inadequate. In fact, Roma population mostly live in makeshift barracks that they have built themselves, on public lands or private lands. In the urban transformation area projects carried out in the past to improve the living environment of the Roma, the problems of integration with the society and employment of the Roma population have increased, since the houses were built usually far from the city center and are multi-storey.
* **Health:** Both the general health literacy of Roma population and—although varies from region to region—the level of awareness of health services they can benefit from is generally low.
* **Social services and social assistance:** The low employment level of Roma population and the fact that they work in temporary/precarious jobs bring along the risk of poverty. Since they do not have the ability to pay premiums, they are generally not included in the social insurance system and are not supported through the social service and assistance system.

There are approximately 40,000 Roma citizens living in Kocaeli Province. The Roma communities residing in the Izmit region mainly earn their livelihoods through occupations such as musicianship, porterage, shoe shining, peddling, and scrap collection. However, it has been observed that Roma citizens are unable to sufficiently benefit from the socio-economic resources available in the region. The jobs undertaken by Roma citizens in Kocaeli are generally unskilled.[[21]](#footnote-21)

The main considerations of Roma regarding urban transformation are[[22]](#footnote-22):

* **Lack of zoning plans.** Some neighborhoods where Roma are densely populated do not have a zoning plan.
* **Poor physical condition of buildings.** Some Roma living in tents and barracks are vulnerable to natural disasters. In addition, although they do not live in tents and barracks, the buildings where some of the Roma live are in a very poor condition and should be reinforced in terms of earthquake risk.
* **Risky building vs. risky areas.** Although there are different opinions on this subject, it is generally seen that it is more appropriate to reconstruct existing risky buildings on the basis of buildings instead of areas in the transformation of risky buildings. In the implementations made on the basis of risky-area, the increase in the value of the newly constructed buildings causes social segregation and Roma cannot live in these buildings. In addition, they cannot continue their previous social life, which they were accustomed to, in these restructured regions, and their social networks are interrupted.

### 2.2.5. Cultural Heritage

Kocaeli, located in the Marmara Region, is an important city in terms of cultural heritage with its historical buildings, monuments, and examples of religious and civil architecture.

The Cultural and Natural Heritage Protection Law (No. 2863) of Türkiye outlines a comprehensive framework for the identification, protection, and management of various types of protected areas that hold cultural and natural significance. The law defines several types of areas to be protected:

**Archaeological Sites:** Areas containing remnants of past civilizations, including ruins, artifacts, and structures. These sites are carefully excavated and conserved, with restrictions on construction and development to prevent damage.

**Historical Sites:** Locations with significant historical buildings, monuments, and other structures. Efforts focus on preserving the architectural integrity and historical context, often through restoration projects and maintenance regulations.

**Urban Conservation Areas:** Sections of cities or towns with significant historical and cultural value, often featuring a concentration of heritage buildings. Regulations control alterations to buildings and urban development to maintain the area's historical character.

**Natural Sites:** Areas with unique natural features, landscapes, or ecosystems that have cultural or scientific importance. Conservation efforts include preserving the natural state, restricting harmful activities, and promoting sustainable use.

**Mixed Sites:** Areas that possess both cultural and natural heritage values, such as landscapes with archaeological significance or historic rural areas. Management strategies aim to balance the preservation of both natural and cultural elements, often integrating conservation practices for both types of heritage. Immovable cultural heritages in Kocaeli province are presented in Table 17 and protected sites in Kocaeli are presented in Table 18.

Table : Immovable Cultural Heritage in Kocaeli

|  |  |
| --- | --- |
| Protected Streets | 2 |
| Monuments and Memorials | 5 |
| Administrative Structures | 52 |
| Cultural Structures | 179 |
| Martyrs' Cemetery | 1 |
| Military Buildings | 35 |
| Industrial and Commercial Buildings | 66 |
| Religious Structures | 64 |
| Cemeteries | 83 |
| Civil Architecture Example | 573 |
| Remains | 89 |
| Total | 1,149 |

***Source:*** *The Directorate General of Cultural Assets and Museums, Ministry of Culture and Tourism.*

Table : Protected Sites in Kocaeli

|  |  |
| --- | --- |
| Protected Areas | |
| Urban Protected Site | 9 |
| Historical Protected Site | 1 |
| Archeological Protected Site | 118 |
| Natural Protected Area | 28 |
| Mixed Sites | - |
| Archeological and Urban Protected Site | 1 |
| Total | 157 |

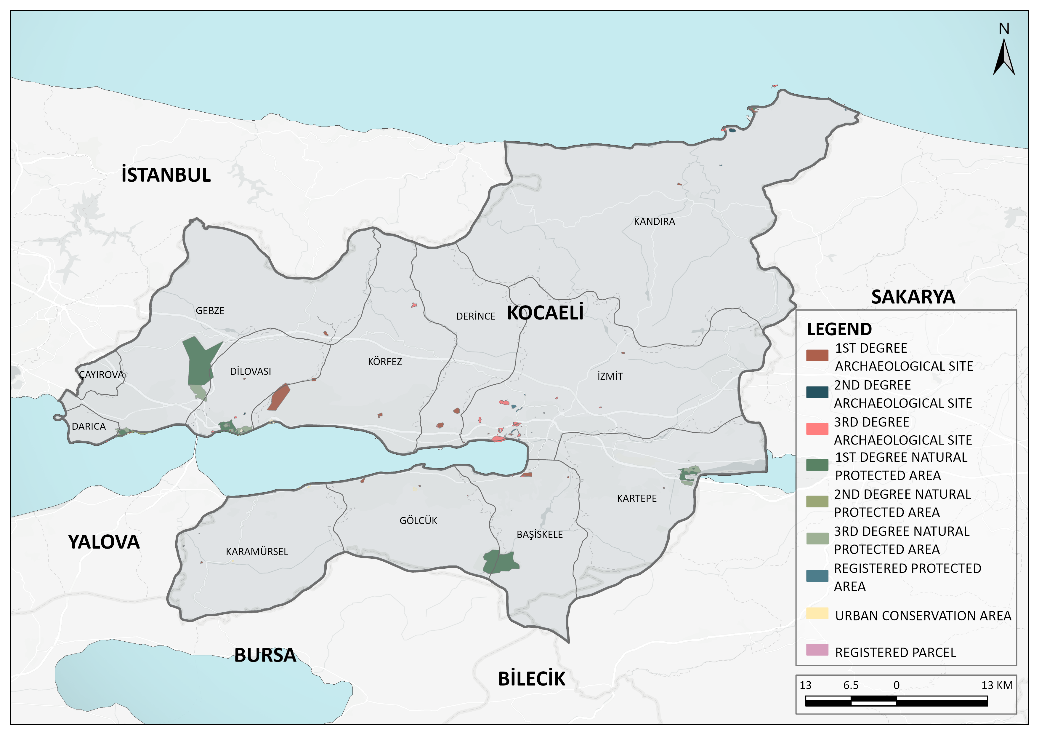
***Source:*** *The Directorate General of Cultural Assets and Museums, Ministry of Culture and Tourism.*

As the sub-projects will be implemented in urban areas, the main cultural heritage elements are mostly assessed in this way. As per the information obtained from the website of the Ministry of Culture and Tourism[[23]](#footnote-23), Kocaeli has nine (9) Urban Protected Areas,

Below are the important urban protected sites in Kocaeli[[24]](#footnote-24):

* İzmit İçkale Urban Protected Area: Located in the city center of İzmit, this area contains remnants from the Roman and Byzantine periods. It is known as the site of significant structures from the ancient city of Nicomedia.
* Hereke Urban Protected Area: Situated in Hereke, a district of Körfez, this area includes important cultural heritage sites such as the Hereke Castle from the Byzantine period and the Hereke Carpet Factory established in the 19th century.
* Eskihisar Urban Protected Area: Located in Eskihisar, a district of Gebze, this area is notable for its Ottoman-period structures and natural beauties.
* Değirmendere Old Waterfront Neighborhood Urban Protected Area: This neighborhood, located in the district of Gölcük, stands out with its traditional architecture.
* Saraylı Urban Protected Area: The village of Saraylı in Gölcük, with its historical texture and traditional architecture, is designated as an urban protected area.
* Ereğli Urban Protected Area: Ereğli, located in the district of Karamürsel, is preserved as an urban protected area due to its historical buildings and natural beauties.
* Tavşancıl Urban Protected Area: Tavşancıl, located in the district of Dilovası, is an urban protected area known for its traditional Turkish houses.
* Yalakdere Urban Protected Area: Yalakdere, located in the district of Karamürsel, is designated as an urban protected area for its historical and cultural values.

Figure : Kocaeli Protected Areas and Registered Sites



***Source:*** *Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan.*

### 2.2.6. Health Status in Kocaeli Province

Over the past four years, the healthcare capacity in Kocaeli — measured in terms of the number of hospitals and available hospital beds — has seen only modest growth. However, slight improvements are observable. Notably, there has been a steady increase in the number of family health centers, accompanied by a gradual rise in the total number of hospital beds. This trend has contributed to an overall improvement in the ratio of hospital beds per 10,000 inhabitants.

Based on an analysis of the Health Statistics Yearbooks published by the Ministry of Health, the following annual data regarding Koaceli have been obtained.

Table : Institutions and Infrastructures Providing Health Services

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Years** | **Number of Hospitals** | **Number of Beds** | **Number of Beds per 10,000 People** | **Number of Qualified Beds** | **Number of Intensive Care Beds** | **Qualified Bed Ratio\*** | **Number of Intensive Care Beds per 10,000 People** | **Number of Family Health Center** | **Number of Family Health Center per Population** |
| 2023 | 30 | 5,446 | 25.9 | 4,127 | 1,091 | 94.8 | 5.2 | 651 | 3,230 |
| 2022 | 29 | 4,911 | 23.6 | 3,306 | 1,007 | 84.7 | 4.8 | 641 | 3,243 |
| 2021 | 29 | 4,893 | 24.1 | 3,283 | 1,078 | 86.1 | 5.3 | 596 | 3,412 |
| 2020 | 29 | 4,821 | 24.1 | 3,215 | 1,053 | 85.3 | 5.3 | 583 | 3,426 |

*\*Intensive care beds are not included.*

***Source:*** *Republic of Türkiye, Ministry of Health, 2023. Health Statistics Yearbook.*

Table : Use of Health Services-1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Years** | **Number of Primary Care Referrals** | **Number of Second and Third Step Referrals** | **Number of Physician Referrals per Person** | **Number of Visits to Dentist** | **Number of Dentist Visits per Person** |
| 2023 | 10,309,459 | 13,267,392 | 11.2 | 1,503,893 | 0.72 |
| 2022 | 7,676,917 | 12,779,943 | 9.8 | 1,373,762 | 0.66 |
| 2021 | 5,514,945 | 10,434,045 | 7.8 | 987,247 | 0.49 |
| 2020 | 5,919,810 | 8,803,972 | 7.4 | 758,852 | 0.38 |

***Source:*** *Republic of Türkiye, Ministry of Health, 2023. Health Statistics Yearbook.*

Table : Use of Health Services-2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Years** | **Number of Inpatients** | **Number of Days Hospitalized** | **Number of Surgeries** | **Bed Occupancy Rate** | **Average Day of Stay** | **Bed Turnover** | **Bed Speed Range** |
| 2023 | 287,595 | 1,134,249 | 141,035 | 57.1 | 3.9 | 52.8 | 3.9 |
| 2022 | 282,680 | 1,100,373 | 135,196 | 61.4 | 3.9 | 57.6 | 2.4 |
| 2021 | 248,971 | 1,090,378 | 110,928 | 61.1 | 4.4 | 50.9 | 2.8 |
| 2020 | 237,309 | 1,099,829 | 93,971 | 62.5 | 4.6 | 49.2 | 2.8 |

***Source:*** *Republic of Türkiye, Ministry of Health, 2023. Health Statistics Yearbooks.*

Table : Human Resources in Health

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Years** | **Specialist Physician** | **General Practitioner** | **Assistant Physician** | **Total Physicians** | **Total Dentist** | **Pharmacist** | **Nurse** | **Midwife** | **Other Health Personnel** |
| 2023 | 2,200 | 1,127 | 840 | 4,167 | 1,019 | 818 | 5,364 | 1,311 | 5,889 |
| 2022 | 2,064 | 1,149 | 774 | 3,987 | 930 | 756 | 5,326 | 1,275 | 5,083 |
| 2021 | 2,017 | 1,102 | 598 | 3,717 | 922 | 696 | 5,121 | 1,245 | 4,877 |
| 2020 | 1,930 | 1,080 | 490 | 3,500 | 753 | 633 | 4,959 | 1,250 | 4,504 |

***Source:*** *Republic of Türkiye, Ministry of Health, 2023. Health Statistics Yearbook.*

Table : Emergency Health Services

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Years** | **Number of Emergency Aid Stations** | **Population Per Emergency Aid Station** | **Number of Emergency Ambulances** | **Population Per Emergency Ambulance** | **Unfounded Notification Rate, (%)** |
| 2023 | 55 | 38,235 | 90 | 23,366 | 6.7 |
| 2022 | 53 | 39,228 | 83 | 25,049 | 6.3 |
| 2021 | 51 | 39,871 | 83 | 24,499 | 6.3 |
| 2020 | 48 | 41,610 | 82 | 24,357 | 6.9 |

***Source:*** *Republic of Türkiye, Ministry of Health, 2023. Health Statistics Yearbook.*

### 2.2.7. Agriculture, Animal Husbandry and Industry of Kocaeli Province

Kocaeli has become one of Türkiye’s key industrial and logistics hubs due to its strategic geographical location, strong industrial infrastructure, economic potential, and dynamic population. The province holds a 14.7% share in the country’s total industrial production, making it one of the leading regions in terms of industrial output.[[25]](#footnote-25) Its location in the Marmara Region and proximity to Istanbul enhance its significance in trade and industrial activities. Although agriculture is practiced within the provincial boundaries, the economy is primarily driven by the industrial sector.

The province stands out in terms of the number and scale of industrial enterprises. According to 2020 data, 24 of Türkiye’s top 100 industrial enterprises and 75 of the top 500 companies are based in Kocaeli.[[26]](#footnote-26) The Kocaeli Chamber of Industry (KSO), established in 1989, is one of the region’s most prominent industrial institutions, serving over 3,500 enterprises across 38 professional committees. The Kocaeli Chamber of Commerce (KOTO), founded in 1897, plays a vital role in supporting the city’s commercial activities.

As of 2024, Kocaeli contributed significantly to the national economy by generating a total tax revenue of TRY 753.033 billion (i.e., TRY 753,033,059,000). This amount exceeds the combined tax revenues of 69 provinces in Türkiye, which total TRY 718,816 billion. [[27]](#footnote-27)

Figure : Employment Rates in Türkiye and Kocaeli by Years

***Source:*** *TurkStat,2022- 2024.*

The labor force in Kocaeli consists of 1.248 million individuals, and the labor force participation rate stands at 58.6%. This rate is higher than the national average of 50%. In terms of female labor force participation, the rate in the region is 28.6%, slightly below the national average of 29.5%.

When the employment distribution by sector is examined, the national averages are 49.4% for services, 26% for industry, and 24.6% for agriculture. In Kocaeli, the corresponding figures are 27% for services, 70% for industry, and 3% for agriculture. [[28]](#footnote-28) Check Figure 18.

Figure : Sectoral Distribution of The Employed in Kocaeli

***Source:*** *Republic of Türkiye Ministry of Agriculture and Forestry, Kocaeli Provincial Directorate of Agriculture and Forestry*

#### 2.2.7.1 Agriculture and Animal Husbandry Situation in Kocaeli Province

Although the relative importance of the agricultural sector in the composition of gross domestic product (GDP) has declined over the years, our production in real terms has shown a steady upward trend. In 1980, the agricultural sector accounted for 25.8% of national income, but this share declined rapidly due to the export-oriented macroeconomic policies pursued in the 1980s, and in 2022 the contribution of the agricultural sector to GDP stood at 4.8%. According to data from the Turkish Statistical Institute (TurkStat), the share of the agricultural sector (agriculture, animal husbandry, fisheries and forestry) in GDP at current prices according to the chained volume index in 2022 was 4.8%. In 2022, the agricultural sector recorded a moderate growth of 0.6% and its contribution to the economic growth of 5.4% was limited.

In the first quarter of 2023, the agricultural sector contracted 3.8 percent. This contract was recorded as the sharpest one since the third quarter of 2021. However, in the second quarter of 2023, the output of the agricultural sector increased by 1.2% and its share in GDP grew by 4.4%. Despite the declining share of agriculture in the Turkish economy over the years, the sector remains strategically important, accounting for 15.8% (4.9 million) of total employment (30.8 million) in 2022. Nevertheless, its share in employment (17.2%) has decreased compared to 2021, reflecting a shift from agriculture to services and construction. On the other hand, according to household labor force statistics released by TurkStat, the share of agricultural labor force (4.7 million) in total employment (31.6 million) was 14.9% as of the first quarter of 2023.

Despite its significance in industry and trade, Kocaeli also stands out as a region where agricultural and husbandry activities continue. These activities are mainly concentrated in rural areas such as Kandıra, İzmit, and Gebze, which are located farther from Istanbul. Agricultural production is primarily aimed at meeting urban consumption needs. In addition, the products find market opportunities in the Istanbul metropolitan area. Husbandry remains an important sector in the rural parts of Kocaeli, with cattle farming playing a prominent role, particularly in milk and meat production. Poultry farming and egg production are also supported.[[29]](#footnote-29)

Various crops such as vegetables, fruits, grains, and fodder crops are cultivated in the rural areas of Kocaeli. Districts like Kandıra, Gebze, and İzmit stand out in terms of agricultural production. Grains such as corn, oats, and wheat hold significant importance. In addition, legumes including sunflower, beans, and chickpeas are also cultivated. Vegetable farming mainly includes products like tomatoes, cucumbers, lettuce, and green onions. In fruit production, hazelnuts, walnuts, cherries, pears, and quinces are among the prominent crops. However, agricultural activities in Kocaeli remain limited due to the province’s industrial and trade-oriented structure.

Stockbreeding is an important source of livelihood in the rural areas of Kocaeli. husbandry is particularly widespread in districts such as Kandıra and İzmit, with a total of 120,780 head of cattle recorded across the province. In these areas, cattle breeding is a leading activity for both milk and meat production. Buffalo cream and yogurt produced in Kandıra, which have become regional brands, also hold a significant place. Milk produced on farms is either distributed to the city as fresh milk or processed into dairy products. In addition to cattle, sheep and goat husbandry is also practiced. Alongside meat and dairy production, poultry farming and beekeeping support the production of eggs and honey.

Agriculture and stockbreeding in Kocaeli are gradually declining due to the pressures of industrialization and urbanization. The conversion of agricultural land for industrial and residential purposes, productivity challenges in small-scale farms, high input costs, and environmental factors negatively affect the sector.

In Kocaeli, 38.5% of the land is arable, 0.6% is pasture, 41.9% consists of forests and shrublands, and 19% is classified as other types of land. A total of 16,840 individuals are officially registered as farmers[[30]](#footnote-30).

The distribution of arable land by product and use in 2022 is presented in Table 24. Of the total arable land, 64.8% is allocated to grains and other crops, 2.5% to vegetable farming, 15.3% is left fallow, 17.3% is used for fruit and spice cultivation, and 0.1% is designated for ornamental plants.[[31]](#footnote-31)

Table : Agricultural Production Amounts and Production Areas

| **Distribution of Arable Land** | **Area (ha)** | **Percentage (%)** |
| --- | --- | --- |
| Production Area Of Grains And Other Crops | 514,309 | %64.8 |
| Area of Fallow | 121,482 | %15.3 |
| Area of Vegetable Farming | 19,581 | %2.5 |
| Area of Fruits, Beverage and Spice Crops | 137,590 | %17.3 |
| Area of Ornamental Plants | 634 | %0.1 |
| **Total** | **793,596** | **100** |

***Source:*** *Kocaeli Metropolitan Municipality, 2022.*

In Kocaeli Province, field crop production includes a significant share of Türkiye’s output in certain categories. The province accounts for 2.13% of Türkiye’s oat (green fodder) production with 96,513 tons, and it has a substantial role in silage corn production with 248,711 tons. In addition, Kocaeli produced 20,457 tons of wheat, 16,575 tons of vetch (forage), and 27,920 tons of barley (green fodder), positioning the province as an influential region in crop production. [[32]](#footnote-32)

As of 2022, Kocaeli Province had a total of 120,780 cattle, 126,509 sheep and goats, and 968 equines. The leading districts in cattle husbandry are Kandıra (33,000), Gebze (19,943), and İzmit (19,658). For sheep and goat farming, the top districts as of the same year are Gebze (30,833), İzmit (18,620), Körfez (17,928), Karamürsel (17,344), and Kandıra (17,000). Additionally, İzmit (541) and Kartepe (214) stand out in terms of equine population. Agricultural and husbandry data for Kocaeli Province is presented in the table below. [[33]](#footnote-33)

Table : Agricultural and Animal Husbandry Status of Kocaeli Province by District

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **District** | **Vegetative Production** | **Husbandry** | **Greenhouses and Viticulture** | **Aquaculture** |
| Başiskele | Grains, Vegetables, Fruits, Olives | Cattle, limited number of sheep and goats | Few Greenhouses | None |
| Çayırova | - | Limited number of cattle, limited number of sheep and goats | Few Greenhouses | None |
| Darıca | Grains, Vegetables, Fruits, Olives | Limited number of cattle, limited number of sheep and goats | Viticulture and Greenhouse Areas | None |
| Derince | Grains, Vegetables, Fruits | Cattle, sheep and goats | Viticulture | None |
| Dilovası | Fruits | Cattle, sheep and goats | Few Greenhouses | None |
| Gebze | Grains, Vegetables, Fruits, Olives | Cattle, sheep and goats | Greenhouse Areas | None |
| Gölcük | Grains, Vegetables, Fruits, Olives | Cattle, limited number of sheep and goats | Extensive Vineyard Areas- Viticulture | Fish Farms |
| İzmit | Vegetables, Fruits, Olives, Grapes | Cattle, sheep and goats | Greenhouse Areas | None |
| Kandıra | Vegetables, Fruits, Olives, Grapes | Cattle, sheep and goats | Viticulture and Greenhouse Areas | Fish Farms |
| Karamürsel | Vegetables, Fruits, Olives, Grapes | Cattle, sheep and goats | Viticulture and Greenhouse Areas | Fish Farms |
| Kartepe | Vegetables, Fruits, Olives, Grapes | Cattle, sheep and goats | Extensive Vineyard Areas- Viticulture and Greenhouse Areas | None |
| Körfez | Grains, Vegetables, Fruits, Olives | Cattle, sheep and goats | Greenhouse Areas | None |

***Source:*** *Kocaeli Metropolitan Municipality, Agriculture in Kocaeli, Its Place in Türkiye and Recommendations for Development, 2023.*

#### 2.2.7.2. Industry In Kocaeli Province

Kocaeli is one of Türkiye’s leading industrial and commercial centers. In 2023, it ranked first in the country in terms of per capita gross domestic product (GDP), reaching TRY 516,460. According to 2024 data, 44% of Türkiye’s automotive production, 27% of its chemical industry output, and 19% of its metal industry output take place in Kocaeli. Eighty of Türkiye’s top 500 companies operate in the province. Kocaeli stands out with its strong presence in the automotive, iron-steel, chemical, plastics, machinery, and metal industries, and serves as a major logistics hub with 37 port facilities. In 2024, the province contributed 19.7% to Türkiye’s foreign trade by achieving USD 41.39 billion in exports and USD 77.96 billion in imports. Ranking third in Türkiye in terms of R&D centers, Kocaeli is also emerging as a hub of innovation, with 138 R&D centers and 16 design centers. Its strategic importance in transportation and logistics is reinforced by major infrastructure projects such as Marmaray, the Northern Marmara Motorway, Osmangazi Bridge, and Karasu Port. [[34]](#footnote-34)

The Kocaeli Free Zone, located in the Gebze region, has served as an industrial and commercial area with 20 active companies as of 2018. The TÜBİTAK-Marmara Technopark Free Zone is another significant hub for research and development activities. The province hosts 14 Organized Industrial Zones (OIZ), which help consolidate industrial activities within designated areas. The districts of Gebze, Körfez, Dilovası, and İzmit are the primary centers of industrial concentration. Most recently, the Kandıra Food Specialized OIZ was added, and the expropriation process for this zone is currently ongoing. The list of OIZs is provided in Table 26.

Table : Organized Industrial Zones in Kocaeli Province

|  |  |  |
| --- | --- | --- |
| **No** | **Organized Industrial Zone (OIZ)** | **Districts** |
| 1 | TOSB Automotive Supplier Industry Specialized OIZ | Gebze |
| 2 | TOSB Automotive Supplier Industry Specialized OIZ | Çayırova |
| 3 | Dilovası Organized Industrial Zone | Dilovası |
| 4 | Kocaeli Gebze Plastics Manufacturers OIZ | Gebze |
| 5 | Güzeller Organized Industrial Zone | Gebze |
| 6 | İMES Machinery Specialized OIZ | Gebze |
| 7 | Asım Kibar OIZ | Gebze |
| 8 | Alikahya OIZ | İzmit |
| 9 | Kocaeli Leather Specialized OIZ | Başiskele |
| 10 | Chemical Specialized OIZ | Dilovası |
| 11 | Kandıra Food Specialized OIZ | Kandıra |
| 12 | Başiskele OIZ | Başiskele |
| 13 | Kocaeli Coal Products OIZ | Dilovası |
| 14 | Şekerpınar OIZ | Çayırova |

***Source:*** *Kocaeli* Chamber of Commerce, *Economic Structure of Kocaeli*

The sectoral distribution of industrial enterprises in Kocaeli Province shows that fabricated metal product manufacturing (excluding machinery and equipment) ranks first with 19.49%. This is followed by the manufacturing of machinery and equipment not elsewhere classified with 12.45%, and the manufacturing of basic metals with 10.01%.

Kocaeli has a total of 14 Organized Industrial Zones, covering a combined area of 3,977.01 hectares, with 2,118 parcels allocated. Currently, 1,279 enterprises are operational, providing employment to 142,169 people. The largest OIZ is Gebze OIZ (GOSB), with an area of 515.5 hectares. Automotive, machinery, chemical, and plastics industries are the leading sectors in these zones. The main OIZs with the largest land areas in Kocaeli are as follows:

Gebze Organized Industrial Zone is the largest OIZ in the province, covering 515.5 hectares. Established in 1985, it is one of the most significant industrial areas in the region, thanks to its infrastructure, logistics capabilities, and large production capacity. [[35]](#footnote-35)

Gebze VI Machinery Specialized OIZ covers 301.87 hectares. Established in 2006, this zone hosts firms specializing in machinery and heavy industry production. With 229 active enterprises, it takes a major role in the region's economic development.

Dilovası Organized Industrial Zone covers 289.98 hectares. Established in 2003, it includes companies operating in various industrial fields, especially chemicals, metals, and heavy industries. With 225 enterprises, it significantly contributes to Kocaeli’s production capacity.

Kocaeli Automotive Supplier Specialized OIZ covers 279.65 hectares. Founded in 1992, it includes companies producing mainly for the automotive sector. As one of Türkiye’s largest automotive supply manufacturing hubs, it provides employment for approximately 25,000 people.

Kocaeli SME OIZ covers an area of 269.50 hectares. Established in 1997, it serves small and medium-sized enterprises and has become a central industrial zone supporting sectoral diversity. A total of 161 enterprises operates within the zone. [[36]](#footnote-36)

Table : Sectoral Distribution of Industrial Enterprises in Kocaeli Province

| **Sectors (Nace Rev 2)** | **2020** | | | **2021** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Kocaeli** | | **Sectoral Share within Türkiye (%)** | **Kocaeli** | | **Sectoral Share within Türkiye (%)** |
| **Number of Enterprises** | **Share**  **(%)** | **Number of Enterprises** | **Share (%)** |
| **Mining and Quarrying** | **49** | **1.49** | **1.03** | **56** | **1.50** | **1.11** |
| Mining of Coal and Lignite | - | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Extraction of Crude Petroleum and Natural Gas | - | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Mining of Metal Ores | 6 | 0.18 | 1,03 | 6 | 0.16 | 1.01 |
| Other Mining and Quarrying | 43 | 1.31 | 1.12 | 50 | 1.34 | 1.22 |
| **Manufacturing** | **3,232** | **98.18** | **2.63** | **3,670** | **98.21** | **2.63** |
| Manufacture of Food Products | 270 | 8.20 | 1.37 | 313 | 8.38 | 1.46 |
| Manufacture of Beverages | 6 | 0.18 | 1.19 | 6 | 0.16 | 1.09 |
| Manufacture of Tobacco Products | 1 | 0.03 | 1.30 | 2 | 0.05 | 2.11 |
| Manufacture of Textiles | 58 | 1.76 | 0.56 | 67 | 1.79 | 0.57 |
| Manufacture of Wearing Apparel | 33 | 1.00 | 0.42 | 37 | 0.99 | 0.39 |
| Manufacture of Leather and Related Products | 6 | 0.18 | 0.22 | 7 | 0.19 | 0.24 |
| Manufacture of Wood and of Products of Wood and Cork (Except Furniture) | 108 | 3.28 | 1.85 | 114 | 3.05 | 1.81 |
| Manufacture of Paper and Paper Products | 58 | 1.76 | 2.72 | 62 | 1.66 | 2.48 |
| Printing and Reproduction of Recorded Media | 49 | 1.49 | 2.52 | 55 | 1.47 | 2.52 |
| Manufacture of Coke and Refined Petroleum Products | 28 | 0.85 | 12.44 | 28 | 0.75 | 11.72 |
| Manufacture of Chemicals and Chemical Products | 239 | 7.26 | 5.92 | 276 | 7.39 | 5.87 |
| Manufacture of Basic Pharmaceutical Products and Pharmaceutical Preparations | 14 | 0.43 | 5.71 | 16 | 0.43 | 6.06 |
| Manufacture of Rubber and Plastic Products | 323 | 9.81 | 3.45 | 356 | 9.53 | 3.40 |
| Manufacture of Other Non-Metallic Mineral Products | 129 | 3.92 | 1.77 | 148 | 3.96 | 1.84 |
| Manufacture of Basic Metals | 314 | 9.54 | 8.28 | 342 | 9.15 | 8.26 |
| Manufacture of Fabricated Metal Products (except Machinery and Equipment) | 682 | 20.72 | 4,94 | 787 | 2106 | 4.95 |
| Manufacture of Computers, Electronic and Optical Products | 55 | 1.67 | 4.38 | 61 | 1.63 | 4.21 |
| Manufacture of Electrical Equipment | 154 | 4.68 | 4.28 | 180 | 4.82 | 4.25 |
| Manufacture of Machinery and Equipment Not Elsewhere Classified | 424 | 12.88 | 3.43 | 497 | 13.30 | 3.46 |
| Manufacture of Motor Vehicles, Trailers and Semi-Trailers | 127 | 3.86 | 5.79 | 138 | 3.69 | 5.60 |
| Manufacture of Other Transport Equipment | 23 | 0.70 | 3.66 | 27 | 0.72 | 3.52 |
| Manufacture of Furniture | 98 | 2.98 | 0.93 | 115 | 3.08 | 0.94 |
| Other Manufacturing | 33 | 1.00 | 1.31 | 36 | 0.96 | 1.19 |
| **Electricity, Gas, Steam and Air Conditioning Supply** | **11** | **0.33** | **0.27** | **11** | **0.29** | **0.25** |
| Production and Distribution of Electricity, Gas, Steam and Air Conditioning Systems | 11 | 0.33 | 0.27 | 11 | 0.29 | 0.25 |
| **Total Industry** | **3,292** | **100** | **2.50** | **3.737** | **100** | **2.51** |

### 2.2.8. Retirement Status in Kocaeli Province

It is among the leading duties of the social state to ensure that our pensioners, who have contributed greatly to the development of our country throughout their working lives, can make the best use of their retirement rights. In order to fulfill these duties, first of all, norm and standard unity has been ensured with the Social Security and General Health Insurance Law No. 5510, which was prepared to establish a structure where all individuals are provided with social security services of equal scope and quality. Technological infrastructure works have been accelerated by the Social Security Institution (SGK) and a wide range of studies are being carried out in both insurance and health fields in order to provide better quality and sustainable services.

Table : Retirement Data of Kocaeli Province for the Years 2019–2024

| **Year** | **Scope** | **Distribution** | | **Total** |
| --- | --- | --- | --- | --- |
| 2019 | 4a | Public Sector | 39,561 | 218,312 |
| Private Sector | 178,751 |
| Male | 141,851 |
| Female | 76,461 |
| 4b | Male | 15,946 | 30,441 |
| Female | 14,495 |
| 4c | Male | 20,333 | 39,268 |
| Female | 18,935 |
| 2020 | 4a | Public Sector | 39,742 | 225,186 |
| Private Sector | 185,444 |
| Male | 145,244 |
| Female | 79,942 |
| 4b | Male | 15,654 | 30,374 |
| Female | 14,720 |
| 4c | Male | 20,612 | 40,168 |
| Female | 19,556 |
| 2021 | 4a | Public Sector | 39,797 | 233,187 |
| Private Sector | 193,390 |
| Male | 148,911 |
| Female | 84,276 |
| 4b | Male | 15,447 | 30,521 |
| Female | 15,074 |
| 4c | Male | 20,921 | 41,349 |
| Female | 20,428 |
| 2022 | 4a | Public Sector | 39,936 | 242,161 |
| Private Sector | 202,225 |
| Male | 153,047 |
| Female | 89,114 |
| 4b | Male | 15,119 | 30,477 |
| Female | 15,358 |
| 4c | Male | 20,771 | 41,556 |
| Female | 20,785 |
| 2023 | 4a | Public Sector | 41,306 | 309,954 |
| Private Sector | 268,648 |
| Male | 211,017 |
| Female | 98,937 |
| 4b | Male | 16,956 | 32,898 |
| Female | 15,942 |
| 4c | Male | 21,878 | 43,660 |
| Female | 21,782 |
| 2024 | 4a | Public Sector | 41,984 | 329,568 |
| Private Sector | 287,584 |
| Male | 226,085 |
| Female | 103,483 |
| 4b | Male | 17,305 | 33,721 |
| Female | 16,416 |
| 4c | Male | 22,345 | 44,702 |
| Female | 22,357 |

*Notes:*

*Note: In Türkiye, the concepts of 4A, 4B, and 4C used in the retirement system refer to the types of insurance coverage under the Social Security Institution (SGK). 4A (SSK) covers employees working under an employer, 4B (Bağ-Kur) covers self-employed individuals (such as tradesmen, farmers, or company partners), and 4C (Emekli Sandığı) covers civil servants working in public institutions.*

*\*The relevant data covers all pensioners and rights holders receiving income/monthly payments.*

*\*\*Male and Female Pensioners: Indicates the gender distribution among total pensioners.*

*\*\*\*The data pertains to the December period of the respective years.*

*\*\*\*\*The distinction between public and private sectors applies only to insured individuals under category 4/a.*

***Source:*** *TurkStat and SGK*

# 3. ASSESSMENT OF POTENTIAL ENVIRONMENTAL, SOCIAL AND KEY POTENTIAL LABOUR RISKS AND IMPACTS

## 3.1. Potential Environmental and Social Risks and Impacts

As mentioned in Section 1.2, approximately 365 Type 1 and Type 2 buildings, and 5,868 Type 3 buildings are expected to constitute the potential sub-projects of the CRDC Project in Kocaeli province. Potential environmental and social risks and impacts may arise during the construction or retrofitting of several buildings within the scope of Component 2.

The Project has a standalone Resettlement Framework (RF) which has been prepared specifically for Component 2 in order to minimize the potential social risks and impacts of the project related activities, mitigate negative impacts and assist the Project Affected Persons (PAPs) to improve their living conditions. Accordingly, the potential foreseen risks and impacts relevant to the demolition, reconstruction or retrofitting of risky structures are provided below in Table 29.

Table : Potential Environmental and Social Risks and Impacts

| **Project Phase** | **Potential Risk/Impact** |
| --- | --- |
| Preparation for Demolition | Inadequate outreach and stakeholder engagement |
| Temporary and permanent displacement of owners and tenants resulting from the rehabilitation/reconstruction of housing units/workspaces |
| Risk of impoverishment due to permanent or temporary physical or economic displacement |
| Lack of dissemination of information about or access to grievance mechanisms for workers and/or Project-affected people |
| Inadequate/fail in management of Project impacts on existing and potential vulnerabilities |
| Risks of exclusion of poorer or vulnerable/disadvantaged individuals/groups from Project benefits, subsidies, etc. |
| Due to inadequate/fail in management of Project impacts on traffic and community safety   * Increased traffic: improperly selected routes and lack of correct orientation and warning signs at the entrance and exit of the construction site * Traffic accidents: missing or incorrect warning signs * Noise pollution: unnecessary use of klaxon * Air and environment pollution: dust and soil from uncovered lorries, increased carbon emissions due to traffic jam. |
| Community health and safety risks that may result from insufficient public informing practices of the people of the neighborhood where the structure to be demolished is located. |
| Due to insufficient preliminary planning,   * Potential damages to other structures, infrastructure and installations around the structure and to the community health, and * Traffic jams and the effects that may be caused by this. |
| Occupational accidents, environmental accidents and incidents and non-compliance with national and international legislation that may result from insufficient pre-planning. |
| Demolition Stage (the sub-projects which will require demolition) | Negative health effects on workers, service providers and society due to accidents and incidents that may occur during the asbestos inventory, removal, transportation and disposal process. |
| General occupational health and safety risks that may apply to any demolition activity |
| Demolished material is harmful to environment if it is not disposed of adequately. Especially if the material or waste is dangerous or might be dangerous. |
| Temporary and permanent displacement due to project activities |
| Risks to public health due to the traffic to be created by the reconstruction activities |
| Livelihood loss |
| Inadequate demolition work may result in local landslide risk and damage to the areas under protection. |
| Impacts on air quality, especially related with possible contribution on particulate matter concentrations, which are already high in Kocaeli. |
| Blasting-Related Risks: The demolition phase can be carried out by blasting according to the demolition method. In this context, occupational and community health and safety risks will arise. -However, it should be noted here that no blasting demolition has been performed in Türkiye since 2017 and the MoEUCC does not prefer this method. In any case, relevant mitigation measures are provided. |
| Noise generation (except from blasting, for blasting details provided above) |
| Potential negative impacts for cultural heritage |
| Pre re-construction stage of the Type-III sub-projects | Risks related to E&S due to the possibility of conducting demolition works were performed non-compliant with WB and national standards. |
| Reconstruction or Retrofitting Stage | Risks related with improper Waste Management which may create additional pressure to waste management facilities of the provinces and may cause harm on environment. |
| During construction activities, construction machinery may damage trees in the construction area. |
| Excessive Noise Generation which has the possibility to impact on human health and at least may cause disturbance |
| Labor risks, given the extensive civil works |
| Possibility of chance finds during excavation work |
| Lack of information about or access to grievance mechanisms for workers and/or Project-affected people |
| Public health and safety risks |
| Possible negative impacts on Water Quality |
| Risks to public health due to the traffic to be created by the reconstruction activities |
| Livelihood loss |
| Risk of SEA/SH incidents during reconstruction activities |

## 3.2. Assessment of Key Potential Labor Risks

The key labor risks related to OHS risks associated with construction activities of sub-projects such as exposure to physical, chemical and biological hazards are estimated as follows: heavy equipment use, trip and fall hazards, exposure to noise and dust, falling objects, exposure to hazardous materials and exposure to electrical hazards arising from the use of tools and machinery. Persons under the age of 18 will not be employed in the Project, as construction activities will involve hazardous work. Many workers will be exposed to OHS hazards, including but not limited to:

* Working at a height,
* Electric shocks and arc failure burns (use or faulty of electrical appliances such as cable plugs, cords, hand tools),
* Electrical works,
* Exposure to chemicals (such as paints, solvents, lubricants and fuels),
* Chainsaws and tree fall during logging,
* Traffic accidents,
* Excavation hazards,
* Lifting of heavy objects,
* Rebar accidents,
* Exposure to construction-induced air emissions (dust, silica and asbestos),
* Ergonomic hazards during construction,
* Welding hazards (smoke, burns and radiation),
* Steel erection (towers) hazards,
* Lack of awareness about OHS requirements such as the use of personal protective equipment (PPE) and safe workplace practices, and
* Use of rotating and moving equipment.

In Türkiye, overtime hours are a potential labor risk in the construction sector. Due to the limited time period of the Project and the seasonal constraint of the construction works, it is a possible risk for contracted workers to work overtime above the annual limit set by the Labor Law. Reducing this risk is described in the Terms and Conditions section.

In addition, some potential gender related risks may arise between the local community and Project workers or among the workers themselves. These risks include gender discrimination, sexual exploitation, abuse, and harassment (SEAH) in the workplace. Forced labor and child labor are prohibited under national law, and specific provisions addressing these issues are included in the LMP of the CDRC Project.

Since sub-projects will be carried out in urban areas, majority of the labor will be recruited from Project provinces and thus sub-projects are not expected to have labor influx risks. The majority of the workforce will be Turkish citizens. However, if other labor risks arise during Project implementation, the Project Management Unit (PMU) will develop procedures, in compliance with both the national legislation and LMP of the CDRC Project, to prevent further impact.

# 4. SUB-PROJECT SCREENING PROCESS

According to the World Bank Environmental and Social Policy, Projects are classified into one of four risk classes: Related potential risks and impacts, such as the type, location, sensitivity and scale of the Project can be summarized as High Risk, Substantial Risk, Medium Risk or Low Risk, taking into account the nature and magnitude of potential environmental and social risks and impacts, and other risk areas that may be relevant to the provision of environmental and social mitigation measures and results.

Unlike the national EIA Regulation (where the Projects are classified in two categories as Annex I and Annex II Projects), there are no clear limit values distinguishing the Project classes from each other or, there is no ready-made list of Project types for classification; instead, Projects are screened on a case-by-case basis in the World Bank's environmental and social risk classification.

**Sub-project Identification and Screening Process**

Screening will be performed to determine the environmental and social risk category of the proposed sub-project. Moreover, the screening will also cover an ineligibility assessment. These two steps should go along in an integrated way, which starts initially with an ineligibility assessment.

Accordingly, non-eligible sub-projects which will not be financed by the WB, and therefore excluded from the scope, are listed below:

* Any sub-project that is included in the World Bank Group / International Finance Corporation Exclusion List
* Any sub-project that includes the buildings registered as Cultural Heritage.
* Any sub-project that will have impacts on Natural Habitats/Critical Habitats such as alteration of environmentally important areas, including wetlands, native forests, grasslands, and other “critical” natural habitats and ecosystem services.
* Any sub-projects that in-situ transformation is not possible.
* The buildings which are not registered as risky building within the scope of Law no. 6306.
* Risky buildings within designated Disaster Exposed Areas.
* Any sub-project that would affect the quality and/or quantity of international waterways as defined in WB OP 7.50 and that would benefit from existing hydroelectric dams in a way, triggering any dam safety issues under the scope of ESS4.
* Any Type-III sub-project, whose demolishing works had been completed before October 1, 2020.
* Any sub-project which would be classified as “High Risk”[[37]](#footnote-37) in terms of environmental risks.

**Sub-project Screening Procedures**

Component 2 includes three kinds of sub-projects (see section 1.2 for definitions). As one of them, Type-III, is defined as “Sub-projects that have been demolished after being registered as a risky structure and only reconstruction activities will be carried out under Component 2”, which implies that some pre-works have been performed before loan application; screening procedures are defined separately as below:

Screening for Type-I and Type-II

* First step will be checking if the subproject is in the non-eligible subproject list (Annex 13) or not; except the criteria defined as “any sub-project which would be classified as “High Risk” in terms of environmental risks”.
* If the proposed sub-project is not determined as non-eligible as a result of the step performed as above, Section II of the checklist presented in Annex 10 will be applied in order to identify a preliminary baseline of the site and its surroundings.
* Afterwards, Section III of the checklist presented in Annex 10 will be applied to foreseen scale of the impacts.

Finally, by taking the outcomes of the above two steps into account, environmental and social risk category of the sub-project will be determined. In case of determination of the sub-project category as “high risk” in terms of environmental risks; no loan will be provided.

Screening for Type-III

* First step will be checking if the subproject is in the non-eligible subproject list (please see Annex 13) or not; except the criteria defined as “any sub-project which would be classified as “High Risk” in terms of environmental risks”. Specific attention will be given to the cut-off date criteria, as described in non-eligible sub-project list as “Any Type-III sub-Project, whose demolishing works had been completed before October 1, 2020”.
* If the proposed sub-project is not determined as non-eligible as a result of the step performed as above, Section II of the checklist presented in Annex 10 will be applied in order to identify a preliminary baseline of the site and its surroundings.
* Afterwards, Section III of the checklist presented in Annex 10 will be applied to estimate the scale of the impacts.
* Subsequently, Type-III specific section of the checklist, which is Section IV, will be applied.

Finally, by taking the outcomes of the above three steps into account, environmental and social risk category of the sub-project will be determined.

Guidance on Risk Category Identification

The risk category of sub-projects will be determined according to four qualitative and quantitative criteria; “type and scale”, “location”, “sensitivity”, and “size” together with using the checklist presented in Annex 10. In order for a sub-project under Component II to be designated as “High Risk”, these criteria will be addressed as explained below. If the category of any sub-project is not determined as “high risk” as a result of this evaluation, such evaluation will be proportioned to the professional judgment of the PMU and PMU individual specialists to determine relevant risk categorization.

Within the scope of the “Type and Scale” criterion, the existence of the following conditions may place the subproject in the “High Risk” category;

* Irreversible alteration or impact of environmentally important areas such as wetlands, native forests, meadows and other critically important natural habitats and ecosystem services due to the sub-Proje,
* Sub-project activities require discharges and emissions that will cause direct pollution and large enough to cause deterioration of environmental components such as air, water and soil,
* Sub-project activities will consume or transform the ecosystem or its components,
* Sub-project activities will change the hydrological cycle measurably,
* Sub-project activities which could lead to significant livelihood loss or social conflict,
* The sub-project activities will include the use or management of dangerous substances to a degree that cannot be managed with the prescribed management and capacity.

Within the scope of the “Location” criterion, the existence of the following conditions may place the Project in the “High Risk” category;

* The sub-project is located in sensitive and valuable ecosystems and habitats of high importance,
* The sub-project is located within areas designated as Cultural Heritage, such as urban sites (most likely within the scope of the Project),
* The sub-project is located in areas subject to intensive development activities or where there are conflicts over the allocation of natural resources and/or other significant social conflicts, and along watercourses, in aquifer recharge areas or in storage basins used for drinking water supply.

Within the scope “Sensitivity” criterion, the existence of the following conditions may place the Project in the “High Risk” category;

* The sub-project will affect endangered species and their habitats, as well as sensitive areas such as protected areas or sites,
* The sub-project will have an impact on international waterways,
* The sub-project will affect sensitive buyers who are currently under heavy environmental and social pressure (pollution, health and safety, security, etc.).

During the evaluation of the “size” criterion, in order for a subproject to be designated as “High Risk”, the relevant residual impacts must be high even when the mitigation measures given in are anticipated to be implemented, considering also the other criteria in an integrated manner.

It should also be noted here that, as the whole Project is rated as “High Risk” in terms of social risks, sub-projects with “high risk” in terms of environmental risks will not be eligible. Therefore, professional judgement will be used to identify “high risk” categorization in terms of environmental aspects during screening phase.

# 5. MITIGATION AND ENVIRONMENTAL AND SOCIAL COMPLIANCE MANAGEMENT MEASURES

Activities to be carried out within the scope of the project will comply with the most current national legislation and World Bank standards. In cases where Turkish legislation differs from World Bank Policies, the more stringent policy will be applied in the implementation of the Project.

Although it is not currently possible to make a clear assessment of the cumulative impacts of resilient sub-loans will be financed, or the number of housing units to be reconstructed or retrofitted, subprojects within the scope of the project, a high cumulative enviro impact is not expected considering the possible sizes of the subprojects and its physical dispersion throughout Kocaeli Province. However, it is assessed that these may be environmentally “moderate” to “substantial” due to some risks related to demolition and excavation as well as construction waste management, traffic management and general population safety; while on social side assessed as "high risk" due to the potential community health and safety risks that may arise while the structures are being rebuilt or strengthened and the vulnerable groups that are likely to be included in the sub-projects.

## 5.1. Mitigation Plan

Potential environmental and social risks and impacts that may arise during the implementation of sub-projects, along with relevant mitigation measures to be taken, within the scope of Component 2 are shown in the Table 30 below.

Table : Mitigation Measures for Retrofitting/Demolition/Reconstruction Works Risks and Impacts

| **Project Phase** | **Potential Risk/Impact** | **Mitigation Measure** | **Responsibility** |
| --- | --- | --- | --- |
| Pre re-construction stage of the Type-III sub-projects | Risks related to E&S due to the possibility of conducting demolition works were performed non-compliant with WB and national standards. | * Prior to commencement of any civil works on site, an E&S Audit will be conducted by individual PMU consultants in the provinces to identify the actions/measures to be taken to ensure that the proposed subproject is in compliance with Project standards. | PMU |
| Preparation for Demolition | Stakeholder Engagement/Citizen Engagement; Grievance Mechanism | * Preparation of the "Stakeholder Engagement in Transforming Risky Structures in the Province Level" with local NGOs and key stakeholders: By adhering to the guidelines outlined in the Stakeholder Engagement Plan for the project ‘Transformation of Risky Structures at the Provincial Level’ collaboration will be established with local NGOs and key stakeholders. This process includes identifying stakeholders, organizing regular meetings, determining needs and priorities, conducting informational sessions and training, and implementing feedback and monitoring phases. | PMU |
| * The province-based E&S specialists and contractor’s E&S specialists will organize visits/meetings and/or disseminate written materials to inform local authorities/authorities, the public and businesses, vulnerable groups in the Project Area of Influence (AoI) which will be identified in Contractor-ESMPs (C-ESMPs), verbally and in writing about Project activities, schedule, measures taken and potential risks before work commences, * GM tools, process, workflow, contact addresses will be informed, written notifications will be made visible and posted in relevant public areas (coffee houses, mukhtars' offices, mosques, public common areas, project site etc.). | PMU |
| * Implementation of the information dissemination processes defined by the PMU on-site, * Ensure that GM tools and contact addresses are made visible at the project site, * Post written notifications in designated public areas (coffee houses, mukhtars' offices, mosques, public common areas, project site etc.). * Maintain communication throughout the project and continue providing updates to stakeholders. | Contractor |
| Preparation for Demolition | Temporary and permanent displacement of owners and tenants resulting from the rehabilitation/ reconstruction of housing units / workspaces | * Preparation of RPs based on the scope provided in the RF. | PMU |
| * Within the scope of the Stakeholder Engagement Plan, each sub-project will plan the stakeholder information to be made available and disseminate necessary relevant information with all stakeholders. * Provide information on the GM of the Project and inform PAPs about GM with an approved written brochure, poster etc. * Explaining and informing PAPs of their rights defined within the scope of the Project. * Identifying vulnerable groups affected by the structure to be transformed within the scope of the Project and defining their entitlement status. * Explaining and informing vulnerable groups about their rights defined within the scope of the Project. | PMU |
| * Distribute and display stakeholder information materials prepared by the PMU on-site. * Place GM posters and brochures in designated areas. * Inform project-affected people (PAPs) and vulnerable groups as per the guidelines provided by the PMU. * Implement and follow the rights and procedures defined by the PMU in the field. | Contractor |
| Preparation for Demolition | Labor issues | * Preparation of subcontracts in accordance with the Project's Labor Management Procedures (LMP), * Signature by all employees of subcontractors of “Code of Conduct” covering the requirements under the LMP, * Ensure that a letter is included in the contractor's contract stating the Human Resources (HR) policies of the contractor involved in sub-projects and that it will follow a zero -tolerance policy on the right to fair treatment, right to form workers' associations, forced labor, child labor, sexual exploitation and abuse/sexual harassment (SEA/SH) and violence. | PMU |
| * Ensuring adequate distance and space for employees in areas such as meals, breaks, etc. * Taking necessary precautions in line with the recommendations of the Ministry of Health with regards to occupational diseases. * Making spatial arrangements to ensure equal opportunities for women employees in the workplace. * Providing training that will raise the awareness of employees and reveal the project conditions, prohibited behaviors and the principle of equality before they start working. * Ensuring their compliance with the national law requirements and WB ESF ESS2 as described in the LMP of the Project * To be responsible for raising awareness and training of all employees on the Code of Conduct (Annex 2) and the procedures and principles in the GM. | Contractor |
| Preparation for Demolition | Management of Project Impacts on Vulnerabilities | * The contractor should identify sensitive receptors within the Project area of influence, such as schools, health facilities, nursing homes, etc. * Screening measures should be taken for dust and noise effects that may occur in these areas and working hours should be regulated. * Consultation of potential risks and measures with representatives or managers of vulnerabilities. | PMU |
| * Take necessary precautions in the work area considering the sensitive locations identified by the PMU. * Implement dust and noise reduction measures defined by the PMU. * Adhere to the working hours regulations set by the PMU. * Maintain communication with representatives of vulnerable groups and take necessary measures based on the risk assessment conducted by the PMU. | Contractor |
| Preparation for Demolition | Management of Project impacts on traffic and community safety  (See Annex 7) | * Within the scope of the sub-project, before demolition, the contractor should identify the roads and streets that can and cannot be used by heavy vehicles and create a route map. * Prevent the use of roads that endanger public health and safety by taking the opinions of local authorities such as mukhtars and municipalities in the road risk analysis process. * Sharing route information, including roads that will and will not be used within the scope of the project, with drivers and relevant subcontractors and provide necessary information. | Contractor |
| Preparation for Demolition | Community health and safety risks may result from insufficient public informing practices of the people of the neighborhood where the structure to be demolished is located. | * Informing the mukhtar of neighborhood in line with the Stakeholder Engagement Plan requirements. | PMU and Contractor |
| * Implementing the information process as determined by the PMU. * Ensuring that the necessary information is delivered to the mukhtar of neighborhood in a timely and complete manner. * Following the Stakeholder Engagement Plan’s designated communication methods to complete the process. | Contractor |
| * Ensuring the entrances and exits of the local people in a way to prevent unauthorized entrances and exits by enclosing with a mobile or fixed screen at a height to be determined by taking into account the boundaries of the area to be demolished, the height of the structure to be demolished, its distance to other structures and the parcel area, the selected demolition technique, and environmental construction, and making appropriate health and safety signs at the points where the local people can see them. | Contractor |
| * Ensuring that the Contactor shall not commence the demolition work unless it is proven or checked that the local people are informed, and health and safety signs and entry and exit measures are applied. | PMU |
| Preparation for Demolition | Due to insufficient preliminary planning,   * Potential damage to other structures, infrastructure and installations around the structure and to the community health, and * Traffic jams and the effects that may be caused by this. | * Preparation of a Demolition Plan prior to demolition in order to determine which demolition method will be used, what measures will be taken for the safety of the building and other structures, infrastructure, installations, traffic and people that may be affected in the vicinity, the material and damage properties of the building, if any, and its bearing system, bearing capacity and all risk factors * Obtaining all necessary permits, including the demolition permit. | Contractor |
| * Ensuring that demolition work is not started before the Demolition Plan is prepared and all necessary permits are obtained, including the demolition permit. * Auditing identified responsibilities of the contractors regarding impacts related to insufficient preliminary planning. | PMU |
| Preparation for Demolition | Asbestos | *Implementation of the Asbestos Management Plan provided in Annex 10, at least performing the following actions:*   * Carrying out the Asbestos Inventory Study by an accredited company. * Performing the asbestos removal work, before demolition, by persons or institutions that have a license for asbestos removal, if asbestos is found in the building, and managing the asbestos waste in agreement with the licensed waste transport and disposal company(s) within the scope of asbestos waste, if asbestos is found in the building and it is removed. | Contractor |
| * Ensuring proper implementation of the Asbestos Management Plan and providing support and guidance by PMU individual specialists of the provinces to contractors within that scope. * Monitoring identified responsibilities of the contractors regarding impacts related to insufficient preliminary planning. | PMU |
| Preparation for Demolition (the sub-projects which will require demolition) | Occupational accidents, environmental accidents and non-compliance with national and international legislation that may result from insufficient pre-planning. | * Preparation of Occupational Health and Safety Plan (see Annex 14) and providing training to the demolition in line with the requirements of the Plan. | Contractor |
| * Giving the official assurance by the contractor that it will not harm the environment and neighboring settlements. * Providing the relevant demolition personnel with all Personal Protective Equipment prior to demolition within the scope of best practices and national legislation. * Giving the official assurance by the contractor that all demolition activities will be carried out in accordance with national legislation, the ESSs and the World Bank Group (WBG) Environmental, Health and Safety (EHS) Guidelines. * Auditing identified responsibilities of the contractors regarding measures to be implemented to minimize risks related to occupational accidents, environmental accidents and non-compliance with national and international legislation due to insufficient preliminary planning. | PMU |
| Demolition Stage (the sub-projects which will require demolition) | Negative health effects on workers, service providers and society due to accidents and incidents that may occur during the asbestos inventory, removal, transportation and disposal process. | * In the event of an accident in this context, the Contractor will immediately inform the PMU and individual OHS/environmental specialists hired for provinces. UTP will notify the WB of any accident/incident (if it occurs) related to asbestos immediately. An asbestos-related accident/incident investigation report will be sent to the World Bank along with the Corrective Action Plan (CAP) with the guidance and the audits of the PMU. * A regular site inspection will be conducted by the PMU to ensure and monitor that all demolition activities to be implemented are carried out in accordance with national laws and regulations and the requirements of World Bank standards. | PMU |
| * Immediately report any accident /incident to the PMU and relevant OHS/Environmental specialists. * In case of an asbestos-related accident, promptly inform the PMU. * Implement CAP as directed by the PMU and ensure necessary precaution are taken. * Carry out demolition activities in full compliance with national regulations and WB standards. * Cooperate with the PMU during site inspections and address any identified deficiencies. | Contractor |
| Demolition Stage (the sub-projects which will require demolition) | Demolished material is harmful to the environment if it is not disposed of adequately. Especially if the material or waste is dangerous or might be dangerous. | * Implementing a controlled and progressive selective demolition process, in accordance with national legislation and international standards, in order to allow for recycling of demolition wastes at a high rate, and to ensure that hazardous wastes, if any, are sorted and separated before rough demolition, and that other materials can be reused and recycled at the source. * Implementing the Waste Management Plan (see Annex 9) in parallel to their responsibilities, and specifically: * Transporting construction and demolition waste by licensed transfer vehicles and sending them to the licensed sites. * Transferring the inert construction & demolition waste after selective demolition process to central waste material recovery facilities in available locations * Keeping all waste disposal records. * Storing the waste properly for reuse in the process of construction of a new structure, if possible. * Storing, in sealed containers, the hazardous waste generated during the selective demolition process. | Contractor |
| * Supporting contractors for all sub-projects in Kocaeli for proper implementation of selective demolition. * Auditing identified responsibilities of the contractors regarding waste management. | PMU |
| Demolition Stage | Temporary and Permanent Displacement due to Project activities | * Prepare, consult upon, clear with the World Bank and disclose the Resettlement Plans (RPs) and implement the RPs before the commencement of any civil works * Informing the Project beneficiaries and right holders about their rights/support, application methods, and conveying the steps to be taken to benefit from the supports. * Providing support to vulnerable groups in this process. * Disclosure of grievance mechanism and GM tools, communication tools. | PMU |
| * Ensure facilitation of implementation of RPs on-site by the PMU and cooperate as required. * Giving the official assurance by the contractor that it will not harm the environment and neighboring settlements. * Providing the relevant demolition personnel with all Personal Protective Equipment prior to demolition within the scope of best practices and national legislation. * Giving the official assurance by the contractor that all demolition activities will be carried out in accordance with national legislation, the ESSs and the WBG EHS Guidelines. * Auditing identified responsibilities of the contractors regarding measures to be implemented to minimize risks related to occupational accidents, environmental accidents and non-compliance with national and international legislation due to insufficient preliminary planning. | Contractor |
| Demolition Stage | Livelihood loss | * Providing verbal and written notifications for the people and groups affected by the Project due to the resettlement. * Ensuring that the PAPs are aware as to how to benefit from livelihood support and Project benefits. * Preparation of brochures and promotional materials for PAPs, including support, what the beneficiaries should do, relevant contact numbers and addresses, complaint mechanism information. * Providing verbal and written notifications to all PAPs directly affected and entitled. | PMU |
| * Conduct verbal and written notifications in the field for individuals and groups affected by the project, as determined by the PMU. * Inform project-affected people (PAPs) about how to access livelihood supports and project benefits. * Distribute brochures and promotional materials prepared by the PMU, ensuring they reach the relevant individuals. * Carry out the information process for all entitled and directly affected PAPs in a timely and complete manner. | Contractor |
| Demolition Stage (the sub-projects which will require demolition) | Impacts on air quality, especially related with possible contributions on particulate matter concentrations, which are already high in the provinces. | * Giving the assurance by the contractor that it will apply the dust suppression processes in order to minimize the intense dust formation that will occur during the demolition work, and that it will implement these processes. * Preparation and implementation of the C-ESMP Checklists. | Contractor |
| * Ensuring preparation of each C-ESMP checklist documents in compliance with Kocaeli ESMP. * Auditing identified responsibilities of the contractors regarding air quality management. * Implementing GM for dust related grievances and closing them appropriately. Directing and auditing the contractor within that scope. | PMU |
| Demolition Stage (the sub-projects which will require demolition) | Blasting-Related Risks: The demolition phase can be carried out by blasting according to the demolition method. In this context, occupational and community health and safety risks will arise. -However, it should be noted here that no blasting demolition has been performed in Türkiye since 2017 and the MoEUCC does not prefer this method. In any case, relevant mitigation measures are provided | * The concrete strength and the reinforcement iron properties used on the columns and beams of the foundations of the buildings that are considered for blast demolition must be well determined, and a blasting pattern must be prepared accordingly. * Before, during and after blasting, the necessary permission must be obtained from all administrative units, and traffic and environmental safety must be ensured. The igniter to detonate must be licensed and must make the ignitions by hiding in closed areas. * In blast demolitions, the entire environment must be informed of it before blasting, and warning announcements must be made. * Watering must be performed in order to suppress the dust that will be formed in all demolition techniques, especially during demolition and crushing processes. * Suspended scaffolds and safety scaffolds must be installed and used in machine or mezzanine floor reduction methods. * In all building demolition works, the area where the building will be demolished, and stacking and loading works will be performed must be enclosed by barricades at a height of at least 2.00 meters, and a security area must be created and isolated from the outside. * The operators who will work on all heavy equipment must have a G-Class driver’s license and experience. * Firefighters or fire extinguishers, if any, must be available during the demolition work. * No demolition work must be done at night. * All personnel must have communication devices. * Emergency escape and emergency assembly area must be determined outside the area to be demolished, and the related training must be given. * In all demolition techniques, all personnel who will work on the demolition site must have and carry the Personal Protective Equipment listed below that comply with the CE brand and standards. The equipment includes the following: * Helmet (with chin protection) * Warning vest * Headphones or earplugs * Top boots with S3 steel toe and steel sole, and ankle-level boots * Dust mask * Occupational safety glasses * Glass visor mask * Welding and work gloves * Parachute-type seat belt and life ropes * Work safety clothes, coats and raincoats * Light signals, funnel caution signs and orange safety barriers * Audible sirens and loudspeakers * Work must not be started before performing a Risk Analysis and Assessment. * Blasting must be done under the supervision of qualified engineers, and the support, help and service from the occupational safety professionals must be obtained. * Before starting the demolition work, an ambulance and sufficient number of healthcare personnel must be kept ready. * It must be ensured that the electricity, water and natural gas lines of the structures to be demolished are completely closed and discharged, and the necessary procedures must be applied. * If there are living spaces or live houses around the structures that are planned to be demolished, people must be evacuated from these housings and living spaces and taken to safe places, according to the risk assessment to be performed, if necessary. | Contractor |
| * Auditing to ensure not starting blasting demolition without taking necessary requirements. | PMU |
| Demolition Stage (the sub-projects which will require demolition) | Noise generation (except from blasting, for blasting details provided above) | * Preparation of C-ESMP Checklist by taking impact level on the closest sensitive receptors into account. * Conducting demolition works as per the limited schedules to be defined in Environmental and Social Management Plan Checklist. | Contractor |
| * Supporting contractors in the preparation of C-ESMP Checklists. * Auditing identified responsibilities of the contractors regarding noise management. | PMU |
| Reconstruction or Retrofitting Stage | Risks related with improper Waste Management which may create additional pressure to waste management facilities of the provinces and may cause harm on environment. | * Implementing the Waste Management Plan (see Annex 9) in parallel to their responsibilities, and specifically; * Separating the waste (hazardous/non-hazardous, recyclable/non-recyclable) and storing them temporarily in the designated waste storage areas, * Ensuring that the waste storage areas meet the standards determined by the relevant national and international institutions: * Determining the adequate temporary waste storage areas conforming to the standards, and ensuring that the conditions such as container types, labels, classifications, etc. are suitable, * Providing impermeability on the grounds of the temporary waste storage areas against possible contamination of soil and groundwater, * Establishing a suitable drainage system against leaks, * Restricting physical access to the temporary waste storage areas (via gates, fences, etc.) and ensuring that only authorized people enter these areas, * Placing the warning signs and the boards with the name and contact number of authorized personnel in the temporary waste storage areas, * Detecting any possible spills/leaks rapidly by performing periodic visual checks in the hazardous waste areas, * Ensuring that wastes are not spilled on the places other than the areas allocated for this purpose, and providing the necessary trainings and all necessary waste management trainings and repeating these trainings periodically, * Avoiding the incineration of any wastes. | Contractor |
| * Auditing identified responsibilities of the contractors regarding waste management. | PMU |
| Reconstruction or Retrofitting Stage | Excessive Noise Generation which has the possibility to impact human health and at least may cause disturbance | * Performing the construction activities only during daylight hours. * Selecting and using machines, equipment and vehicle models with lower sound power level and attenuated sound in accordance with the Noise Emission in the Environment by Equipment for Use Outdoors Regulations and Directive 2005/88/EC. * Performing the regular maintenance of heavy equipment through periodic equipment maintenance and repair schedule as recommended by the manufacturer. * Defining the speed limits for heavy equipment and complying with these limits. Giving the operators of heavy equipment the trainings and instructions on speed limits. * Preventing the heavy equipment from passing through residential areas where possible. * Using the designated site access routes. | Contractor |
| * Auditing identified responsibilities of the contractors regarding noise management. * Handling grievances regarding noise through implementation of SEP and directing contractors accordingly. | PMU |
| Reconstruction or Retrofitting Stage | Possible negative impacts on Water Quality | * Collection of the wastewater originating from the personnel to be generated during the retrofitting/reconstruction in sealed septic tanks, and then periodically transferring to the urban wastewater treatment plants through the protocol to be signed with the relevant municipality. * Implementation of the specific mitigation measures to be defined, if a sub-project is to be carried out in a location where there is a possibility of a non-wastewater related impact to any surface water or groundwater. * Preparing the C-ESMP Checklists by enlarging its scope to include the issues mentioned above. | Contractor |
| * Ensuring preparation of C-ESMP Checklists in parallel to sub-project specific impacts (if any, as explained above). * Auditing identified responsibilities of the contractors regarding water quality management. | PMU |
| Reconstruction or Retrofitting Stage | Impacts on local traffic load | * Signs, warning signs, barriers and traffic directions in the construction site will be clearly visible and the public will be warned of all potential hazards. * The traffic management system and staff training, especially for site access and heavy traffic near the construction site, will be provided. Safe crossings and passages will be provided for pedestrians at intersections with construction site traffic. * Adjusting the working hours to local traffic patterns, e.g., avoiding major transport activities during rush hour or animal handling times * Detailing the active traffic management practices in the province based ESMPs and Community Health and Safety and Traffic Management Plan to be prepared within the scope of the sub-project by trained and visible personnel at the sub-project site, if necessary, for safe and comfortable crossing of the public | Contractor |
| * Auditing identified responsibilities of the contractors regarding impacts on local traffic load. | PMU |
| Reconstruction or Retrofitting Stage | Livelihood loss | * Ensuring that people and groups affected by the Project due to resettlement have access to livelihood supports, * Monitoring the related complaints to the grievance mechanism and solving delays or problems that may cause livelihoods in a timely manner by ensuring that they are closed within the required time limit, * Providing information about the grievance mechanism and its functioning processes * Ensure that all employees are trained in the grievance mechanism and awareness is raised on this issue. * Ensuring that the grievance mechanism is easily accessible to all stakeholders * Ensuring that the grievance process operates in an open and transparent manner * Evaluate complaints in an impartial and fair manner * To ensure that complaints are resolved quickly and effectively * Protecting the confidentiality of complaints * Providing feedback on process-related complaints * Ensuring a detailed record of all complaints and how they are handled * The Contractor shall establish and operate a grievance mechanism to address internal and external stakeholders’ complaints. This GM shall include receiving, recording and assessing complaints, providing solutions in line with the relevant provisions of the ESMP, and communicating outcomes as feedback. | PMU |
| * Ensure that project-affected individuals and groups have access to livelihood support as determined by the PMU. * Monitor complaints submitted to the grievance mechanism and address any delays or issues that may affect livelihoods, ensuring their resolution within the required timeframe. * Provide information about the grievance mechanism and its operational processes. * Train all employees on the grievance mechanism and raise awareness on the subject. * Ensure that the grievance mechanism is easily accessible to all stakeholders. * Ensure that the grievance process operates in an open and transparent manner. * Evaluate complaints in an impartial and fair manner. * Ensure that complaints are resolved quickly and effectively. * Maintain confidentiality of complaints. * Provide feedback on process-related complaints. * Maintain a detailed record of all complaints and how they are handled. * Establish and operate a grievance mechanism to address internal and external stakeholders’ complaints. This mechanism should include receiving, recording, and assessing complaints, providing solutions in line with the relevant provisions of the ESMP, and communicating outcomes as feedback. | Contractor |
| Demolition, reconstruction and retrofitting stages | Harm on Cultural Heritage | * In the cases of excavation, chance find procedure shall apply in line with the details outlined in Annex 11. Report the find immediately to UTP PMU and WB. * Inform and seek consultation with the relevant Regional Council on Protection of Cultural Assets and get permits in cases of working near registered cultural heritage assets. * Seeking consultation with the museum directorates in the area. * Train staff responsible for excavation works for possible historic objects underground. | Contractor |
| Demolition, Reconstruction and Retrofitting Stages | Harm On Trees and Flora in Project Site | * Seeking consultation with the relevant regional branch of the Directorate General of Nature Conservation and National Parks in case of protected flora and trees. * Project revisions to preserve green spaces in urban areas when possible. * Apply physical measures to ensure protection of identified trees, species and/or areas. | Contractor |

## 5.2. Roles and Responsibilities

All of the sub-projects to be realized under Project Component 2 will be exempt from the requirements of the National Regulation on Environmental Impact Assessment as per relevant Law. In addition, sub-projects under Component 2 have potential difficulties that have been mentioned before, such as uncertainty on the exact location of sub-projects within the provinces, possibility of implementation of several sub-projects at the same time and the fact that UTP has no previous Project experience that was financed by World Bank. For this reason, UTP, MoEUCC recruited and will continue to recruit individual Environmental, Social and OHS Specialists as specific to the Project to meet the requirements of the World Bank's ESF and related environmental and social standards. Additionally, the individual specialists to be recruited in Kocaeli as part of the PMU will especially be responsible for continuous monitoring of demolition/ retrofitting/ reconstruction works. Other relevant roles and responsibilities are noted in Table 31of this document. In respect to overall CDRC Project management roles and responsibilities, please consult the Project level ESMF.

The table of roles and responsibilities is given below:

Table : Roles and Responsibilities under the Kocaeli Province ESMP PImplementation

| **Responsible Party** | **Responsibilities** |
| --- | --- |
| Contractors | * Preparing and implementing the subproject-specific C-ESMP Checklist (along with its sub-management plans), based on the Kocaeli ESMP developed by the PMU. Meeting mitigation requirements and management actions to be defined neighborhood-level ESIAs, if needed * Ensuring that environmental, social, occupational health and safety, community health and safety measures are taken and implemented during the activities. * Ensure that all sub-contractors follow the ESMP and all related plans * Implementing corrective actions for the grievances directed to the Contractors as per the GM. If the Contractor is not in a position to resolve the grievance received, they are responsible to inform the PIU/PMU immediately. * Implementation and fulfillment of stakeholder engagement and grievance mechanism obligations specified in the Project SEP * Implementation and fulfillment of workforce issues specified in Project LMP. * Implementation and fulfillment of resettlement and livelihood loss considerations specified in the Project RF * Recruiting an OHS focal point whose competencies meets the requirements described in Section 5.2, * Regularly carrying out the monitoring on the site, defined in the Kocaeli ESMP, C-ESMP Checklists, and neighborhood-level ESIAs (if needed) through the Contractor’s OHS focal point, * Performing the monthly reporting activities described in Table 33, * Carrying out the environmental and social monitoring activities described in Section 8 under its own responsibility. * Immediately notifying UTP and individual Environmental Specialists and OHS Specialists hired for provinces in case of an accident that may affect / threaten the environment, occupational health and safety & community health and safety - fatal work accident, environmental spills and accidents that will put community and environmental health at risk, a work accident that may cause disability etc. In such a case, the incident report, which includes (1) Root Cause Analysis studies, (2) measures to prevent the accident / incident from happening again, and specific compensation actions / corrective actions, will be submitted to UTP within 30 working days with the guidance and controls of PMU individual specialists. |
| Site Supervisors | * Planning, organizing, and coordinating the construction project. * Ensuring the project meets specified quality standards. * Enforcing safety regulations and ensuring the safety of all workers on site. * Procuring and efficiently utilizing necessary materials and equipment. * Creating and implementing a work schedule to ensure the project is completed on time. * Maintaining communication and coordination with engineers, architects, subcontractors, and other stakeholders. * Quickly and effectively resolving issues that arise on site. * Preparing regular progress reports and presenting them to upper management |
| PMU | * Ensure the recruitment of a total of sixteen (16) individual experts, including four (4) experts for the head office and twelve (12) experts (three for each province), as defined in the Chapter 6 Sub-section 6.1.2 of the ESMF. * Following the progress of the Project and reporting it as described in Table 33. * Preparing province-based ESMPs. * Preparing neighborhood-level ESIAs, if needed. * Taking part in the evaluation of the proposed sub-project within the scope of Non-Eligible Projects. * Managing Grievance Mechanism. * Notifying the WB of accidents and incidents within 48 hours, and sending the incident investigation report to the WB within 30 working days. * Evaluating and approving the Environmental and Social Screening studies carried out on the site by the PMU individual specialists in the provinces. * Providing the results of the first five screening studies to the WB just for information. * Performing the monitoring and reporting activities by working in coordination with the PMU individual specialists in the provinces. * Monitoring the execution of the contractors' activities within the scope of province-based ESMPs, C-ESMP Checklists, neighborhood-level ESIAs (if needed), and relevant sub-plans, by working in coordination with the PMU individual specialists in the provinces. * Review and approval of the ESMPs, and * Providing the detailed feedback to the WB when requested and required. * Managing contractors and overseeing contract implementation and provide written reports to that effect |
| PMU Individual Social Specialists in Provinces | * Ensures that the contractor informs the affected communities about the Project construction activities and other Project issues (Grievance mechanism, trainings etc.) * Implementing SEP and Grievance Mechanism at provinces on sub-project basis. Receives and records applications/complaints/ requests from rights holders within the scope of the Grievance Mechanism related to social issues. Provide Daily reports on issues related to the SEP and the community. * Guiding and supporting during preparation and implementation processes of the C-ESMP Checklists to be prepared by the sub-project contractors in terms of quality of the said documents and ensuring adequacy of the sub-project Social focal point personnel of the Contractors who will continuously implement the C-ESMP Checklists at sub-project site. * Serving as primary point of contact for affected communities and other stakeholders. * Maintaining records and reporting of complaints and participation activities. * Performing E&S Audits for Type-III sub-projects and following implementation of ESAPs to be prepared for Type-III sub-projects in accordance with the outcomes of the audit, if needed. (Check Annex 16) |
| PMU Individual Occupational Health and Safety Specialists in Provinces | * Guiding and supporting the contractor and the contractor's OHS liaison officer during the preparation of C-ESMP Checklists * Assessing the documents related to issues such as permits to be obtained, protocols to be made, personnel to be assigned within the scope of OHS legislation. * Supervising the compliance of safety measures taken in the workplace with Occupational Health and Safety legislation and general occupational safety rules * Examination of records regarding Occupational Health and Safety Training provided to personnel * Supervision of periodic maintenance, control and measurements to be carried out in accordance with Occupational Health and Safety legislation in construction * During the project reporting all accidents, incidents and near-miss events to the PMU. |
| PMU Individual Environment Specialist in Provinces | * Guiding and supporting during preparation and implementation processes of the C-ESMP Checklists to be prepared by the sub-project contractors in terms of quality of the said documents, and ensuring adequacy of the sub-project Social focal point personnel of the Contractors who will continuously implement theC- ESMP Checklists at sub-project site. * Ensures that the contractor informs the affected communities about the Project construction activities and other Project issues (Grievance mechanism, trainings etc.) * Serving as primary point of contact for affected communities and other stakeholders. * Maintaining records and reporting of complaints and participation activities. * Performing E&S Audits for Type-III sub-projects and following implementation of ESAPs to be prepared for Type-III sub-projects in accordance with the outcomes of the audit, if needed. * Ensures that the contractor informs the affected communities about the Project construction activities and other Project issues (Grievance mechanism, trainings etc.) * Serving as primary point of contact for affected communities and other stakeholders. |

# 6. STAKEHOLDER ENGAGEMENT

The main objective of the Stakeholder Engagement is to ensure that all relevant stakeholders (individuals, groups and organizations) affected by and/or interested in the Project are involved in the Project activities and the flow of information to and from these stakeholders is continuous throughout the Project. Stakeholder engagement is an important activity for such Projects; because it enables the stakeholders to be informed at every stage of the Project, to express their expectations and concerns, and to establish an open communication channel with the stakeholders in the activities carried out by the investor. The objectives of the stakeholder engagement are generally as follows:

* Identifying stakeholders directly or indirectly affected by the Project and/or are interested in the Project.
* Identification and planning of stakeholder engagement activities that will begin during Project preparation and planning and continue with the implementation of the Project.
* Determining the frequency, content, information sharing and level of participation of consultation activities
* Establishment of Grievance Mechanism that will create an open communication channel for stakeholders at every stage of the Project.
* Ensuring that concerns and expectations expressed by stakeholders are addressed during the decision-making and planning stages of the Project.

## 6.1. Stakeholder Engagement Plan

A separate Stakeholder Engagement Plan (SEP) has been prepared for the Climate and Disaster Resilient Cities Project, based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement and Information Disclosure.[[38]](#footnote-38)

Public consultation and information dissemination will be conducted by the Urban Transformation Presidency 's Project Management Unit Social Experts in accordance with the SEP. The Kocaelil ESMP, sub-project specific C-ESMP Checklists, and other environmental and social documents (such as neighborhood-level ESIAs and ESAPs, if they are required to be prepared) will be disclosed in the UTP webpage[[39]](#footnote-39) developed specifically for the Project. Stakeholders will be able to provide feedback on these documents.

# 7. GRIEVANCE MECHANISM

The grievance mechanism (GM) is an arrangement that provides channels for Project stakeholders to provide feedback and/or voice their concerns and grievances about Project activities.

In accordance with the international requirements, a GM has been established to receive, resolve and follow up the concerns and complaints of the Project-affected and relevant stakeholders within the scope of the Project.

The PMU, established under the Urban Transformation Presidency of the Ministry of Environment, Urbanization and Climate Change (MoEUCC), will be accessible to stakeholders through various grievance channels, ALO 181, Presidential Communications Center (CIMER), the project hotline, face-to-face meetings, grievance registration forms, email, phone, and the contact form on the project website.. All complaints will be addressed in compliance with the timeframe and details described in the Project’s SEP. Stakeholders also have the right to submit complaints anonymously. (For further details, see Section 7, Subsection 7.4.1: Registration and Evaluation of Anonymous Complaints.) In addition, grievances may be submitted through the World Bank’s own Grievance Redress Service (GRS).

## 7.1. Worker’s Grievance Mechanism

Contractors undertaking any construction work will be required to develop a Grievance Mechanism (GM) and will be responsible for collecting, recording, evaluating, and, where possible, resolving grievances raised by any stakeholder regarding the construction activities. Grievances shall be recorded using the Grievance Registration Form and the Grievance Closure Form provided in Annex-1 and Annex-2 of the Project’s Labor Management Procedures (LMP). (See the Project SEP for further details on the grievance mechanism.) Verbal grievances will be documented by the designated personnel of the contractor through the completion of the Grievance Registration Form. Unresolved grievances must be escalated to the relevant persons or institutions. Contractors are also required to submit all grievance records—both resolved and unresolved—to the PMU at the beginning of each week.

Internal stakeholders include workers (direct and contracted), managers, representatives, and suppliers working for the contractor and subcontractors. The contractors and subcontractors will provide all direct employees and contract workers (and their organizations, where relevant) with access to a grievance mechanism to raise workplace-related concerns.

Necessary induction and training programs will be provided during the hiring process for all direct and subcontractor employees. These trainings will cover environmental, social, occupational health and safety (OHS), community health and safety, and the grievance mechanisms. Workers will also be informed about the grievance mechanism during recruitment, including measures in place to protect them against any retaliation for its use.

The requirements of the Project's Environmental and Social Management Plan (ESMP), Stakeholder Engagement Plan (SEP), and other relevant documents will be clearly communicated through toolbox trainings. Informational posters about the grievance process and grievance/suggestion boxes will be placed in common work areas.

Contractors will ensure that employees are informed about the anonymous grievance procedure and will encourage them to raise concerns in a safe environment by guaranteeing anonymity and confidentiality. Anonymous grievances will be evaluated in accordance with the steps outlined in the Project SEP. These will go through investigation/review processes, and each stage will be documented in the grievance mechanism system. Complaints requiring confidentiality will not be disclosed to third parties, and no official notifications or responses will be issued in such cases.

The key principles of the grievance and feedback mechanism are as follows:

• Ensure impartiality, confidentiality, and free of coercion or intimidation.

• Resolve concerns within the time frames specified in the Project SEP.

• Provide a transparent and understandable consultative process that is appropriate and easily accessible.

• Offer the option to submit grievances and feedback anonymously.

• Ensure access to the mechanism is free of charge and without retaliation against the complainant.

• Not restrict access to judicial or administrative remedies.

In addition, as required under ESS2, a dedicated grievance mechanism for workers will be established. Worker grievances will be evaluated separately from other types of grievances. (For details on worker grievances and the associated grievance mechanism, see Section 11 of the Project’s LMP)

## 7.2. Receiving & Registering Grievance

All complaints received by the relevant administration through the telephone line, contact form or other channels are recorded documented using the Grievance Registration Form (GRF) ( See Annex 4), and a hard copy of the completed form is provided to the Complainant. The form is then entered into the PMU’s grievance registration system of the MoEUCC on the same business day.

If the GRF cannot be filled out immediately, the following basic information is recorded:

Complainant's full name (complaints may also be submitted anonymously);

Subject of the grievance;

Location of the grievance;

Contact information (phone number, address, e-mail, etc.);

Name of the organization name (if applicable);

Date and time

Based on the information provided, project teams complete the GRF and register the grievance accordingly. Any corrective actions suggested by the complainant are also recorded in the GRF.

## 7.3. Assessment of the Grievance

* All grievances are reviewed to be classified to determine whether they are genuine or related to Project activities. If the issues/disputes raised are not related to the Project, the complainant is guided to contact the relevant institution or authority. Eligible complaints will be addressed in accordance with the Project's social and environmental standards.
* All grievances received through the hotline, email, or face-to-face communication are recorded, and the Project team contacts the complainant within two (2) business days of registration to explain the grievance response process.
* The GM will include a dedicated channel receiving and addressing confidential complaints related to Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH). Special measures will be in place to ensure the confidentiality and sensitive handling of such complaints, and these will be managed in accordance with applicable national laws.
* The PMU will have investigate and respond to the grievance within fifteen (15) business days after the complaint’s submission. If the issue requires a more complex investigation, the complainant will be informed of the steps being taken and provided with an updated timeline for resolution.

## 7.4. Resolving the Grievance

* Necessary corrective actions will be taken to satisfy the complainant.
* All parties involved will agree on the corrective actions during the resolution process.
* The PMU aims to resolve each complaint within thirty (30) Business Days following its initial response. This period may be extended by a written order from the Ministry.
* Complainants have the right to appeal the decision of the GM. The processing, hearing and communication of the appeal outcome will be completed within 30 business days from the date and appeal is received.
* If complainants are not satisfied with the decision of the PMU or the Ministry, they may pursue legal remedies through the court system.

## 7.5. Close out of the Grievance

Evidence of the corrective actions taken (such as photographs or other relevant documentation from the Site) is collected, and a “Grievance Closure Form (See Annex 5) is signed by both the PMU and the Complainant.

The grievance table, to be prepared by the sub-project contractors, will support the effective management of the resolution process by ensuring that all grievances are properly recorded and monitored.

## 7.6. Registration and Evaluation of Anonymous Complaints

When both external and internal stakeholders face issues, concerns or difficulties in providing their contact information and identity information, the complaints they submit will initially be evaluated and recorded as anonymous complaints/suggestions. Stakeholders may submit their concerns and feedback to the request (complaint hotlines without providing their names). Alternatively, they may use any of the defined communication tools to submit complaints about the Project anonymously, without sharing their names or contact address.

Anonymous complaints will ve evaluated in accordance with the steps outlined in the grievance workflow. Each case will go through the investigation and examination processes, and every stage will be documented in the grievance mechanism system. Complaints requiring confidentiality will not be disclosed to third parties, and no official notifications or responses will be issued.

Although no direct feedback will be provided for anonymous complaints, if the issue is of public relevance and it is deemed necessary, the resolution or general response may be communicated to stakeholders via public notice boards or other general communication tools.

A grievance registration log will be maintained to track the registration, monitoring, and resolution of the complaints (see Annex 6).

## 7.7. GM Contact Information

Stakeholders may use the following channels to formally submit grievances, requests, or suggestions regarding the Project:

ALO 181 (Ministry of Environment, Urbanization and Climate Change Call Center):

The MoEUCC receives and examines complaints, notices and information requests from all 81 provinces of Türkiye via ALO 181. Citizens can report issues related to environmental problems, including air, water, soil, radioactive pollution, urban transformation, noise and waste.

All notifications received through the call center are forwarded to the relevant General Directorates within the MoEUCC based on the issue’s subject matter. Responses from these units are communicated back to the complainant by call center staff via phone, ensuring prompt feedback. Stakeholder may also contact the Urban Transformation Project (UTP) using this number for any project-related concerns.

CIMER (Presidency’s Communication Center):

Stakeholders may use CIMER to submit all types of requests, complaints, notices, opinions, suggestions, or information requests related to the Project. CIMER enables communication through multiple channels and ensures transparency and accessibility for all citizens. Hotline (Ankara Office):

Stakeholders may call the phone number 0 (312) 410 10 00 and request to speak with a contact person from the PMU.

Face-to-Face Communication:

Complaints may be submitted in person directly to PMU staff during office hours.

Project Web Page and Contact Form: a Project specific website is established.

A dedicated project website has been established to facilitate access to project-related information and grievance submission. Stakeholders can use the email address [donusumpyb@kdb.gov.tr](mailto:donusumpyb@kdb.gov.tr) or the website contact form to submit grievances or inquiries.

• The website includes: Announcements and news,

• General project information (purpose, components),

• The ARAAD application link,

• Guidance for uploading contractor documents,

• Contact details for the Istanbul liaison office,

• Environmental and social project documents,

• Application guides, and

• Frequently asked questions.

Awareness-Raising Activities:

The PMU also undertakes various efforts to raise awareness among stakeholders and affected parties about the grievance mechanism. These include the use of the project website, awareness campaigns, advertisements, brochures, posters, and other outreach materials to ensure that the grievance mechanism is well-publicized and accessible to all.

World Bank Grievance Redress System:Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported Project may submit complaints to existing Project-level grievance mechanisms or the WB’s Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address Project-related concerns. Project affected communities and individuals may submit their complaint to the WB’s independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank’s attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank’s corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

# 8. ENVIRONMENTAL & SOCIAL MONITORING

In the table below, the basic requirements and components of the environmental and social monitoring framework are presented. The Environmental and Social Monitoring Plan presented below (Table 32) can be expanded and adjusted during the screening activities to be implemented for the sub-projects.

Table : Environmental and Social Monitoring of Retrofitting/Demolition/Reconstruction Works

| **No** | **Parameter** | **Parameter Details / Mitigation** | **Monitoring Method and Location** | **Frequency** | **Responsibility** |
| --- | --- | --- | --- | --- | --- |
| ***Preparatory stage of the sub-projects whose demolition works are completed and only reconstruction works will be performed*** | | | | | |
| 1 | Waste Management | Reuse / recycle / disposal of hazardous & non-hazardous wastes which are present in and around demolition area (if any), whose management were not carried out properly. | Visual observations on and around of the sub-project site.  Visual Inspection and review of the records and tools of the Grievance Mechanism such as grievance boxes, grievance forms etc. to be present on the impact area of the sub-project. | Daily | Contractor / Contractor’s OHS Focal Point |
| Visual observations on and around of the sub-project site.  Visual Inspection and review of the records and tools of the Grievance Mechanism such as grievance boxes, grievance forms etc. to be present on the impact area of the sub-project. | Weekly | PMU Individual Specialists in the provinces |
| 2 | Dust and Noise | Implementation of Grievance Mechanism to the grievances (if any) had been informed against dust and noise during the performed demolition works.  (The measures to be taken regarding these issues are presented in detail in Annex 8.) | Visual Inspection and review of the records of the Grievance  Mechanism to be implemented on and impact area of the sub-project. | Weekly  Daily | Contractor / Contractor’s OHS Focal Point PMU Individual Specialists in the provinces  Contractor / Contractor’s OHS Focal Point |
| 3 | Community Health and Safety / Traffic | Resolving the traffic congestion problem (if any) which were caused by the demolition activities performed.  Develop Traffic Management Plan | Visual observations on and around of the sub-project site.  Visual Inspection and review of the records and tools of the Grievance Mechanism such as grievance boxes, grievance forms etc. to be present on the impact area of the sub-project. | Weekly | PMU Individual Specialists in the provinces |
| ***Preparatory stage of demolition/retrofitting/reconstruction sub-projects*** | | | | | |
| 4 | Plans, Procedures and Methods | Prior to initialization of activities;  Kocaeli ESMP including Waste Management Plan, Resource Efficiency and Pollution Prevention Plan,  C-ESMP Checklists,  Additional documents that should be prepared as per the sub-project’s relevant implementation (e.g., preparation of the documents within the scope of building implosion, if this is the method), and  Plans and procedures that should be prepared in accordance with national legislation | Visual observations at sub-project’s offices and site. | Once in three days | PMU Individual Specialists in the provinces |
| Inspection of documents at PMU Head Office | Bi-weekly | PMU Head Office |
| Preparation of C-ESMP Checklists (prepared by the contractor) prior to the activity in line with the provincial ESMPs and the results of the screening process. | Inspection of documents at PMU Head Office | Bi-weekly | PMU Head Office |
| 5 | Permits and Protocols | Receiving & signing permits & protocols (e.g., protocol with relevant municipality for personnel wastewater transfer to municipality’s WWTP) within the scope of national legislation before initialization of the activities. | Visual observations at sub-project’s offices and site. | Once in three days | PMU Individual Specialists in the provinces |
| Inspection of documents at PMU Head Office | Weekly | PMU Head Office |
| 6 | Community Health and Safety | Taking precautions regarding community health and safety (signing, provision of safety lines, informing locals etc.).  Implementing Traffic Management Plan | Visual observations on and around the sub-project sites.  Visual observations on and around the sub-project sites.  Visual Inspection and review of the records and tools of the Grievance Mechanism such as grievance boxes, brochures etc. to be present on the impact area of the sub-project. | Daily  Weekly | Contractor / Contractor’s OHS Focal Point |
| PMU Individual Specialists in the provinces |
| 7 | OHS | Taking OHS precautions (e.g., performing risk assessments, provision of training to the construction personnel before work, provision of PPEs, taking structural and non-structural precautions regarding epidemic disease etc.) before initialization of the activities. | Visual observations at sub-project’s offices and sites. | Daily | Contractor / Contractor’s OHS Focal Point |
| Visual observations at sub-project’s offices and sites and inspection of relevant records. | Weekly | PMU Individual Specialists in the provinces |
| 8 | Asbestos | Performing asbestos inventories for all sub-projects include demolition and conducting removal and disposal works afterwards if needed. | Visual observations at sub-project site -*with the condition of obeying asbestos safety precautions-*. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| Inspection of relevant records | Weekly | PMU Head Office |
| 9 | Waste Management | Planning of selective demolition process for the sub-projects include demolition. | Visual observations at sub-project’s offices and sites | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| ***Demolition/Retrofitting/Reconstruction stage of sub-projects*** | | | | | |
| 10 | OHS | Taking OHS measures (e.g., measures to be taken within the scope of national legislation in construction works such as the use of PPE, summary instructions to the site, precautions for working at height, and measures identified in the sub-project Health and Safety Plans to be prepared by including WB ESF and WBG Sectoral Guidelines and in this ESMF. | Visual observations and document inspections at sub-project offices and sites. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Independent Specialists of the cities |
| 11 | Dust and Noise | Taking compulsory measures within the scope of national legislation and detailed in the C-ESMP Checklists and Kocaeli ESMP related to dust and noise. | Visual observations at sub-project sites and impact areas. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Independent Specialists of the cities |
| Performing air quality and noise measurements at nearest receptors upon complaint  Performing air quality and noise measurements at nearest receptors upon complaint | Measurements  Visual Inspection and review of the records and tools of the Grievance Mechanism such as grievance boxes, grievance forms etc. to be present on the impact area of the sub-project. | Upon compliant | Contractor / Contractor’s OHS Focal Point |
| 12 | Pollution Prevention | * Taking pollution prevention actions except the ones regarding dust and noise which will be detailed as per the screening process. * Keeping records of the generated wastewater | Visual observations at sub-project sites and impact areas. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Independent Specialists of the cities |
| Visual observations at sub-project sites and impact areas. | Quarterly | PMU Central Office |
| Performing soil and/or water sampling measures in case of complaint and taking necessary measures if needed. | Sampling and analysis | Upon complaint | Contractor / Contractor’s OHS Focal Point |
| 13 | Waste Management | * Through implementation of selective demolition, separation of inert construction & demolition wastes from other waste types. * Re-use / recycle /recovery of the wastes generated through selective demolition process, except the hazardous ones which are obliged to be disposed. * Sending inert construction & demolition wastes to material recovery facilities where available and to sanitary landfills where not available. * Implementation of waste management activities in accordance with waste management hierarchy during other retrofitting and re-construction * activities in compliance with WB ESF and WBG General/Sectoral Guidelines. * Tracking necessary records for the above implementations. | Visual observations at sub-project sites and review of documents / records such as;   * Waste logs, * Waste receipts, * Waste transfer records etc. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| Quarterly | PMU Head Office |
| 14 | Sub-project Traffic | Implementation of mitigation measures to be defined in Community Safety and Traffic Management Plans which will be prepared for each province. | Visual observations on and around the sub-project sites.  Review of documentation/records such as;   * training records, * speed limit violations, * traffic related grievances | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | Contractor / Contractor’s OHS Focal Point PMU Individual Specialists of the cities |
| 15 | Grievance Mechanism | Implementation of the Grievance Mechanism during all activities for both internal and external complaints. | Review of grievance records whose grievances received from and around sub-project site. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| Monthly | PMU Head Office |
| **For all Stages** | | | | | |
| 16 | General | Closure of environmental, social, OHS and community health and safety related non-conformities including the ones identified through implementation of grievance mechanism. | Visual observations at sub-project sites and impact areas and documentation / record control  Visual Inspection and review of the records and tools of the Grievance Mechanism such as grievance boxes, grievance forms etc. to be present on the impact area of the sub-project. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| Quarterly | PMU Head Office |

## 8.1. E&S Monitoring, Supervision and Reporting

### 8.1.1. Monitoring and Supervision

The PMU will perform sub-project monitoring and control actions, as detailed previously, to ensure that the sub-project specific C-ESMP Checklists, neighborhood-level ESIAs (if needed) and the RF, SEP and LMP to be implemented specifically for the sub-project are properly implemented.

The PMU will also hire a supervision consulting firm (with experience, qualifications, and terms of reference acceptable to the Bank) for the supervision of the environmental and OHS issues associated with the implementation of the Project’s construction activities. Specifically, within the scope of field visits, supervision consulting firm, and the PMU individual Environmental and Social Specialists located in Kocaeli, will supervise and monitor the contractors and notify the contractors and the contractor's focal points about the problems they have identified on-site and decide on the steps to correct these problems.

In case of an important incident or accident that may affect / threaten the environment, OHS and community health and safety (such as fatal work accident, environmental spills and accidents that will put community and environmental health at risk, a work accident that may cause disability etc.) contractors will immediately inform the UTP and individual Environmental Specialists hired for provinces and the WB will be informed within 48 hours by the UTP. In such a case, the incident report, which includes (i) Root Cause Analysis studies, (ii) measures to prevent the accident / incident from happening again, and specific compensation actions / corrective actions, will be submitted to the UTP by the contractor within 30 working days with the guidance and controls of the PMU individual specialists and the UTP will forward the incident report to the WB. UTP will also report its findings in this context to the WB with their reporting.

The WB Project team will also visit Project sites from time to time and/or specifically as needed as part of Project supervision.

### 8.1.2. Reporting

Within the scope of the Project and sub-projects, reporting will be performed in line with the following responsibilities, scope, frequency and requirements specified in the Table 33.

Table . Reporting Requirements Regarding ESMP Implementation

| **Reporting Party** | **Reporting Requirements** | **Reporting Frequency** | **Party To Which Reports Will Be Submitted** |
| --- | --- | --- | --- |
| Contractor / Contractor's OHS Focal Point | * Summary of the progress of demolition/retrofitting/construction activities schedule. * Summary of the compliance activities according to the Kocaeli ESMP, neighborhood-level ESIAs (if needed) and sub-project-specific C-ESMP Checklists. * Up-to-date list of all accidents, incidents and near misses that occur during the Project. * Records of E&S training provided to personnel. * Tracking information of all past issues is still being resolved. * Photos of the Project activities related to the implementation of the C-ESMP Checklist mitigation measures. * Daily compliance checklist of the works that are performed every day on the site. * Output of the performed activities in line with the Environmental and Social Monitoring Plan presented in Section 5. | Once a month | The PMU individual specialists in the provinces. |
| PMU individual specialists in the provinces | * Important points in the monthly reports of the Contractors / Contractor's focal points * Outputs of the supervision, monitoring and auditing activities * Progress of E&S Audits and ESAPs to be prepared for the Type-III sub-projects, if needed | Once a month | The PMU head office |
| PMU head office | Using the reports of contractors and the PMU individual specialists in the provinces and their quarterly site monitoring outputs:   * Summary of the completed demolition/retrofitting/construction activities. * Estimated remaining demolition/retrofitting/construction works and their schedule. * Summary of the compliance activities. * Outputs of the activities in line with the province-based Environmental and Social Monitoring Plans, whose format is presented in Section 5. * Environmental Social, Health and Safety Key Performance Indicators (KPIs), such as: * Statuses of grievances resolved per province, * Properly prepared and approved C-ESMP Checklist per sub-project, * Occupational accidents / incidents per province, * Number of ESAPs (which are specific to Type-III sub-projects) whose actions are completed per Type-III sub-projects, and * Ration of recycled construction demolition waste per province (approximately). * Up-to-date list of Environmental, Social and Safety events. * Up-to-date list of all accidents, incidents and near misses that occur during the Project. * Tracking information on all past issues is still being resolved. * Photos of Project activities.   The Project Progress Report, which will include not only the sub-project activities under Component 2, but also the activities under other components | Quarterly | WB |

### 8.1.3. Training for Other Staff

The PMU will ensure that the following trainings will be given to the UTP personnel, who are not specialists in Environment, OHS and social issues, as well as to the personnel of the units responsible for environmental, OHS and social issues in the relevant Provincial Directorates and, if necessary, to the personnel of the infrastructure and urban transformation units of the Provincial Directorates:

* The World Bank Environmental and Social Framework,
* Project-specific tools, i.e., ESMF, ESMP, LMP, SEP and RF/RP,
* Environmental and social assessment methods,
* Community health and safety,
* Stakeholder engagement and close out of grievances,
* Code of conduct, and
* Measures on SEA/SH and Gender-Based Violence

### 8.1.4. Training for Contractors

In the process of retrofitting/demolishing/reconstruction of the risky buildings, which are potential sub-projects under Component 2, the trainings of the inspection companies within the scope of the applicable national Construction Inspection System legislation and the practices under this legislation are quite detailed within the framework of the processes such as design, architecture and construction techniques. In addition, the applicable OHS legislation has defined detailed trainings for workers, occupational physicians and healthcare professionals, as well as occupational safety specialists, especially for the activities to be carried out within the scope of the sub-projects of the Project. However, the trainings to be provided to contractors must also be in line with the ESF and WBG EHS General Guidelines. Therefore, for contractors and their personnel, the trainings mentioned in Section 8.1.3 should also be given.

In addition to training on how to comply with environmental and social requirements for the sub-project as a whole, contractors should train their employees on how to comply with applicable mitigation requirements when performing their work. In addition to the Health and Safety training, other environmental and social training (e.g., the Code of Conduct, waste management and sanitation) are described in the Kocaeli ESMP. The trainings will include;

* OHS, environmental and social assessments,
* Reporting on environmental accidents and social incidents.
* ESMP,
* Community health and safety,
* Stakeholder engagement and grievance mechanism,
* Codes of conduct (CoC),
* Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH),
* Gender-Based Violence,
* Monitoring and reporting, and
* Other relevant topics.

Additionally the contractor OHS focal point should be trained in the following subjects;

* Reporting of environmental accidents, social incidents, OHS accidents and accidents that may affect public health and safety, and
* Reporting non-conformities to be identified through the implementation of ESMPs and C-ESMP Checklists.

The accident/incident reports of the OHS focal point must include, as a minimum, the following:

* The date on which the incident takes place and, the date on which it is found out if the latter is different
* Description of the incident
* The violated mitigation measures/environmental/social laws
* The parties that are present at the time of the incident
* Corrective actions taken to fix the problem and prevent its recurrence
* All necessary steps that need to be taken to remedy the situation, such as improvement

The non-conformity report must include, as a minimum, the following:

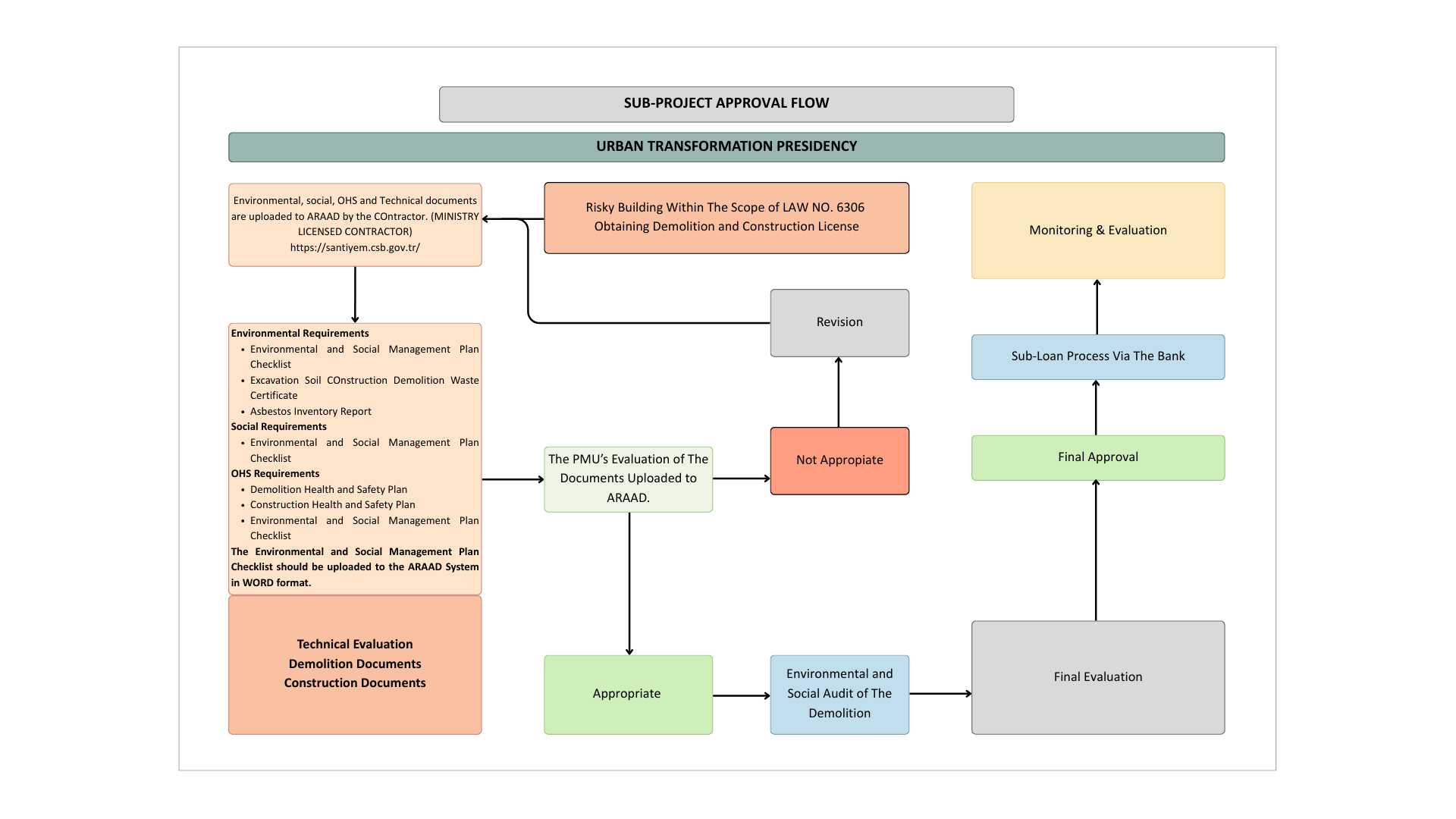
* The date on which the incident takes place and, the date on which it is found out if the latter is different
* Description of the problem
* The violated mitigation measures/environmental/social laws and the World Bank's ESF requirements
* The parties that are present at the time of the incident
* Description of the corrective steps taken
* If environmental damage occurs, a description of necessary follow-up steps or long-term improvement requirements

### 8.1.5 Application Process for the Sub-Projects

As outlined in the flowchart below in Figure 19 the Type III sub-project application process commences with obtaining a construction permit for a building that was identified as a risky structure under Law No. 6306 and subsequently demolished in compliance with the relevant regulations. The Contractor is required to submit an application by uploading a comprehensive set of E&S documents, demonstrating that the demolition was conducted in accordance with Turkish legislation and the World Bank’s E&S standards and that the reconstruction will also adhere to these standards.

The UTP PMU will conduct a comprehensive evaluation of the submitted documents, assessing compliance from environmental, social, OHS, and technical perspectives. If major non-compliances are identified at this stage, the sub-project may be rejected outright. In cases where applications are incomplete or contain missing documents, the UTP PMU will request the necessary revisions and completion of the required documentation before proceeding further.

Once the submitted document set is deemed sufficient and appropriate, the UTP PMU will conduct an on-site E&S audit (Check Annex 16 to see the template) to assess the compliance of the prior demolition process with the project’s environmental and social standards. This audit will include engagement with relevant stakeholders and the preparation of a detailed E&S audit report. Following the UTP PMU’s final evaluation, and in cases where a post-review by the World Bank is not the case, the E&S audit reports along with the Contractor ESMPs (C-ESMPs) will be submitted to the World Bank for feedback and approval. Upon receiving the Bank’s no-objection, the sub-project will be formally approved, allowing potential beneficiaries to proceed with sub-loan applications through ARAAD. The Sub-Project Approval Flowchart is presented in Figure 19.

Figure : Sub-Project Approval Flowchart

# ANNEX 1- LEGAL AND REGULATORY FRAMEWORK

## 1.1. Legal Framework

### 1.1.1. Legal Framework for Environmental Protection & Conservation in Türkiye

Turkish environmental legislation has been developed in line with both nationally determined standards and international agreements, contracts, protocols and detailed standards, and has been revised especially in the recent years within the scope of pre-accession regulations under the framework of harmonization with the European Union (EU) Directives.

The Ministry of Environment, Urbanization and Climate Change (MoEUCC), with its changed name in line with the Presidential Decree No. 85 published in the Official Gazette No. 31643 of October 29, 2021, is the primary responsible organization for the protection and preservation of the environment, the development of sustainable cities and settlements and the natural environment and the implementation of the policies developed on the sustainable management of resources. The central organization of the MoEUCC is located in the capital Ankara, and there are Provincial Directorates in each province. The central organization consists of the following directorates and general directorates, with the last change in the name and structure of the MoEUCC:

* General Directorate of European Union and Foreign Relations
* Directorate General for Infrastructure and Urban Transformation Services
* General Directorate of Environmental Management
* General Directorate of Geographic Information Systems
* General Directorate of Environmental Impact Assessment, Permit and Inspection
* General Directorate of Spatial Planning
* General Directorate of Protection of Natural Assets
* General Directorate of National Real Estate
* General Directorate of Combating Desertification and Erosion
* Directorate of Turkish Environment Agency
* Directorate of Climate Change
* General Directorate of Construction Works
* General Directorate of Personnel
* Directorate of High Technics Board
* Directorate for Strategy Development
* General Directorate of Legal Services
* Department of Support Services
* General Directorate of Vocational Services
* Department of Training and Publication
* General Directorate of for Local Authorities
* Directorate of Revolving Fund Management

In line with the above-mentioned decree, the General Directorate for Combating Desertification and Erosion, which was previously affiliated to the Ministry of Agriculture and Forestry, is included among the central units of the MoEUCC and the Directorate of Climate Change was established as an affiliated institution of the MoEUCC.

The duties and responsibilities of the MoEUCC can be summarized as preparing the legislation on settlement, environment and development, carrying out urban transformation works, supervising the implementations, ensuring the development of professional services, preventing environmental pollution, protecting the environment and nature, and combating climate change.

The national Environmental Law (Law No. 2872), which first came into force in 1983, addresses environmental issues in a wide scope. Under the Environmental Law, environmental regulations have been developed in line with national and international policies and standards, and as mentioned earlier, some of these regulations have been recently revised to align with EU Directives as part of Türkiye's pre-accession efforts.

Apart from and as complementary to the Environmental Law and regulations, the laws listed below also contain provisions on the protection of the environment, the protection/management of natural resources and cultural and natural assets, the prevention & control of pollution and the implementation of measures to be taken for the prevention of pollution. The laws governing provisions relating to social impacts and provisions relating to health & safety and labor matters are also listed below:

* Expropriation Law (Law No. 2942)
* Forest Law (Law No. 6831)
* Law on Groundwaters (Law No. 167)
* Labor Law (Law No. 4857)
* Occupational Health and Safety Law (Law No. 6331)
* Law on the Protection of Cultural and Natural Assets (Law No. 2863)
* Law on Soil Preservation and Land Utilization (Law No. 5403)
* Mining Law (Law No. 3213)
* Municipality Law (Law No. 5393)
* Law on National Parks (Law No. 2873)
* Law on Pastures (Law No. 4342)
* Public Health Law (Law No. 1593)
* Settlement Law (Law No. 5543)
* Highway Traffic Law (Law No. 2918)
* Electricity Market Law (Law No. 6446)
* Energy Efficiency Law (Law No. 5627)

General Directorate of Infrastructure and Urban Transformation Services, established with the Presidential Decree No. 153 published in the Official Gazette No. 32341 of October 16, 2023 is affiliated to the MoEUCC. The UTP is a special budget public entity and manages the transformation of areas under disaster risk and of areas / lands where risky buildings present outside of the areas under disaster risk. UTP carries out its activities in close cooperation with Turkish Housing Development Administration (TOKİ), ILBANK and other subsidiaries of the Ministry, including local authorities. UTP is responsible for ensuring the determination of urban transformation, renewal and transfer areas, as well as the fulfilment of the determination, arrangement and valuation works & procedures on the risky structures; to carry out all kinds of maps, plans, projects, land and land arrangement processes and land consolidation regarding risky areas, reserve building areas and areas with risky structures; to carry out the determination of ownership, conciliation, expropriation, valuation of properties in the transformation practices, to come to agreement with the property owners within the framework of the procedures and projects prescribed by the Presidency, to carry out the works and procedures with regards to allocation of flat ownership, registration and transfer of development rights.

### 1.1.2. National Environmental, Social & Occupational Health and Safety Legislation & Regulatory Requirements

Within the framework of the laws listed above, the regulations, by laws and communiqués that have been enacted separately within the scope of environmental, social and occupational health and safety (OHS) matters are listed below:

**Environmental Permits and Licenses**

* Regulation on Environmental Impact Assessment
* Regulation on Environmental Permits and License
* Regulation on Environmental Audit
* Regulation on Environmental Management Services

**Land Use and Soils**

* Regulation on Conservation, Use and Planning of Agricultural Land
* Regulation on the Implementation of Paragraph 3 of Article 17 and Article 18 of the Forest Law
* Regulation on Land Consolidation and On-farm Development Services Implementation
* Regulation on Pastures
* Regulation on Soil Contamination Control and Point Source Land Pollution

**Water**

* Regulation on Surface Water Quality
* Regulation on Water Pollution Control
* Regulation on Water Intended for Human Consumption
* Regulation on Urban Wastewater Treatment
* Regulation on the Protection of Groundwater against Pollution and Deterioration
* Regulation on Control of Pollution Caused by Dangerous Substances in Water and Its Environment
* Regulation on the Protection of Drinking-Potable Water Basins

**Waste**

* Regulation on Waste Management
* Regulation on Control of Packaging Waste
* Regulation on Control of Excavated Soil, Construction and Demolition Wastes
* Regulation on Control of Medical Wastes
* Regulation on the Management of Waste Oils
* Regulation on the Control of Vegetable Waste Oils
* Regulation on the Control of Waste Batteries and Accumulators
* Regulation on the Control of End-of-Life Tires
* Regulation on Landfilling of Wastes
* Regulation on the Control of Waste Electrical and Electronic Equipment
* Regulation on the Control of End-of-Life Vehicles
* Zero Waste Regulation
* Communiqué on Recovery of Some Non-Hazardous Wastes
* Regulation on the Demolition of Buildings

Since the waste management would be one of the crucial issues during the activities within the scope of Component 2, brief summaries of some of the specific regulations regarding waste management are presented below:

Regulation on Waste Management: Regulation on Waste Management can be regarded as the framework regulation regarding waste management requirements and applications in Türkiye. It defines duties / authorities / responsibilities of all relevant parties, which are, the MoEUCC, Provincial Directorates, Municipalities, Waste Generators / Producers and Waste Processing Facilities. Codes of all kinds of wastes, including both hazardous and non-hazardous ones, and specific requirements are also defined in the regulation. The purpose of the regulation is determining the borders of the waste management principles and also managing the waste practices. General principles of this regulation include less uses of natural sources, development of environment-friendly technologies, minimum damage to environment, reusable and recyclable producing, minimum energy use, acceptable waste management activities such as less waste producing, proper waste collecting, separating, transporting and disposing techniques (Reduce – Reuse – Recycle). Previous regulations on waste management (solid waste, hazardous waste, etc.) have been assembled together in this regulation with the new applicable instruction and suggestions according to the international environmental standards. According to the regulation, hazardous wastes, medical wastes, used batteries & accumulators and medical wastes, as well as used tires, recyclable wastes such as packaging wastes must be disposed of separately from residential wastes. Furthermore, generators or transporters are strictly prohibited to dump wastes into recipient media such as seas, lakes and the like as well as on to streets, in forests and any other spots where they would adversely affect the environment. According to the regulation, anyone generating hazardous waste is obligated to take measures so that waste generation would be minimized, to ensure waste management in order to minimize the effects of wastes on human health and environment in compliance with the provisions of this Regulation, to prepare a 3-year waste management plan and obtain Provincial Directorates’ approval therefor, and obtain authorization from Provincial Directorates likewise in case of temporary storage of wastes in their facilities in compliance with the provisions of this Regulation.

Regulation on Control of Excavated Soil, Construction and Demolition Wastes: This is the specific regulation which defines requirements regarding excavated soil and construction & demolition wastes. According to Article 9 of the regulation, anyone generating excavated soil and construction / demolition wastes is required to ensure waste management in order to minimize the negative effects of the wastes on the environment and human health in compliance with the provisions of the regulation. Waste generators cannot dump their wastes at any spots other than such recovery or storage sites exclusively permitted by a municipality.

Regulation on the Demolition of Buildings: This Regulation is prepared based on the Environment Law No. 2872 and the Zoning Law No. 3194 and it was actually published in the Official Gazette back in October 2021 but it was stipulated come into effect as of July 1, 2022. The purpose of this regulation is “*to regulate the procedures and principles pertaining to realizing the activities of building demolition in a manner that will not harm the environment, human health and safety.*” This regulation does associate itself with the Law No. 6306, stating that “*The provisions of the Law No. 6306 and the relevant legislation thereof shall remain reserved*”. However, this regulation precludes demolitions to be performed in the scope of the Law No. 7269 on the Aids to be Given and Measures to be Taken Due to Disasters Affecting Public Life.

The aim in the enactment of this regulation is to protect and preserve human/ community health, life and property safety, as well as the environment during demolition activities. In fact, the Regulation on Control of Excavated Soil, Construction and Demolition Wastes, the Regulation on Landfilling of Wastes, the Regulation on Waste Management and also the Regulation on Occupational Health and Safety in Construction Works are all referenced as legislation to be abided by. The regulation contains provisions on noise and vibration management, and control of dust emissions.

One of the novelties in this regulation is related to the prohibition brought by stating that, the main demolition can only be commenced after asbestos and similar hazardous chemical-containing fabrications are disassembled and removed, and after “selective demolition” is made. The demolition plan needs to contain a waste management plan as an annex that indicates the waste types, codes and amounts, and all this information will be recorded on the demolition license.

Selective Demolition is defined in the regulation as follows:

*“ARTICLE 15 – (1) In order to ensure high rate of recycling of demolition wastes, to ensure that the hazardous wastes are sorted and separated before the demolition, other materials are reused, and the demolition wastes are separated at the source and recycled in a controlled and phased manner, selective demolition will be applied according to the Regulation on Control of Excavated Soil, Construction and Demolition Wastes.*

*(2) Selective demolition covers the stages of separation/ sorting of asbestos and other hazardous wastes; doors and windows, sanitary ware such as sinks, bathtubs and similar materials, all metal-based materials, wood-based materials, gypsum-based materials, tiles, non-bearing walls (such as bricks, gas concrete, concrete) materials, glass materials, polyvinylchloride/polyurethane materials, all natural stone coatings, materials used for waterproofing that can be removed; thermal insulation materials such as glass wool, rock wool, expanded polystyrene, extruded polystyrene, polyurethane, etc.; crushed and/or sieved granular materials under in-parcel road or asphalt, concrete and wooden coating layers in other areas; scraping or separation of bitumen and derivative layers in areas covered with bitumen and derivative materials.*

*(3) With selective demolition, reusable materials are separated, and waste generation is prevented. During the demolition activity, the wastes are separated and collected separately. Separately gathered wastes are collected without mixing with each other, the collected wastes are subjected to recovery and the wastes that cannot be recovered are disposed of in accordance with the provisions of the relevant legislation. The wastes are sent to the recycling and/or disposal facility, which has a license certificate within the scope of the Environmental Permit and License Regulation published in the Official Gazette dated no. 29115 of 10.9.2014.”*

**Air**

* Industrial Air Pollution Regulation
* Regulation on Air Quality Assessment and Management
* Regulation on Exhaust Gas Emission Control
* Regulation on the Control of Air Pollution Caused by Heating

**Chemicals**

* Regulation on Classification, Labelling and Packaging of Substances and Mixtures
* Regulation on Transport of Dangerous Goods by Rail
* Regulation on Transport of Dangerous Goods by Road
* Regulation on the Control of Polychlorinated Biphenyl and Polychlorinated Terphenyl

**Health, Safety and Work/Labor**

* Communiqué on Workplace Hazard Classes Related to Occupational Health and Safety
* Regulation on the Protection of Employees from Noise-Related Risks
* Regulation on Protection of Employees from Vibration-Related Risks
* Regulation on Health and Safety Requirements for the Use of Work Equipment
* Regulation on Occupational Health and Safety
* Regulation on Occupational Health and Safety in Construction Works
* Regulation on Occupational Health and Safety in Temporary or Fixed-Term Employment
* Regulations on Safety and Health in Working with Chemical Substances
* Regulation on Occupational Health and Safety Signs
* Regulation on the Fight Against Dust
* Regulation on Safety Data Sheets Regarding Harmful Substances and Mixtures
* Regulation on Occupational Health and Safety Risk Assessment
* Regulation on Personal Protective Equipment
* Regulation on the Vocational Training of Persons to be Employed in the Jobs in Dangerous and Extremely Dangerous Classes
* Regulation on Work Inspection Committee of Ministry of Labor and Social Security
* Bylaw on Work Inspections

**Noise**

* Regulation on Assessment and Management of Environmental Noise
* Noise Emission in the Environment by Equipment for Use Outdoors Regulations

**Social**

* Implementing Regulation on Settlement Law
* Regulation on the Implementation of the Law on Private Security Services

**Other / General**

* Road Traffic Regulation
* Railway Safety Regulation
* Regulation on Railway Safety Critical Tasks
* Regulation on Construction Managers

## 1.2. National Laws on Social Impacts

### 1.2.1. National Laws on Labor & Working Conditions

The Project is expected to employ the following type of Project workers, as per ESS 2 and described in the Labor Management Procedures (LMP) of the CDRC Project, direct workers, contracted workers, community workers, primary suppliers and migrant workers. For further details on the types of workers in the Project, the numbers and characteristics of the Project Workers and scheduling of labor requirements check Subsections 2.1 through 2.4 of the LMP[[40]](#footnote-40).

**Occupational Health and Safety**

In recent years, Türkiye has carried out a reform to improve the national OHS system by adapting a number of international and regional standards within the national level requirements for the prevention of occupational risks defined in the International Labor Organization (ILO) Occupational Safety and Health Convention No. 155 of 1981. The Convention was ratified by Türkiye in 2005 together with the Occupational Health Services Convention No. 161 of 1985 and Türkiye has also been a party to the Labor Inspection Convention No. 81 of 1945 since 1951. Türkiye adopted the Occupational Health and Safety Improvement Framework No. 187 of 2006 in 2014.

In 2012, an independent OHS Law No. 6331 came into force (20 June 2012). OHS Law regulates workplace environments and sectors (both public and private) as well as all classes of workers, including part-time employees, interns and apprentices. The legislation is comprehensive and generally applies to all sectors and many industries.

**Labor and Working Conditions**

Türkiye is a party to numerous conventions of ILO including, but not limited to, equal treatment of employees, gender equality, child labor, forced labor, OHS, the right to organize and minimum wage. Accordingly, Labor Law No. 4857 in force in Türkiye is largely in line with the requirements of ESS2.

There is also secondary legislation that may be applicable to the Project, including regulations regarding annual leave, working hours, overtime, minimum wage, and female and child workers. The Ministry of Labor and Social Security (MoLSS) has also published various communiqués and circulars that can be applied during the Project implementation, laying the groundwork for the implementation of the Labor Law.

### 1.2.2. National Laws on Community Health and Safety

The main national laws covering ESS4 (Community Health and Safety) are as follows:

* General Health Protection Law No. 1593
* Law No. 5378 on the Disabled
* Law No. 5188 on Private Security Services
* Law No. 7269 on the Aids to be Given and Measures to be Taken Due to Disasters Affecting Public Life
  + Building Earthquake Regulation in Türkiye (O.G. No. 30364 of 18.03.2018)
  + Disaster Regulation for Infrastructure (O.G. No. 26435 of 15.02.2007)
* Law No. 4708 on Building Auditing (Construction and Usage Permits)
* Zoning Law No. 3194 (Construction and Usage Permits)
* Law No. 6306 on Transformation of Areas Under Disaster Risk

**Turkish Earthquake Code**

The purpose of this Regulation is “*to identify the required rules and minimum conditions in order to design and construct, under seismic effect, official and private building and building-like structures, partly or completely, which are planned to be re-built, modified or expanded, and to assess and reinforce the performance of the existing buildings under seismic effect*”. The main principle of earthquake resistant design of new buildings according to this Regulation is to limit the formation of permanent structural damage in order to ensure that the structural and non-structural system elements in the buildings are not damaged in mild earthquakes, the damage that may occur in structural and non-structural elements in moderate earthquakes is limited and repairable, and to ensure life safety in severe earthquakes. Check the Regulation in question and the ESMF subsection 2.4. for further details.

**Legal Framework and Practices Regarding Risky Buildings in Türkiye**

The process related to the retrofitting/demolition/reconstruction of the risky buildings against disaster risk in Türkiye is regulated by the “Law No. 6306 on Transformation of Areas Under Disaster Risk” (hereinafter referred to as the “Law No. 6306” or simply the “Law”) and the “Regulation of the Implementation of Law No. 6306” (hereinafter referred to as the "Implementing Regulation").

According to the Law, "risky area" is defined as "an area determined by the President, which carries the risk of causing loss of life and property due to the ground structure or the construction on it", and "risky building" is defined as a structure that is *inside or outside* the risky area, has completed its economic life, or has a risk of collapse or severe damage, which is determined based on scientific and technical data.

The Law and the Implementing Regulation are the applicable national legislation components for “risky buildings outside the areas officially defined as risky areas and/or urban transformation areas” within the scope of the Project.

**Risky Building Process**

*Risk Identification*

Identification of risky buildings is done principally by the building owners or their legal representatives, at their own expense, within the framework of the procedures and principles set forth in the Implementation Regulation.

*Risky Building Identification*

According to Annex-2 of the Regulation entitled Principles Regarding the Risky Building Detection, the reports regarding the buildings which are determined as risky by the Licensed Institution/Organization through application of the owners, are submitted to the relevant Governorate (Provincial Directorate of Environment, Urbanization and Climate Change) by the Licensed Institution/Organization, or to the Administration (“Municipality”) in case the MoEUCC transfers its authority.[[41]](#footnote-41)

*Informing the Owners*

Notifications to the owners of the buildings about the buildings that are determined as risky buildings within the scope of the Law No. 6306 are made in accordance with the Notification Law No. 7201. It notifies the owners of the building that is determined as a risky building that a "risky building annotation" has been placed in the declarations section of the land registry of the relevant land registry office.

*Objection to the Risky Building Detection*

An objection can be made against the risky building detection by the building owners or their legal representatives to the Directorate (Provincial Directorate of Environment, Urbanization and Climate Change) of the place where the building is located, or to the Administration (Municipality) in case of transfer of authority by the MoEUCC.

If the risky building detection decision changes as a result of the consideration of the Technical Committee, this is reported to the relevant Directorate of Land Registry.

At this point, it should be noted that in case of objection to the risky structure detection explained in the Law and Implementing Regulation, or in case it is assessed that the acts and actions taken have caused an unjust treatment or loss of right, it is also possible to seek for judicial remedies.

*Demolition of Risky Buildings*

In the event that a risky building is detected, the Directorate requests the relevant Municipality to send necessary notifications and demolish the risky building. The owners of the immovable properties registered in the land registry as risky buildings by the Municipality are granted a period of not exceeding ninety days to demolish the risky buildings.

*Post Demolition Process and Implementation*

On the parcels where risky buildings are located, without seeking the requirement of demolition of the buildings and regardless of whether they are a stakeholder of the risky building or not, the decision on their allotment, division, abandonment, creation and registration to the land registry processes, re-construction of a new building, sale of shares, re-utilization in return for flat or revenue sharing and/or other methods is taken by at least absolute majority of the stakeholders in proportion to their shares.

For further information regarding the risk generation process, refer to the relevant sections of Subsection 2.4 of the ESMP.

**Specific Provisions and Practices Regarding Risky Building Process**

*Structures and Buildings where the Process can be Applied*

There is no obligation for a building license in order to perform a risk identification for any building by following the Principles Regarding the Risky Building Detection, through application of the owners and to proceed with the relevant process.

*Provisions on Blocking the Process*

According to the Law, a criminal complaint can be filed with the Office of the Chief Public Prosecutor, in accordance with the relevant provisions of the Turkish Penal Code No. 5237, depending on the action and state of the situation, against those who prevent the detection, evacuation, demolition and other operations (e.g., valuation) of risky buildings.

*Retrofitting Rather than Demolition of Risky Buildings*

In the event that the risky building is to be retrofitting instead of demolished, within the given periods of not less than sixty days for the risky building to be demolished, it is necessary for the owners to have technical possibility of the retrofitting determined, to take a retrofitting decision as specified in the Condominium Law, to have a retrofitting Project prepared and to obtain a license within the framework of the Zoning Legislation.

*Guarantees and Termination Processes*

If real and private law legal entities are performing an application on the parcels where the risky building(s) are located, a guarantee of 10% of the estimated cost of the building must be submitted to the Administration before the construction license is obtained by the construction contractor who will undertake the construction work.

*Rental Assistance and Other Supports*

Rental assistance can be provided to the owners of the buildings evacuated by agreement. The duration of assistance is 18 months in *risky buildings outside the risky area.*

* Owners of structures vacated through mutual agreement may be eligible for assistance. The duration of this assistance is 18 months for structures classified as risky but located outside designated risky areas.
* According to the Decision Regarding Assistance to Those Who Use the Risky Buildings Within the Coverage of Law No. 6306 Without Being Owner, Tenant or Having Limited Real Rights, which was enacted by the Council of Ministers Decision No. 2016/8663 within the scope of the Law, rental assistance is given:
* 18 months of rental assistance for those who are entitled,
* Twice the standard monthly rental assistance amount for slum owners

*Some Provisions Related to the Rights and Practices after the Demolition of Risky Buildings*

After the demolition of risky buildings, the real and personal rights contained in the register of these real estates as well as any annotation restricting or prohibiting the right of alienation, remain on the shares. These rights and annotations do not hinder the execution of transactions regarding amalgamation, allotment, division, abandonment, registration, construction servitude and condominium ownership in title deed and consent is not sought for these transactions. The rights and annotations specified at the stage of new construction servitude and condominium establishment are maintained only on the independent sections that will fall to the owner who is liable for the said rights and annotations, without seeking consent.

*Evaluation of Regulations Regarding the Registration of Illegal Buildings in the Scope of Preparedness for Disaster Risks*

In the urbanization process in Türkiye, rapid migration from rural to urban has brought along some problems, including irregular urbanization. In this process, illegal construction, which increased in the cities, emerged as one of these problems. The buildings in slum areas contain many risks, especially in the cities that are prone to disasters and in disaster situations, due to their poor material quality and poor physical conditions.

Arrangements made in order to reduce the risks posed by these buildings, which have increased in Turkish cities until today and can become riskier by adding additional floors, to register the structures, to identify and transform unqualified and irregular housing, have come to the fore.

*Slum Law No. 775*

The Slum Law No. 775 is a law that has been prepared and put into effect in order to enable the transformation of slums, most of which are seen as risky structures, especially in provinces with disaster risk. In accordance with the Law No. 6306 on the Transformation of Areas Under Disaster Risk, with the decision of the Council of Ministers "on Providing Aid to Those Who Occupy Risky Buildings Without being Owners, Tenants or Limited Real Rights within the Scope of Law No. 6306", those living in slums will be able to benefit from rental assistance and will be able to benefit from the housing or property they will acquire under the law. It has become possible for businesses to benefit from low-interest loan support.

### 1.2.3. National Laws on Land Acquisition

Within the scope of the legal framework in Türkiye, land acquisition/expropriation issues are regulated by the Expropriation Law No. 2942.

More detailed information on National Laws on Land Acquisition can be found in the Resettlement Framework (RF)[[42]](#footnote-42) prepared for this Project.

### 1.2.4. Overview Of Labor Legislation: Terms and Conditions

According to the Labor Law No. 4857, the main categories of employment contracts are:

* Fixed-term (fixed- duration) and Indefinite-term (undetermined duration) Employment Contracts
* Full-Time and Part-Time Employment Contracts,
* Permanent and Temporary Employment Contracts,
* Seasonal Employment Contracts (Indefinite-Definite Duration),
* Work-on-Call Contracts,
* Employment Contracts with or without Trial Periods,
* Team Employment Contracts.

#### 1.2.4.1. Wages and Deductions

Article 32 of the Labor Law No. 4857 defines wages in general as “the amount provided to a person by the employer or third parties in exchange for a job and paid in money”. Without discrimination, every worker has the right to be paid for the work he/she conducts. A worker’s salary cannot be lower than the minimum wage set by the state. There is a national minimum wage that applies to all workers in Türkiye. According to Article 39 of the Labor Law; minimum limits of wages are determined by the relevant commission of the Ministry of Labor and Social Security no later than every two years.

#### 1.2.4.2. Working Hours

According to the Labor Law No. 4857; in general, the working time is a maximum of forty-five hours per week. Unless otherwise agreed, this period is applied by dividing it equally into the working days of the week in workplaces.

#### 1.2.4.3. Rest Breaks

Workers are allowed to rest for at least twenty-four hours (weekly rest day) uninterrupted in a seven-day period, provided that they have worked up to 45 hours on the days before the weekly rest day.

#### 1.2.4.4. Leave

According to Article 53 of the Labor Law, workers who have served at least one year in the workplace, including the trial period, are granted annual paid leave. The duration of the workers' annual paid leave is;

* If the service period is between one and five years, fourteen days (including five),
* Twenty days if more than five years and less than fifteen years,
* Twenty-six days (including fifteen) if fifteen years or more.

The annual paid leave duration cannot be less than twenty days for workers who are over the age of fifty. The provisions of this Law regarding annual paid leave do not apply to workers, working in seasonal or other jobs lasting less than one year in nature.

#### 1.2.4.5. Overtime Work

According to Article 41 of the Labor Law; overtime work is working more than forty-five hours per week limit regulated within the framework of the conditions written in the law. Worker consent is required for overtime work.

Pregnant women and breastfeeding mothers cannot be required to do overtime work.

#### 1.2.4.6. Labor Disputes

Under the Labor Law, employers can terminate contracts in two ways: (i) to give a valid reason (Articles 18-19) or (ii) termination with a valid reason (Article 25). If the contract of a worker with at least six months of seniority in a workplace with at least 30 employees is terminated, the worker may benefit from certain protections under the Labor Law. In order to terminate the employment contract effectively, the worker must be given a written notice and the legal notice periods must be followed. However, in some cases, employers may terminate the employment relationship for a fair reason (for health reasons, immoral, dishonorable or malicious behavior or other similar behavior, force majeure). In these cases, the employer is not obliged to comply with the legal notice periods and may terminate immediately.

National labor legislation contains provisions that allow workers to resolve disputes where there is a dispute between employer and worker about the essential terms and conditions of an employment contract or other aspects of work. Such disputes will be resolved in accordance with the Law on Mediation in Civil Disputes No. 6325 and Article 20 of the Labor Law No. 4857.

For further details about the labor legislation and its implementation, check the Project’s LMP Section 4.

### 1.2.5. International Agreements & Conventions

Türkiye has become a party to a number of international agreements and conventions/protocols to contribute to the management of environmental resources, biodiversity, occupational health and safety (OHS) and cultural heritage on a global and regional scale. The most basic of these agreements and conventions/protocols are listed herewith below:

**Environment**

* Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, (Official Gazette [O.G.] No. 20629 of 8-9.9.1990)
* UN Framework Convention on Climate Change (O.G No. 25266 of 21.10.2003)
* Kyoto Protocol to the UN Framework Convention on Climate Change (O.G. No. 27144 of 17.02.2009)
* United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa. (UNCCD) (O.G. No. 23258 of 14.2.1998)
* Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) (O.G. No. 17150 of 14.11.1980)
* Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea (The Dumping Protocol) (O.G. No. 24854 of 22.8.2002).
* Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal (Hazardous wastes protocol) (O.G. No 25346 of 14.1.2002)
* Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Athens 1980 (Türkiye: O.G. No. 19404 of 18.3.1987)
* Protocol on Specially Protected Areas in the Mediterranean, Geneva 1982, (signed on 6.11.1986) (O.G. No. 19968 of 23.10.1988)
* Convention on the Protection of the Black Sea against Pollution and other related Conventions (Bucharest Convention) (O.G. No. 21869 of 06.03.1994)
* Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention) (O.G. No. 21804 of 30.12.1993)
* Stockholm Convention on Persistent Organic Pollutants
* Convention on Long-Range Transboundary Air Pollution (CLRTAP) (Türkiye: O.G. No. 17996 of 23.3.1983)

**Biodiversity**

* Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) (Türkiye: O.G. No. 18318 of 20.2.1984)
* The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar) (O.G. No. 21937 of 17.5.1994)
* Convention on Biological Diversity (O.G. No. 22860 of 27.12.1996)
* Cartagena Protocol on Biosafety to the Convention on Biological Diversity (O.G. No. 25148 of 24.06.2003)
* The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (O.G. No. 22672 of 20.06.1996)
* International Convention for the Protection of Birds, Paris 1959 (Türkiye O.G. No.12480 of 17.12.1966)

**Cultural Heritage**

* European Convention on the Protection of the Archaeological Heritage (O.G. No. 23780 of 08.08.1999)
* Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris 1972 (O.G. No. 17959 of 14.2.1983)
* European Cultural Convention on 19.12.1954 (O.G. No. 9635 of 17.6.1957)
* Convention for the Protection of the Architectural Heritage of Europe (O.G. No. 20229 of 22.07.1989)
* UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property
* UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage
* UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions

**Occupational Health and Safety**

* International Labor Organization Safety and Health in Construction Convention (O.G. No. 29190 of 29.11.2014)
* International Labor Organization Occupational Health and Safety and Working Environment Convention (O.G. No. 25345 of 13.01.2004)
* ILO Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor (O.G. No. 24307 of 03.02.2001)
* International Labor Organization Forced Labor Convention (O.G. No. 23243 of 27.01.1998)
* International Labor Organization Minimum Age Convention (O.G. No. 10220 of 02.06.1959)
* International Labor Organization Freedom of Association and Protection of the Right to Organize Convention (O.G. No. 21432 of 22.12.1992)
* ILO Convention on Workers' Representatives (O.G. No. 21432 of 11.12.1992)
* International Labor Organization Human Resources Development Convention (O.G. No. 21433 of 12.12.1992)
* International Labor Organization Employment Policy Convention (O.G. No. 15769 of 20.11.1976)
* International Labor Organization Social Security (Minimum Standards) Convention (O.G. No. 13922 of 10.08.1971)
* International Labor Organization Equal Remuneration Convention (O.G. No. 12484 of 22.12.1966)
* International Labor Organization Discrimination (Employment and Occupation) Convention (O.G. No. 12484 of 22.12.1966)
* International Labor Organization Abolition of Forced Labor Convention (O.G. No. 10686 of 21.12.1960)
* International Labor Organization Right to Organize and Collective Bargaining Convention (O.G. No. 7884 of 14.08.1951)

#### 1.2.5.1. World Bank Environmental & Social Standards

**ESS1: Assessment of Environmental and Social Risks and Impacts**

This Standard sets out the requirements for assessing, managing and monitoring environmental and social risks and impacts associated with each phase of World Bank sponsored Projects.

ESS1 must be addressed in the assessment process, including the environmental and social impact/risks specified in Article 26 and presented below.

* Environmental Risks and Impacts covering the following:
* Projects defined in the Environmental Health and Safety Directive
* Community safety
* Climate change and other cross-border or global risks and impacts
* Materials that threaten the conservation, maintenance and restoration of natural habitats and biodiversity
* Ecosystem services and use of living natural resources (fishing, forests, etc.)
* Social Risks and Impacts covering the following:
* Threats to human health and safety, security
* Situations where Project impacts pose a risk to individuals or groups who may be disadvantaged due to their particular circumstances,
* Impacts on the livelihoods of the households, communities or individuals,
* Impacts on the continuation and accessibility of daily life
* Cultural Heritage risks include:
* The emergence of negative effects that may prevent continuity in tangible and intangible cultural structure, heritage or forms between the past, present and future,
* Protecting the cultural heritage from the negative effects of Project activities,
* The emergence of effects that will hinder the sustainability of cultural heritage.

**ESS2: Labor and Working Conditions**

Environmental and Social Standard 2 emphasizes the importance of employment and income generation for comprehensive financial development and poverty reduction. Healthy working conditions must be created by treating workers fairly.

**ESS3: Resource Efficiency, Pollution Prevention and Management**

This standard points to the requirements of resource efficiency and pollution prevention and management with a holistic approach in practice. The aim is to minimize the pollution caused by the Project with the sustainable use of resources.

**ESS4: Community Health and Safety**

ESS4 highlights issues of health, safety and security risks and their impact on communities due to Project activities. Particular attention must be paid to communities and individuals who may be vulnerable due to the impacts and risks of the Project.

**ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement**

This standard emphasizes that involuntary resettlement must be avoided. If unavoidable, necessary measures must be taken to reduce the negative impacts on displaced people.

**ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**

Biodiversity conservation and the sustainability of natural resources are the main components of sustainable development. Biodiversity, supported by all ecological functions, including forests, must be preserved.

This standard also addresses the sustainable management of primary natural production and living natural resources and recognizes the need to consider the livelihoods of Project-affected parties, including those with access to or use of biodiversity or living natural resources.

**ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities**

This standard does not apply to the Project

**ESS8: Cultural Heritage**

This standard indicates that cultural heritage provides continuity between the past, present and future in tangible and intangible forms. Necessary measures must be taken for the protection of cultural heritage in practices.

**ESS9: Financial Intermediaries**

This standard does not apply to the MoEUCC but to ILBANK, acting as a Financial Intermediary, which will be implementing Component 3 and 4b of the Project. ILBANK also has prepared their Environmental and Social Commitment Plan (ESCP), ESMF, RF and SEP specific to Component 3 and 4. ILBANK also has established its Environmental and Social Management System (ESMS).

**ESS10: Stakeholder Engagement and Information Disclosure**

The importance of open and transparent participation among stakeholders is emphasized as it is a necessary element of good international practice. It contributes to Projects in terms of effective stakeholder engagement, improving environmental and social sustainability, increasing the acceptance of practices and successful Project design.

# ANNEX 2- CODE OF CONDUCT

As the Contractor, [*insert the name of* *the Contractor*]; We have signed a contract with [*Employer's name will be inserted*] for [*job name and description to be entered*]. These works [*insert* *the names of the construction sites and other locations where the works will be done*] will also be carried out. The contract obliges us to take measures to address environmental and social risks associated with work, including the risks of sexual exploitation, abuse and gender-based discrimination.

This Code of Conduct (CoC) is part of the measures we take to fight against environmental and social risks associated with work. It applies to all our employees at the site or other places where work is executed. Besides; this contract also applies to the personnel of each subcontractor and other personnel who assist us in the execution of the works. All such personnel are called “Contractor's Personnel” and are subject to the CoC.

This CoC defines the obligated behavior of personnel identified above as "Contractor's Personnel".

Our working environment: There will be an environment where unsafe, abusive or violent behavior will not be tolerated, and where all individuals can comfortably express their problems or concerns without fear of retaliation.

**REQUIRED BEHAVIOR**

Contractor's Personnel:

1. Perform their duties adequately and selflessly;
2. Comply with this CoC and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of the Contractor's other personnel and any other person;
3. Organize a safe working environment within the scope listed below:
4. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and do not pose a health risk;
5. use of necessary personal protective equipment;
6. taking appropriate precautions regarding chemical, physical and biological substances and agents; and
7. following appropriate emergency operations procedures
8. Report working conditions that he/she believes are unsafe or unhealthy and to avoid a working conditions that he/she believes poses a serious danger to his life or health;
9. Not to discriminate against specific groups such as women, people with disabilities, migrant workers or children and to treat other people with respect;
10. Against other personnel of the Contractor or the Employer; not engage in any form of sexual harassment, including undesirable sexual advances, sexual solicitations, or any other verbal or physical behavior of a sexual nature;
11. Not attempting Sexual Exploitation (not engaging in any act or attempting to abuse vulnerable position, power difference or trust for sexual purposes; and not sexually abusing another, including, but not limited to, benefiting financially, socially or politically)
12. Not to attempt Rape. This concept means any physical or other forced (even mild) penetration with the penis or other body part into the vagina, anus, or mouth. In addition, penetration of the vagina or anus with an object is also included in this concept. Rape; includes marital rape, anal rape / anal intercourse. Attempting to those listed in this article is considered an attempted rape. Rape of a person by two or more perpetrators is called gang rape;
13. Not to attempt Sexual Assault. This concept; means any form of non-consensual sexual contact that does not result in or does not involve penetration. Examples include: attempted rape as well as engaging in sexual acts such as non-consensual kissing, caressing, or touching the genitals-thighs of individuals under the age of 18, except in a pre-existing marital situation;
14. Complete trainings on environmental and social aspects of the Contract, covering OHS issues along with Sexual Exploitation and Sexual Assault;
15. Report any violations of this CoC; and
16. Not be hostile towards any person reporting a violation of this CoC, us as the Contractor, or the Employer, or anyone using the [*Project Grievance Mechanism*].

**REPORTING OF THE CONCERNING SITUATION**

All personnel observing a behavior that they believe violates this CoC or concerns them in any other way, they should immediately report that issue. This can be accomplished through one of the following:

1. Contact [*insert the name of the Contractor's Social Specialist who will deal with gender-based discrimination, or, if such an employee is noncompulsory under the Contract, insert the name of another personnel designated by the Contractor*] via phone number [ ] or in written form [ ] or [ ] in person; or
2. To reach the Contractor's instant hotline (if applicable), call [ ] and leave a message.

The identity of the individual will be kept confidential unless reporting of allegations is required by the law of that country. Anonymous complaints or allegations will be given due and appropriate consideration. We take all reports of potential abuse seriously and will investigate appropriate action. We will provide service providers with quick directions that can help appropriately support the survivor of the alleged incident.

Hostility will not be taken against anyone who raises good faith concern about behavior prohibited by this CoC. Such a hostile situation constitutes a violation of this CoC.

**CONSEQUENCES OF VIOLATION OF CODE OF CONDUCT**

Any violation of this Code of Conduct by Contractor Personnel may have serious consequences, including termination of job and possible referral to the legal authorities.

FOR CONTRACTOR PERSONNEL:

I have a written copy of this Code of Conduct in a language I understand. If I have any questions about this Code of Conduct, I understand that I can contact *[insert the name of the Contractor's gender-based discrimination contact],* requesting clarification*.*

Contractor Personnel name: *[Insert name]*

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: (month/day/year): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Countersignature of the authorized Contractor Representative:

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: (month/day/year): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# ANNEX 3- RECORDS OF MEETINGS AND CONSULTATIONS

**Records of Meetings held in Kocaeli between 28.04.2025 and 12.06.2025**

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| --- | --- | --- |
|  | **Location** | **Institution** |
| **1** | Kocaeli/Gebze | Kocaeli Gebze Municipality |
| **2** | Kocaeli/Dilovası | Kocaeli Dilovası Municipality |
| **3** | Kocaeli/İzmit | Kocaeli İzmit Municipality |
| **4** | Kocaeli/Körfez | Kocaeli Körfez Municipality |
| **5** | Kocaeli/Darıca | Kocaeli Darıca Municipality |
| **6** | Kocaeli/İzmit | Chamber of Commerce and Contractors’ Association |
| **7** | Kocaeli/ Kartepe | Kocaeli Kartepe Municipality |
| **8** | Kocaeli/Derince | Kocaeli Derince Municipality |
| **9** | Kocaeli/Gölcük | Kocaeli Gölcük Municipality |
| **10** | Kocaeli/Çayırova | Kocaeli Çayırova Municipality |
| **11** | Kocaeli/Karamürsel | Kocaeli Karamürsel Municipality |
| **12** | Kocaeli/Başiskele | Kocaeli Başiskele Municipality |
| **13** | Kocaeli/Körfez | Union of Chambers of Turkish Engineers and Architects (UCTEA) |
| **14** | Kocaeli/Kandıra | Kocaeli Kandıra Municipality |
| **15** | Kocaeli/İzmit | Tepecik Neighborhood Muhtar’s Office, İzmit District |
| **16** | Kocaeli/Darıca | Çakmak Neighborhood Muhtar’s Office, Darıca District |
| **17** | Kocaeli/İzmit | Coordination Office of Muhtars |
| **18** | Kocaeli/ Gebze | Osman Yılmaz Neighborhood Muhtar’s Office, Gebze District |
| **19** | Kocaeli/Körfez | Kuzey Neighborhood Muhtar’s Office, Körfez District |
| **20** | Kocaeli/Derince | Çenedağ Neighborhood Muhtar’s Office, Derince District |
| **21** | Kocaeli/Gölcük | Dumlupınar Neighborhood Muhtar’s Office, Gölcük District |
| **22** | Kocaeli/Gölcük | Merkez Neighborhood Muhtar’s Office, Gölcük District |
| **23** | Koaeli/İzmit | The Women and Democracy Foundation (KADEM) |
| **24** | Kocaeli/İzmit | East Marmara Development Agency (MARKA) |
| **25** | Kocaeli/İzmit | Kocaeli Ecological Life Association |
| **26** | Kocaeli/İzmit | Kocaeli Governorship Violence Prevention and Monitoring Center (ŞÖNİM) |
| **27** | Kocaeli/İzmit | Kocaeli City Council |
| **28** | Kocaeli/Gebze | Mustafa Paşa Neighborhood Muhtar’s Office, Gebze District |
| **29** | Kocaeli/Darıca | Kazım Karabekir Neighborhood Muhtar’s Office, Darıca District |
| **30** | Kocaeli/İzmit | Kocaeli University |
| **31** | Kocaeli/Gebze | Gebze Technical University |
| **32** | Kocaeli/İzmit | Urban Transformation Branch Directorate |
| **33** | Kocaeli/Kartepe | Kocaeli Provincial Directorate of Disaster and Emergency Management (AFAD) |

**Kocaeli Meeting Notes**

**Kocaeli Gebze Municipality**

Gebze Municipality stated that the goal is to transform the building stock approved prior to 1999—which has deteriorated over time—in a controlled and planned manner. Following the 1999 earthquake, zoning plans were revised to allow higher building heights, which led to irregular development in certain areas. To address this issue, planning notes and regulatory mechanisms were implemented to support block-based transformation. Parcels smaller than 750 m² are eligible for certain exceptional incentives but are excluded from standard transformation provisions. Therefore, parcel consolidation was recommended. Construction incentives are scaled based on parcel size, with additional requirements and benefits implemented for areas larger than 20,000 m². Construction is not permitted in protected, forested, or other designated areas, even if a building registration certificate has been issued. In transformation decisions, increases in property value are also considered in addition to zoning provisions. For parcels smaller than 750 m², simplified permitting procedures were implemented, allowing the permitting process to proceed without including areas excluded from the Floor Area Ratio (FAR) calculation. Reconstruction permits are granted for previously licensed buildings.

The Municipality reported that demolition records are systematically archived, and that significant progress has been made in digital municipal services over the past two years. It also expressed a willingness to share data. Province-wide, approximately 200,000 buildings constructed before 2007 have been assessed; observational studies have been completed for 158,000 of them, and around 130,000 residential units have been identified as high-risk. Izmit, Gebze, and Darıca were listed as the districts with the highest concentration of risky buildings. Early engagement with rights holders was emphasized as a key component of the transformation process. Depending on the performance of project designers, permitting procedures may take between 1 and 1.5 years. However, these timelines can be significantly shortened through the involvement of qualified professional teams.

There are currently 12 contractors in Kocaeli classified under Groups A and B, two (2) hold Group A certification. It was also mentioned that the transformation planned for Mevlâna Neighborhood is expected to be redirected to Rana Neighborhood. In addition, several muhtars expressed requests for comprehensive transformation efforts in their respective neighborhoods. Due to the balance between industrial and residential zones in the district, the housing stock was described as structurally mixed. Differences in social and economic conditions between rural and central neighborhoods were reported to influence the level of willingness to participate in the transformation process.

**Kocaeli Dilovası Municipality**

Information was provided during the meeting regarding the loan and financial support mechanisms under the CDRC Project. The district’s current socio-demographic structure was evaluated, and it was noted that due to the high concentration of industrial and storage areas, the housing stock largely consists of unplanned and structurally risky buildings, resulting in a significant need for transformation. It was stated that issues stemming from shared title deeds and complex ownership structures slow down the transformation process, and that reaching consensus among co-owners is often challenging. Therefore, introducing flexibility within the central regulatory framework was highlighted as a critical need. Regarding contractor participation, it was noted that the number of contractors in the district with sufficient technical capacity is limited.

**Kocaeli İzmit Municipality**

During the meeting held with representatives of Izmit Municipality, information was provided regarding the purpose, scope, and implementation principles of the CDRC Project. Additionally, details were shared on the inventory studies, risk analyses, and identified pilot planning areas conducted across Kocaeli Province. It was stated that the transformation of at least 5,000 independent units is targeted citywide, and that preliminary feasibility studies have been completed accordingly. Regarding the construction phase, it was noted that regular site inspections would be carried out by E&S and technical specialists from UTP PMU of the MoEUCC and the WB, and that full compliance with environmental and social standards is required. It was emphasized that loan support could be suspended in cases where violations of permitting conditions are identified.

Attention was drawn to the physical conditions of existing structures surrounding the state hospital, and it was underlined that these areas need to be improved in terms of health and safety standards. In areas declared as reserve zones—particularly parcel 4125—the demolition and reconstruction processes are being implemented gradually, with zoning plan revisions applied in phases and on a parcel basis. This phased approach is intended to address budgetary and logistical constraints. Methods developed to ensure consistency between new permitting procedures and existing practices were also shared.

It was discussed during the meeting that a minimum area of 750 square meters is required for transformation practices, and that these areas must consist of at least two parcels or multiple blocks combined. Four main transformation zones have been designated, and block-based consolidations are being enabled. Construction incentives have been standardized based on parcel size: parcels between 750–1500 m² are granted additional floor area and one additional story, while parcels between 1500–3000 m² are permitted to build up to five stories. For parcels smaller than 750 m², special planning notes for risky structures have been activated, allowing the demolition and reconstruction of damaged buildings with licenses or building registration certificates.

**Kocaeli Körfez Municipality**

The existing building stock in Körfez district has been characterized as a mixed residential structure shaped by industrial and port-related activities, which has created a strong need for urban transformation. It has been noted by representatives of the municipality that shared ownership is widespread in the district, and that a lack of consensus among rights holders constitutes one of the main factors contributing to delays in the process. Efforts have been made by Körfez Municipality to expedite permitting procedures; however, delays may still occur due to incomplete documentation and technical errors in submitted project files. Inconsistencies identified in geotechnical surveys and structural project approvals have also been reported to impact permit timelines. With regard to contractor applications, the number of qualified contractors in the area has been described as limited. As a result, the need to clarify contractor qualification criteria has been underlined. In terms of loan usage, the borrowing capacity of low-income groups has been identified as limited, and it has been suggested that greater flexibility in income assessment criteria would help increase participation rates.

**Kocaeli Darıca Municipality**

During the meeting held with representatives of Darıca Municipality, the socio-demographic structure of the district was discussed. Due to the district’s status as a high in-migration area, the density of a young population, and the dominance of low-income groups, possible challenges in loan repayment were noted. It was emphasized that households with fixed incomes and rental obligations may have limited repayment capacity, making social support mechanisms—such as additional interest rate discounts and flexible payment plans—critically important. According to municipal representatives, while residents in some neighborhoods are willing to participate in the transformation process, the prevalence of shared ownership structures complicates consensus among rights holders and causes delays. Regarding contractor applications, the number of qualified contractors with appropriate classification in the region was described as limited. It was reported that firms with implementation experience in demolition and reconstruction are generally preferred, and that the requirement for G-class contractors may slow down the implementation of certain projects.

**Chamber of Commerce and Contractors’ Association Meeting**

The CDRC Project, supported by the World Bank, was introduced to representatives of the Kocaeli Chamber of Commerce and the Contractors' Association. The Project aims to establish resilient cities across Türkiye in response to risks associated with earthquakes and climate change. Contractor representatives brought attention to several challenges encountered during implementation. Inconsistencies in the progress and payment process, financial risks caused by fluctuations in material and labor costs, and uncertainties in the income verification procedures were noted as factors hindering participation in the Project. Reaching consensus among rights holders in shared title deed properties was reported to cause significant delays. Regulatory revisions at the national level were suggested as a potential solution to address these issues.

**Kocaeli Kartepe Municipality**

Representatives of the municipality, the project coordination team, and relevant technical personnel took part in the meeting. Information was provided regarding the overall framework, objectives, and implementation processes of the CDRC Project.

During the meeting, it was shared that Kartepe Municipality has a digital archiving infrastructure. It was noted that while many contractors are able to obtain construction permits, only a limited number can obtain demolition permits, as few firms possess the required qualifications. Currently, only one contractor in the district is authorized for demolition permits, and to date, only six demolition permits have been issued. Considering the existing building stock, it was stated that approximately 136 additional demolition permits are needed. A question was raised regarding whether documents previously issued by the municipality—stating that “abandoned and severely deteriorated structures are present at this location”—would be accepted under the Project. It was emphasized that the validity of such documents needs to be clarified.

Municipal representatives stated that the unplanned and aging building stock in the district poses a significant risk. They also indicated that public interest in the Project is high; however, challenges are experienced in obtaining the technical documentation required under current regulations during the application process. In this context, it was assessed that increasing contractor capacity and the number of firms eligible to receive demolition permits would help accelerate the transformation process.

**Kocaeli Derince Municipality**

During the discussions, Derince district was described as a region that has a positive and favorable approach toward urban transformation practices. The municipality was reported to show interest in the Project both at the technical and institutional levels, which is expected to enable the effective implementation of activities at the local scale.

The areas planned for urban transformation within the district were reported to be largely parcel-based and dispersed, and it was stated that shared title deeds make it difficult for rights holders to reach consensus, which may slow down the application process. Regarding technical consultancy and field supervision processes, it was emphasized that more frequent monitoring of projects on-site would contribute both to improving construction quality and to reducing environmental impacts.

**Kocaeli Gölcük Municipality**

The CDRC Project was introduced during the meeting, highlighting its objective to improve urban resilience across Türkiye, particularly in regions with high earthquake risk. It was assessed that the existing institutional capacity of the municipalities in Gölcük and the Kocaeli region, as well as their technical staff and past experience in similar projects, would contribute to the effective implementation of the process. It was also noted that much of the building stock developed after the 1999 Marmara Earthquake still includes risky structures, and therefore, the need for transformation in the district continues.

**Kocaeli Çayırova Municipality**

Issues related to loan and support mechanisms under the urban transformation process were addressed in response to inquiries raised by participants during the meeting. It was assessed that the demand for urban transformation in Çayırova district has increased in recent years due to rapid population growth and intensified construction activities, and that the existing building stock—particularly older structures—poses significant risks. In relation to contractor applications, it was noted that the number of contractors in the district with adequate technical capacity is limited, and that increasing the number of firms authorized to obtain demolition permits would help expedite the transformation process.

**Kocaeli Karamürsel Municipality**

Information was provided on the scope, objectives, and implementation process of the CDRC Project, which aims to establish resilient cities across Türkiye against risks arising from earthquakes and climate change. It was stated that, in order for the transformation process to be legally initiated, written consent must be obtained from a simple majority of unit owners (50% +1 person) in accordance with Law No. 6306 on the Transformation of Areas Under Disaster Risk. Considering the high number of risky buildings in Karamürsel district and the potential hazards posed by these structures, it was expressed that the municipality is ready to contribute to the Project activities at the highest possible level.

**Kocaeli Başiskele Municipality**

Information was provided on how the CDRC Project will be implemented at the local level, including its scope and objectives. The Project was defined as a program that addresses both physical transformation and the promotion of social equity and inclusion. Taking into account existing social and economic vulnerabilities, it was noted that flexibility mechanisms have been developed to ensure the participation of disadvantaged groups in the process. In this context, financial instruments offering interest rate reductions and payment facilities are available for specific individuals based on entitlement criteria.

**Union of Chambers of Turkish Engineers and Architects**

Information was provided in the meeting regarding the loan support offered within the scope of the CDRC Project. It was stated a person can benefit from the loan only for one risky independent unit. It was explained that payments to contractor companies would be made based on the progress of the construction works through the progress payment method, and that these payments would be transferred from the blocked account of the rights holder to the contractor’s approved account. Additionally, it was noted that contractors would be issued a certificate of completion only after obtaining the occupancy permit for the building. Representatives of TMMOB emphasized that conducting inspection processes in a transparent, standardized, and regular manner is essential for ensuring sectoral credibility; they also noted that professional chambers could contribute to the development of technical standards, and that enhancing cooperation in this regard would be beneficial.

**Kocaeli Kandıra Municipality**

Participants were informed in the meeting about the financial support mechanisms offered under the CDRC Project. During the discussion held with Kandıra Municipality, various questions were raised regarding whether the Project would cover only specific areas or be implemented throughout the entire province, and particularly how it would be carried out in rural areas. Participants emphasized the high costs of the technical tests required for risk assessment, noting that this has negatively impacted the application process, especially in rural areas with low-income populations. It was also noted that in certain rural areas of Kandıra, some plots lack development right, making it impossible to rebuild structures even if they are demolished. Furthermore, the prohibition on issuing new permits for parcels located within the ISU (Kocaeli Metropolitan Municipality’s water authority) watershed boundaries, where the construction of multiple buildings is not allowed, was emphasized as a major factor complicating the transformation process in rural areas.

**Tepecik Neighborhood Muhtar’s Office, İzmit District**

An information meeting regarding the CDRC Project was held in Tepecik Neighborhood of Izmit district. During the meeting, information specific to the neighborhood was provided within the scope of the Project, and brochures were requested to ensure that the Project reaches a broader segment of the local community. Several concerns related to project implementation were also raised during the discussion. It was noted that approximately 35–40% of the buildings in and around the neighborhood are subject to mortgage liens, and that the current building heights do not comply with the existing zoning plan. It was stated that these issues may negatively affect the willingness of rights holders to participate in the Project.

**Fevzi Çakmak Neighborhood Muhtar’s Office, Darıca District**

An information meeting regarding the urban transformation project was held in Fevzi Çakmak Neighborhood in the Darıca district. During the meeting, it was stated that the project was viewed favorably by the neighborhood residents, and that support would be provided through methods such as meetings and brochures to inform the public. It was emphasized that this support is not limited to Fevzi Çakmak Neighborhood but covers the entire Darıca district. During the meeting, several streets with a high concentration of risky structures in the neighborhood were identified, and it was particularly emphasized that the inclusion of Piyale Street, Özden Street, and Sancaktar Street within the scope of the project is of significant importance. In addition, it was stated that support would be provided through the relevant directorate to ensure coordination among the muhtars in Darıca district. It was further noted that the establishment of an Urban Transformation Information Office in the district is under consideration within the scope of the Project.

**Coordination Office of Muhtars**

An information meeting was held with the Directorate of Muhtars and the Muhtars’ Coordination Unit of Kocaeli Metropolitan Municipality. During the meeting, the relevant units expressed their support for the CDRC Project and noted that, instead of conducting neighborhood-based visits to individual muhtars, it would be more practical to organize a centralized presentation for all muhtars at the municipality’s meeting halls. They also stated that they could provide the necessary support for this initiative. In addition, it was noted that they could contribute to public awareness efforts by making brochures available at the muhtar offices. During the meeting, it was also suggested that increasing the amount of loan support provided under the Project and raising the upper limit for a single independent unit would be particularly beneficial in the context of Darıca district.

**Osman Yılmaz Neighborhood Muhtar’s Office, Gebze District**

An information meeting was held at the Muhtar’s Office of Osman Yılmaz Neighborhood in Gebze District. It was stated that there was a positive approach toward the CDRC Project. The neighborhood is predominantly inhabited by retirees and includes cooperative housing blocks built in the 1980s and 1990s, which were considered a priority for urban transformation. It was reported that residents of these cooperative buildings had a positive view of the project; however, no formal agreement has yet been reached. A request was made for brochures about the project to be distributed both to residents of these buildings and to all residents of the neighborhood. Yiğit Site, Özlem Site, Balaban Site, Filiz Site, Tanyeri Site, and Askar Site were identified as priority structures for transformation, and it was also suggested that Barboros and Bahariye Streets be included in the project scope. Additionally, it was mentioned that some detached houses built in the 1990s in the neighborhood may also require urban transformation.

**Kuzey Neighborhood Muhtar’s Office, Körfez District**

An information meeting was held at the Muhtar’s Office of Kuzey Neighborhood. Details regarding the transformation process of risky structures under the CDRC Project were provided. It was stated that there was a positive approach toward the project and that the process was supported. However, it was also mentioned that the low-income level in the neighborhood and property ownership issues, such as land registry records on some parcels, could negatively affect the demand for the project. A request was made for the preparation and distribution of informational brochures to ensure more accurate communication of the project to the public and neighborhood residents.

**Çenedağ Neighborhood Muhtar’s Office, İzmit District**

Within the scope of the CDRC Project, information was provided regarding the transformation process of risky buildings. The Project was expressed to be supported by the muhtar of Çenedağ Neighborhood, and it was emphasized that Çenedağ should be considered as one of the priority areas for transformation due to its current building stock. It was noted that many buildings which were severely damaged during the 1999 Marmara Earthquake are still being used, posing a significant risk, and it was underlined that the transformation activities should be initiated without delay. The importance of implementing the process on a large scale and through a phased planning approach was emphasized.

**Dumlupınar Neighborhood Muhtar’s Office, Gölcük District**

During the meeting held with the muhtar of Dumlupınar Neighborhood, information was provided regarding the transformation process of risky buildings within the scope of the CDRC Project. It was noted by the muhtar that many buildings damaged during the 1999 Gölcük Earthquake are still in use, and the urgency of initiating the transformation was emphasized. In addition, the importance of providing flexible loan conditions and additional financial support to facilitate access to the Project for low-income citizens was underlined.

**Merkez Neighborhood Muhtar’s Office, Gölcük District**

Within the scope of the CDRC Project, information was provided regarding the transformation process of risky buildings. It was stated by the muhtar of Merkez Neighborhood that the neighborhood has a high proportion of retirees, and this group does not consider the current loan conditions to be sufficiently appealing. It was further noted that the insufficiency of rental assistance may lead to hesitations among some citizens regarding participation in the Project.

**The Women and Democracy Foundation (KADEM)**

During the meeting held with the Kocaeli Representative Office of the Women and Democracy Foundation (KADEM), information was provided regarding the transformation process of risky buildings within the scope of the Climate and Disaster Resilient Cities Project. It was stated by the KADEM Kocaeli Representative that conveying the Project to the foundation was considered important, as women play a decisive role in household decision-making processes and the Project holds particular significance for female-headed households. During the meeting, it was communicated that an additional interest rate discount would be applied in cases where the person responsible for sustaining the household is a woman. It was expressed that this advantage would be conveyed to women and would encourage participation in the Project.

**East Marmara Development Agency (MARKA)**

During the meeting, the stakeholders displayed a generally positive and constructive approach for the Project. It was stated that the Project is considered to offer significant opportunities for citizens and to provide economic advantages. It was noted that the loan supports and transformation processes are regarded as concrete contributions to the improvement of living conditions for the local population. Furthermore, it was indicated that support would be extended for information and promotional activities to ensure broader dissemination of the Project at the local level. In this context, it was conveyed that citizens could be informed and guided through active involvement, and that the dissemination of Project-related knowledge within communities could be made to convey the information about the Project to their communities, provided that adequate informational materials are made available.

**Kocaeli Ecological Life Association**

During the meeting, the CDRC Project was introduced, and information was provided regarding the loan support offered under the Project. It was stated that the implementation of the Project through direct engagement with non-governmental organizations was considered important. Considering the established way of life in rural areas, it was assessed that the implementation of the Project in such regions would provide significant advantages. It was noted by the representative that various village visits had previously been conducted, during which direct contact had been established with rural residents. In this context, it was expressed that active contributions could be made in the field to ensure clearer communication of the Project in rural areas.

Comprehensive explanations were provided in response to the questions raised about block-based transformation. It was conveyed that, if multiple parcel owners located within a single block reach an agreement among themselves, block-based transformation could be carried out through land consolidation in line with the current zoning plan. It was stated that this model of transformation would contribute to the healthy renewal of the physical environment and would enable rights holders to proceed with less financial burden.

**Kocaeli Governorship Violence Prevention and Monitoring Center (ŞÖNİM)**

During the meeting, the CDRC Project was introduced, and based on the information shared regarding the loan support provided under the Project, it was emphasized that the multifaceted nature of the Project has created a positive impression within the community. It was stated that, in order to strengthen stakeholders’ trust in the Project, a communication strategy should be developed that reflects the Project more effectively and considers stakeholder expectations.

In addition, it was stated that informative activities targeting parents could be organized in collaboration with the Ministry of National Education, that voluntary information efforts could be carried out in public spaces, and that the distribution of brochures and materials to be prepared would contribute to the overall information process. It was also noted that incorporating Project content into internal institutional training programs would be beneficial.

**Kocaeli City Council**

During the meeting held with the City Council, the CDRC Project was introduced, and information was provided regarding the loan support offered under the Project. The objectives of the Project, the implementation process, and the financial supports were outlined. Clarifications were made regarding the loan conditions, application types, and interest rate reduction criteria. It was conveyed during the meeting that brochures to be prepared within the scope of the Project would be needed to support the information process, and that sharing these materials with local stakeholder institutions would be considered beneficial. The financial supports, technical conveniences, and the roadmap planned for the transformation process were assessed as an important need specific to Kocaeli. At the conclusion of the meeting, it was emphasized that the local dissemination of information is of particular importance, and that enhanced collaboration among stakeholders would contribute to increased participation.

**Mustafa Paşa Neighborhood Muhtar’s Office, Gebze District**

During the information meeting held with the muhtar of Mustafa Paşa Neighborhood in Gebze, it was conveyed that a significant number of risky buildings are present in the neighborhood, and that financial conditions are considered a determining factor in the participation of low-income citizens in the transformation process. In this regard, it was emphasized that flexibility in loan conditions should be ensured and that tailored support mechanisms for low-income groups should be established. It was assessed that the introduction of flexible payment plans and the provision of additional financial assistance for low-income households would facilitate access to the Project. A request was made for brochures to be prepared and distributed using simple language to enhance public understanding of the Project. At the end of the meeting, it was expressed that active support would be provided by the muhtar for the implementation of information and guidance activities in the neighborhood.

**Kazım Karabekir Neighborhood Muhtar’s Office, Darıca District**

During the information meeting held with the muhtar of Kazım Karabekir Neighborhood, it was indicated that the project was positively received and that the residents of Darıca were considered ready for transformation. It was noted that there is a high demand for urban transformation in the district, with approximately 380 independent units having already submitted signed petitions in support of the process. It was emphasized that a block-based transformation model was considered more suitable for Darıca, particularly due to the problematic ground conditions in the neighborhoods of Osmangazi, Nenehatun, and Kazım Karabekir, which were recommended to be prioritized as transformation areas. It was further noted that some buildings damaged during the 1999 earthquake are still in use, thereby underscoring the urgency of the transformation. It was suggested that information and engagement activities could be conducted more effectively through the muhtars, and support was expressed for the organization of a large-scale meeting involving all neighborhood muhtars. At the conclusion of the meeting, it was indicated that active contribution would be made by the muhtar to the site visits and information activities to be carried out as part of the Project.

**Kocaeli University**

During the meeting, information was provided on the activities being carried out in Kocaeli as part of the CDRC Project. Questions were raised regarding applications for retrofitting, but it was clarified that this option is currently inactive. Since retrofitting costs often match or exceed the cost of new construction, available financing has been primarily allocated to reconstruction processes, some stakeholders expressed. It was noted that retrofitting demands may be reconsidered in the future. The requirement for contractors participating in the Project to possess at least a Class G qualification was underlined, along with the expectation of full compliance with the province-level Environmental and Social Management Plan and the C-ESMP Checklist. A declaration of alignment has been submitted by contractors in this regard. Following the implementation model used in Izmir, it was noted that environmental and social impacts are regularly monitored, occupational health and safety practices are implemented, waste is managed effectively, and working hours compatible with community life are observed on site. It was stated that the Project is based on existing zoning plans, and any increase in FAR or construction incentives is under the authority of municipalities. The applied financing model was explained as one in which loans are kept in blocked deposit accounts opened in the names of rights holders, and payments to contractors are made progressively in line with construction progress. It was shared that in certain municipalities, permit and construction fees have been waived and exemptions have been granted for excavation disposal fees, and such practices were seen as encouraging for the transformation process. The coordination established with district municipalities in Kocaeli was noted to have contributed to the acceleration of permitting procedures. At the end of the meeting, it was stated that field experience, contractor guidance, and information efforts targeting rights holders are regularly shared with the Ministry and the World Bank, and that feedback received is incorporated into the implementation of the Project.

**Gebze Technical University**

A meeting was held with Gebze Technical University where parcel-based and block-based urban transformation approaches were comparatively discussed. It was indicated that, due to physical constraints such as sloping terrain and narrow road widths, block-based transformation was considered unavoidable in certain areas. Parcel-based transformation was found to be inadequate in meeting technical requirements, such as those imposed by parking regulations, and it was emphasized that transformation decisions should be made based on pre-existing inventory studies and spatial analyses. It was reported that various incentives have been provided by Kocaeli Metropolitan Municipality to promote transformation; however, in some areas, the process was interrupted due to the reduction of building rights through plan notes. It was noted that this issue could be addressed by revising zoning regulations and plan notes. The need for urban transformation to be addressed not only at the parcel or block level but on a regional scale through an integrated planning approach was noted as essential. In this context, it was proposed that technical commissions should evaluate regional planning decisions in alignment with architectural design principles. In World Bank–supported projects, it was stated that the Bank monitors whether projects comply with national environmental, social, and technical regulations. It was pointed out that some plans did not align with population projections due to the lack of expansion in social infrastructure areas, indicating the need for a more holistic planning approach. The main challenge in urban transformation was identified as a lack of planning rather than financial resources. It was noted that economic dynamics had already begun to drive transformation in certain areas. Within this framework, the importance of clearly defining the purpose and target groups of the financial supports was emphasized. Although Law No. 6306 was enacted to support disaster-risk-oriented transformation, it was pointed out that this objective has not been fully met in practice, and that whether the financial support provided is genuinely beneficial for rights holders should be carefully evaluated. It was noted that transparent cost definitions in contracts are critical to prevent unjust gains and to ensure that financial support reaches only those in real need. The fact that transformation cannot be implemented citywide at once was acknowledged, and it was suggested that a prioritization approach and a controlled transformation process must be designed. Although credit mechanisms were introduced as a solution, they were found to be insufficient for vulnerable groups, as such mechanisms tend to be accessed by those with greater access to information and influence. In socioeconomically fragile neighborhoods such as Tavşantepe, it was reported that this model was not feasible due to factors such as long-term indebtedness and lack of process transparency. It was stated that, unless loans are aligned with actual economic conditions, they may pose financial risks for citizens, thereby making feasibility studies essential. The importance of transparent management of transformation processes by technical institutions and providing guidance to citizens was emphasized. It was stated that urban transformation should not be handled entirely by the construction sector, and that long-term planning models and architectural approaches should be incorporated. Although topics such as certification and sustainability were frequently mentioned, it was reported that they had not yet been adequately reflected in actual implementation, and that the potential of transformation had not been fully realized. In historic areas, it was stated that complex ownership structures and the presence of protected assets had resulted in social consequences following physical interventions. Therefore, the consent of rights holders was noted to be as important as physical improvements in these areas. It was reported that some residents were reluctant to evacuate despite technical risks, which was attributed to the lack of strong communication and persuasion strategies. The integration of social support mechanisms into the transformation process was considered necessary. Logistics and environmental management were also identified as critical issues, as important as the technical implementation of the project. It was reported that activities such as material transportation, waste management, and the use of heavy machinery had direct impacts on urban life. It was stated that the World Bank applies strict supervision in these areas, and that technical consultants are required to submit detailed reports. Rapid correction of identified deficiencies was considered essential, as otherwise financial risks may arise. Compliance with environmental and social standards was therefore regarded as equally important as physical works. Collaboration between universities and local governments was noted to have the potential to enhance project quality. Universities were reported to be willing to carry out integrated fieldwork at the graduate and doctoral levels; however, these collaborations have not been sustained due to bureaucratic barriers. The lack of institutional continuity was identified as a factor weakening the process.

**Urban Transformation Branch Directorate**

During the meeting, general information was provided about the CDRC Project, which is being implemented with the support of the World Bank. In line with the questions raised by participants, detailed explanations were provided regarding the project implementation procedures and the credit utilization process. It was asked why Type-2 (retrofitting) applications are not active in Kocaeli; in response, it was explained that retrofitting costs often exceed the cost of constructing a new building, and therefore the available financial resources have been directed primarily toward reconstruction. It was stated that the approved loan amounts are transferred to the blocked accounts of the rights holders, and that payments to contractors are made based on construction progress. It was emphasized that credit cannot be used for buildings where construction has already started and reached the foundation concrete stage, and that contractors must hold at least a Class G license and possess various technical and administrative documents. For buildings with established condominium ownership, it was noted that only one owner per independent unit may utilize the loan once, and that the buildings must be free from mortgages, liens, or legal proceedings. It was also noted that further information would be provided in the coming period regarding loan eligibility for properties that gained condominium status through the building amnesty, and that changes to zoning status and plan notes would be made. Finally, it was explained that a first-degree mortgage would be placed on the unit at the end of the credit utilization process, and therefore a second bank loan would not be possible.

**Kocaeli Provincial Directorate of Disaster and Emergency Management (AFAD)**

During the meeting, general information was provided regarding the scope, implementation, and application procedures of the CDRC Project, which is being implemented with the support of the World Bank. Afterward, detailed explanations were given in response to participants' questions concerning technical, administrative, and financial procedures. Within the scope of the contractor application process, the qualifications required of contractors and the progress-based payment structure were outlined. It was noted that direct engagement between rights holders and contractors can complicate the process and may result in grievances. It was asked whether the Project is limited to residential units or if workplaces can also benefit; it was clarified that workplaces classified as risky structures are also eligible. It was emphasized that environmental and social considerations are taken seriously during construction, and that regular inspections are conducted to ensure compliance.

Questions were raised regarding whether additional core sampling is required for moderately damaged buildings that already have risk assessment reports; in response, it was underlined that updated risk reports must be obtained through new core samples. It was reported that approximately 4,000–5,000 independent units in the area have been identified as moderately damaged and should be prioritized; however, under the current scope of the Project, transformation efforts will begin with severely damaged buildings. When asked whether the additional costs that may arise due to ground conditions would be covered, it was stated that such costs must be covered by the rights holders, and proposals on this issue were requested. Regarding rental assistance, it was noted that under a separate program implemented by the Ministry, households whose risky buildings were demolished may apply for rental support of 5,500 TL per month, as determined for the Kocaeli province. In terms of inspections, it was confirmed that the Ministry conducts them regularly and in accordance with official procedures. Finally, a question was raised about where citizens can submit complaints or objections; it was stated that submissions can be made through the Urban Resilience project website.

# ANNEX 4- SAMPLE GRIEVANCE FORM

|  |  |  |
| --- | --- | --- |
| **Şikayetin Alındığı Yer/**  Location of Complaints Received |  | **Tarih/**  Date |
| **Alan Yetkilisinin Adı/**  Name of Person in Charge |  | **Şikayet Kayıt No/**  Complaint Register Number |
| **Şikayete Konu Alanın Koordinatları/**  Coordinates of The Area Subject to Complaint |  | |
| **ŞİKAYET SAHİBİ HAKKINDA BİLGİ / COMPLAINANT INFO**  **Şikayet sahipleri şikayetlerini isimsiz olarak iletebilirler. Ancak kimlik veya iletişim bilgilerinin verilmemesi, başvuru sahibinin, yapılacak düzeltici faaliyetler ve talebin durumu hakkında geri bildirim almasını engelleyebilir.**  **Applicants can submit their requests anonymously. However, if no ID or communication details are provided, this may prevent the applicant from receiving feedback regarding the corrective actions to be taken and the status of the request.** | | |
| **Ad Soyad/**  Name Surname |  | **Şikayetin Geliş Yolu /**  Form of Complaint: |
| **TC Kimlik No/**  Identification Number |  | **Telefon- Ücretsiz hat /**  Phone –Free phone line  **Telefon - Yardım hattı/**  Phone –Free phone line |
| **Telefon/ E-Posta**  Telephone/ E-mail |  | **Yüz yüze /**  Face to face |
| **Mahalle-Köy-İlçe-İl/**  Neighborhood-Village –District - Province |  | **İstişare Toplantısı/**  Consultation meeting |
|  |  | **Dilekçe** / Petition |
|  |  | **Proje web sayfası /**  Project web page |
|  |  | **CİMER /**  CİMER  (Presidential Communication Center) |
| **ŞİKAYET DETAYLARI / DETAILS OF COMPLAINT** | | |
| **Şikayet Konusu /**  Complaint | | |
| **Şikayet sahibi tarafından talep edilen çözüm /**  Solution requested by the Complainant | | |

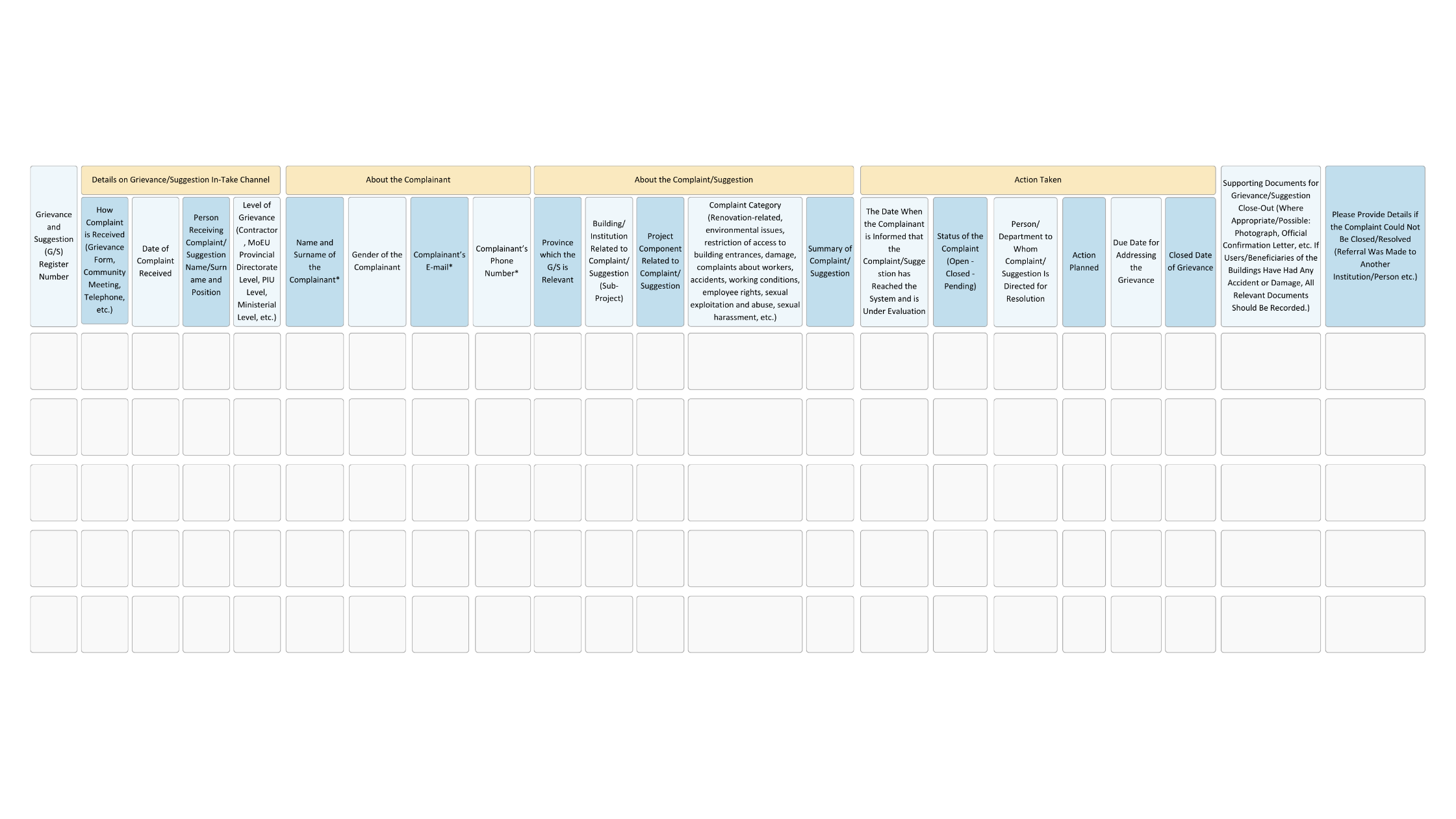
# ANNEX 5- SAMPLE GRIEVANCE CLOSEOUT FORM

|  |  |
| --- | --- |
| **Şikayet Kapatma Numarası:**  Grievance Closure No: |  |
| **Alınması Gereken Acil Önlemleri Tanımlayın:**  Identify the urgent actions |  |
| **Alınması Gereken Uzun Vadeli Önlemleri Tanımlayın (Gerekli İse):**  Identify the long term actions (if necessary) |  |
| **Tazminat Talebi Bulunuyor Mu?**  Is there a claim for compensation? | **Evet/**Yes **Hayır/**No |
| **Düzeltici Faaliyetin Kontrolü ve Kararı /** Control And Decısıon Of Correctıve Actıon | |
| **Düzeltici Faaliyetin Aşamaları**  Stages of Corrective Action | **Verilen Sürenin Sona Erdiği Tarih Ve Yetkili Kuruluşlar**  Date of Expiration of the Given Period and Authorized Institutions |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |
| 6. |  |
| 7. |  |
| 8. |  |
| 9. |  |
| 10. |  |

# 

# ANNEX 6- GRIEVANCE REGISTRATION LOG

Grievance Registration Log



# ANNEX 7- COMMUNITY SAFETY AND TRAFFIC MANAGEMENT PLAN

**1.Purpose and Scope**

The purpose of this plan is to identify and describe various measures to reduce accidents, injuries and similar adverse situations resulting from potential traffic movements throughout the Project, as well as to minimize traffic jam and thus reduce fuel consumption, and to provide safe, fast and easy access for emergency vehicles.

The Traffic Management Plan is part of the Project's Environmental and Social Management Plan. It addresses traffic management of pedestrians, vehicles and construction equipment. This plan aims to minimize the potential impacts that may arise from the addition of vehicle movements generated by Project activities to existing roads.

The following aspects are included in the scope of this plan:

- Legal requirements and standards,

- Key tasks and responsibilities,

- Impact reducing precautions and Management Controls,

- Training, Reporting and Monitoring

This plan may be updated and revised as necessary.

**2. Legal Framework**

**2.1 National Legislation**

- Transportation Law No. 4925 and Highway Transportation Regulation (Official Gazette 19/7/2003 No. 25173). During transportation, tonnage, truck sizes and load limits will be followed according to the legislation and existing roads will be arranged in accordance with Turkish standards according to the anticipated traffic type and capacity.

- Article 134 of the Road Traffic Law No. 2918 and Traffic Regulation,

- Transportation of Hazardous Material on the highway regulation (24.10.2013 Official Gazette; No. 28801)

- Prevention of Pollution Caused by Motor Vehicle Exhaust Gases Declaration (22/10/1992 Official Gazette No. 21383),

**2.2 International Standards**

-IFC Performance Standard 4: Community Health, Safety and Security,

-AIIB ESS 1: Environmental and Social Assessment and Management

-IFC General EHS Guidelines: World Bank Group's Community Health and Safety and EHS Guidelines

According to -IFC PS 4; the role of Project activities in traffic, potential traffic load and road safety risks need to be identified, assessed and monitored. Implementation of the plan should include prevention of traffic accidents to protect lives of local residents and workers through transportation routes.

**3. Roles and Responsibilities**

Roles and Responsibilities

|  |  |
| --- | --- |
| **Roles** | **Responsibilities** |
| Project Management Unit (PMU). | * To ensure that adequate resources are provided to implement this procedure. * Review and update the procedure when necessary |
| Contractor  Management Representative/Project Manager | * Ensuring that the management plan is implemented throughout the project. * Provide oversight and make a routine audit to ensure that relevant activities suitable with the Management Plan. * To Ensure that the activities are carried out in accordance with the Management Plan and relevant Procedures, * Ensuring the necessary equipment and vehicles is in functioning. * Supporting construction personnel in planning and coordinating traffic management in a timely and efficient manner. * Ensuring that the OHS requirements of all personnel are met. * Manage daily material deliveries and vehicle access to the site. * Avoiding heavy traffic loads on frequently used roads, ensuring that access is only through designated routes, and planning the timing of deliveries and access. * Liaise with the construction team in the planning, coordination and monitoring of traffic movements and facilitate the implementation of corrective actions. * Prepare/ensure the preparation of necessary reports and keep accident reports and inspection reports * To ensure that the tools and equipment used is in functioning in accordance with the manufacturer's specifications. |

**4. Mitigation Measures and Management Controls**

**4.1 General Requirements**

General Requirements

| **Project Phase** | **Potential Risk/Impact** | **Mitigation Measures** | **Responsibility** |
| --- | --- | --- | --- |
| All Stages of the Project  (Pre-Demolition, Demolition, and Construction Phase) | Management of traffic and community safety impacts of the project | * Within the scope of the project, determining the roads and streets that can be used by heavy vehicles and those that are not suitable for use and creating a route map accordingly. * Preventing the use of roads that would endanger public health and safety by taking the opinions of local authorities such as headman and municipality during the traffic risk analysis process * Sharing route information, including the roads that will and cannot be used within the scope of the project, with drivers and relevant subcontractors and providing the necessary information/awareness. | Contractor |

**4.2 Province-Specific Requirements**

Province-Specific Requirements

| **Project Phase** | **Potential Risk/Impact** | **Mitigation Measures** | **Responsibility** |
| --- | --- | --- | --- |
| All Stages of the Project  (Pre-Demolition, Demolition, and Construction Phase) | Management of traffic and community safety impacts of the project | * Acting in cooperation with Kocaeli Metropolitan Municipality Transportation Coordination Center Transportation Coordination Center UKOME on issues such as announcing the time intervals when heavy tonnage vehicles transport materials and equipment to/from the site, selecting alternative routes, etc. | Contractor |

**4.3 Sub-project Related Possible Requirements based on Types**

Sub-project Related Possible Requirements Based on Types

| **Project Phase** | **Potential Risk/Impact** | **Mitigation Measures** | **Responsibility** |
| --- | --- | --- | --- |
| All Stages of the Project  (Pre-Demolition, Demolition, and Construction Phase) | Management of traffic and community safety impacts of the project | * The construction site should be closed with a closure curtain (OSB, fence, etc.) in order to prevent unauthorized access to the construction site by third parties. * Separating pedestrian roads from vehicle roads within the construction site, defining a separate transportation route for pedestrians * The presence of blind spots outside the field of vision of machine operators during the movement of construction machinery. Use of pointers to avoid these risks. * The tires of construction machinery and other vehicles should be selected in accordance with the land and climatic conditions, and worn tires should not be used. * Warning the drivers and pedestrians outside the project with the necessary identification and caution plates on the roads and intersections about the construction site traffic * Ensuring that drivers conform to legal speed limits * Taking necessary measures to prevent the spread of dust (watering the construction site, covering the vehicles, etc) | Contractor |

**5. Training, Reporting and Monitoring**

**5.1 Training**

In addition to training on how to comply with environmental and social requirements for the sub-project as a whole, contractors should train their employees on how to comply with applicable mitigation requirements when performing their work. In addition to the Health and Safety training, other environmental and social training (e.g., Code of Conduct, waste management and sanitation) are described in the Kocaeli ESMP. The trainings will include;

* OHS, environmental and social assessments,
* ESMP,
* Community health and safety,
* Community Safety and Traffic Management Plan
* Monitoring and reporting, and
* Other relevant topics.

Additionally, especially the contractor OHS focal point should be trained about the following subjects;

* Reporting of environmental accidents, OHS accidents and accidents that may affect public health and safety, and
* Reporting non-conformities to be identified through the implementation of ESMPs and C-ESMP Checklists (Check Annex 15).

The accident/incident reports of the OHS focal point must include, as a minimum, the following:

* The date on which the incident takes place and, the date on which it is found out if the latter is different
* Description of the incident
* The violated mitigation measures/environmental/social laws
* The parties that are present at the time of the incident
* The corrective actions taken to fix the problem and prevent its recurrence
* All necessary steps that need to be taken to remedy the situation, such as improvement

The non-conformity report must include, as a minimum, the following:

* The date on which the incident takes place and, the date on which it is found out if the latter is different
* Description of the problem
* The violated mitigation measures/environmental/social laws and the World Bank's ESF requirements
* The parties that are present at the time of the incident
* Description of the corrective steps taken
* If environmental damage occurs, a description of necessary follow-up steps or long-term improvement requirements

**5.2 Reporting**

Within the scope of the Project and sub-projects, reporting will be performed in line with the following responsibilities, scope, frequency and requirements:

Table of Reporting Requirements within the Scope of Implementations

| **Reporting Party** | **Reporting Requirements** | **Reporting Frequency** | **Party To Which Reports Will Be Submitted** |
| --- | --- | --- | --- |
| Contractor / Contractor's OHS Focal Point | * Summary of the progress of demolition/retrofitting/construction activities schedule. * Summary of the compliance activities according to the Kocaeli ESMP, neighborhood-level ESIAs (if needed) and sub-project-specific C-ESMP Checklists. Check Annex 15. * Up-to-date list of all accidents, incidents and near-misses that occur during the Project. * Records of E&S trainings provided to personnel. * Tracking information of all past issues still being resolved. * Photos of the Project activities related to the implementation of the C-ESMP Checklist mitigation measures. * Daily compliance checklist of the works that are performed every day on the site. * Outputs of the performed activities in line with the - Provincial Environmental and Social Monitoring Plan presented in Section 10. | Once a month | The PMU individual specialists in the provinces. |
| PMU Individual Specialists in the Provinces | * Important points in the monthly reports of the Contractors / Contractor's focal points * Outputs of the supervision, monitoring and auditing activities * Progress of E&S Audits and ESAPs to be prepared for the Type-III sub-projects, if needed | Once A Month | The PMU Head Office |
| PMU Head Office | Using the reports of contractors and the PMU individual specialists in the provinces and their quarterly site monitoring outputs:   * Summary of the completed demolition/retrofitting/construction activities. * Estimated remaining demolition/retrofitting/construction works and their schedule. * Summary of the compliance activities. * Outputs of the activities in line with the Kocaeli Environmental and Social Monitoring Plans, whose format is presented in Section 10. * Environmental Social, Health and Safety Key Performance Indicators (KPIs), such as: * Statuses of grievances resolved per province, * Properly prepared and approved C-ESMP Checklist per sub-project, (Check Annex 15 for the templare) * Occupational accidents / incidents per province, * Number of ESAPs (which are specific to Type-III sub-projects) whose actions are completed per Type-III sub-projects, and * Ration of recycled construction demolition waste per province (approximately). * Up-to-date list of Environmental, Social and Safety events. * Up-to-date list of all accidents, incidents and near-misses that occur during the Project. * Tracking information of all past issues still being resolved. * Photos of Project activities.   The Project Progress Report, which will include not only the sub-project activities under Component 2, but also the activities under other components | Quarterly | WB |

**5.3 Monitoring**

PMU has the experience and competence to oversee environmental and OHS issues associated with the implementation of the Project's construction activities, in particular in the context of field work, PMU's individual environmental and social experts in the provinces will supervise and monitor the contractors and report any issues identified in the field to the contractors and their liaison officers and agree on steps to rectify these issues. At this point, it should be noted that in an important event or accident that may affect / threaten the environment, occupational health and safety & community health and safety - fatal work accident, environmental spills and accidents that will put community and environmental health at risk, a work accident that may cause disability etc. - contractors will immediately inform the UTP and individual Environmental Specialists hired for provinces and the WB will be informed within 48 hours by the UTP. In such a case, the incident report, which includes (1) Root Cause Analysis studies, (2) measures to prevent the accident / incident from happening again, and specific compensation actions / corrective actions, will be submitted to the UTP by the contractor within 30 working days with the guidance and controls of the PMU individual specialists and the UTP will forward the incident report to the WB. The UTP will also report its findings in this context to the WB with their reporting. For the Project, the WB Project team will also visit Project sites from time to time and/or specifically as needed as part of Project supervision.

OHS Reporting Requirements Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Parameter** | **Parameter Details / Mitigation** | **Monitoring Method and Location** | **Frequency** | **Responsibility** |
| 1 | Community Health and Safety / Traffic | Resolving the traffic congestion problem (if any) which were caused by the demolition activities performed. | Visual observations on and around of the sub-project site. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| 2 | Community Health and Safety | Taking precautions regarding community health and safety (signing, provision of safety lines, informing locals etc.). | Visual observations on and around of the sub-project sites. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Individual Specialists in the provinces |
| 3 | Dust and Noise | Taking compulsory measures within the scope of national legislation and to be detailed in the C-ESMP Checklists and Kocaeli ESMP related to dust and noise. | Visual observations at sub-project sites and impact areas. | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | PMU Independent Specialists of the cities |
| 4 | Sub-project Traffic | Implementation of mitigation measures to be defined in Community Safety and Traffic Plans which will be prepared for each province. | Visual observations on and around of the sub-project sites.  Review of documentation/records such as;   * training records, * speed limit violations, * traffic related grievances | Daily | Contractor / Contractor’s OHS Focal Point |
| Weekly | Contractor / Contractor’s OHS Focal Point PMU Individual Specialists of the cities |

# ANNEX 8- RESOURCE EFFICIENCY AND POLLUTION PREVENTION PLAN

1. **PURPOSE AND SCOPE**

Resource efficiency is the efficient and sustainable use of limited and exhaustible resources such as raw materials, energy and water to create more value using fewer inputs. It can also be defined as doing more with fewer resources and reducing the negative impacts of resource use.

The Resource Efficiency and Pollution Prevention Plan has been developed to identify the primary applicable requirements for waste management for the Project in accordance with relevant national legislation, the World Bank Environmental and Social Framework and relevant Environmental and Social Standards (ESSs). The Plan will be applicable to the retrofitting / demolition / reconstruction activities of the Project's subprojects, particularly under Component 2.

1. **STANDARDS**

World Bank ESF Requirements

ESS3 recognizes that economic activity and urbanization often pollute air, water and soil and consume finite resources that can threaten people, ecosystem services and the environment at local, regional and global levels. Current and projected atmospheric concentrations of greenhouse gases (GHGs) threaten the well-being of current and future generations. At the same time, technologies and practices for more efficient and effective resource use, pollution prevention, and GHG emission avoidance and reduction have become more accessible and available.

ESS3 sets out requirements for addressing resource efficiency and pollution prevention and management throughout the life of the Project, consistent with Global International Industry International Practices (GIIP).

The objectives of the Resource Efficiency and Pollution Prevention and Management Standard are given below:

To promote the sustainable use of resources, including energy, water and raw materials

Prevent or minimize adverse impacts on human health and the environment by preventing or minimizing pollution from project activities

Avoid or minimize project-related emissions of short- and long-lived climate pollutants

Prevent or minimize the generation of hazardous and non-hazardous waste

Minimize and manage the risks and impacts associated with pesticide use.

This plan outlines the resource efficiency and pollution prevention framework to be followed by the contractor.

This plan is prepared for implementation by the Project Management Unit (PMU), contractors and subcontractors. The roles and responsibilities for the implementation of the Plan are presented in Section 6.

1. **POSSIBLE SUB-PROJECT TYPES AND DETAILS**

Potential Sub-Projects under Component 2

The rationale for Component 2 is the need for resilient housing/workplaces in the Project pilot provinces, which will greatly contribute to increased climate and disaster resilience. The Government of Türkiye faces several challenges in implementing the national regulatory framework supporting climate and disaster resilient urban transformation. Key challenges include the need for increased financing for retrofitting/reconstruction activities to meet resilience and energy efficiency standards, and the transfer of funding to municipalities to increase investments in resilient urban infrastructure. Accordingly, the sub-project types according to the activity to be realized can be listed as follows:

* Type-I: Sub-projects involving buildings that have been identified as risky structures but have not been demolished, and for which demolition and reconstruction activities will be carried out.
* Type-II: Sub-projects involving buildings that have been identified as risky structures, but have applied for loans for retrofitting instead of demolition and reconstruction, and accordingly, only retrofitting activities will be carried out.
* Type-III: Sub-projects that have been demolished after being identified as risky buildings and will apply for loans only for reconstruction activities within the scope of Component 2

1. **SUMMARY OF IMPACTS**

Retrofitting, demolition and reconstruction activities will cause noise and air pollution, as well as hazardous material risks such as chemical leakage risks. In addition, basic retrofitting/reconstruction requirements such as concrete, rebar, insulation material, etc., will be required as resources, as well as water for personnel use and fuels for vehicles and equipment.

**Raw materials:** The way materials are used is related to the production and consumption processes. Extracted natural resources are used for manufacturing purposes and then consumed as goods or services. Each process stage generates energy flows and by-products. The by-products are recovered or released into nature as waste and emissions. However, man-made materials are not easily recovered or degraded in nature due to their toxicity and non-degradable nature. Therefore, efficient use of raw materials and by-products is important to save energy and conserve natural resources.

**Energy:** It is accepted that a country's standard of living and energy consumption follow a parallel course. World energy consumption is constantly increasing. Unfortunately, the world's energy needs are mainly met from fossil fuels with limited reserves. Therefore, sustainable energy use should be ensured by reducing the consumption of fossil fuels, reducing greenhouse gas emissions, using energy efficiently and preferring alternative sources.

**Water:** Water resources are important for society and ecosystems and are required for agriculture, husbandry, energy production, navigation, recreation and manufacturing. The main issues related to water use are the abundance, availability and quality of resources in nature. While the status of water resources varies according to local conditions, climate change is also an important factor. As a result of climate change, the water demand of living things increases with increasing temperatures. On the other hand, water and energy systems are interconnected. Energy is required for water pumping, transportation and processing. Therefore, efficient use of water is necessary to improve living standards in the future.

**Wastes:** Project activities will result in the generation of various non-hazardous and hazardous wastes.

Non-Hazardous Wastes

Typical non-hazardous wastes are listed below;

* Household wastes,
* Recyclable waste (e.g., paper, glass, metals, wood waste, trees, cans, textiles, etc.),
* Packaging waste,
* Waste tires and
* Excavation wastes.
* Hazardous Wastes
* The different types of hazardous wastes likely to be generated as a result of the Project activities are listed below:
* Waste batteries and accumulators,
* Waste vegetable oil,
* Medical waste,
* Waste oil (from maintenance of equipment and vehicles, transformers, etc.),
* Waste paint,
* Other hazardous wastes related to operation and maintenance activities and
* Materials in contact with hazardous substances (including pesticide containers).
* Excavation, Construction and Demolition Waste

Soil and rock materials excavated during land preparation and construction will be reused on site as much as possible. Practices will be in place for the management of excess excavated material as well as other construction and demolition waste.

1. **MITIGATION MEASURES**

Resource efficiency is the efficient and sustainable use of limited and exhaustible resources such as raw materials, energy and water to create more value using fewer inputs. It can also be defined as doing more with fewer resources and reducing the negative impacts of resource use.

***Resource Efficiency and Pollution Prevention Plans***

|  | **Mitigation Measures** | **Duties And Responsibilities** |
| --- | --- | --- |
| Air Quality | * Construction or waste materials shall not be burnt in open areas. * Construction machinery will not be left idling for prolonged periods. * Trucks used for material transportation will be covered, and speed limits will be enforced. * All vehicles operating on-site will have valid exhaust emission permits and undergo regular maintenance. * Water spraying will be conducted on transportation routes as needed to prevent dust formation. * Regular maintenance of all vehicles will be ensured to minimize emissions. * If dust is generated during air-powered drilling, mitigation measures such as continuous water spraying or the installation of dust barriers will be implemented. | Contractors |
| Soil and Groundwater | * Residual (excess) concrete from mixer trucks will not be washed on the construction site, its surroundings, or access roads. * Concrete mixer drivers will receive appropriate training on waste management procedures. * Hazardous chemicals and materials will be stored in a designated area to prevent leakage and spillage. * Containers with partially used chemicals will be kept sealed when not in use. In the event of a hazardous substance or waste spillage, containment measures will be implemented to limit exposure. Workers capable of responding to such incidents will be provided with relevant leakage-spillage emergency response training. * Proper spill containment kits will be placed at designated locations within the construction site. | Contractors |
| Solid Waste | * Household waste will be sorted at the source (plastic, glass, paper, etc.) and recyclable waste will be recycled. * Non-recyclable waste will be collected in leak-proof bins and disposed of via the Kocaeli Metropolitan Municipality's solid waste collection system. | Contractors |
| Noise level | * During the construction phase, the engine covers of generators, air compressors, and other mechanical equipment will be kept closed, and the equipment will be placed as far away as possible from residential areas. * The noise generated during the construction phase will be limited to the time periods specified in the permits. Construction activities within or near residential areas will not be carried out during evening and nighttime hours, outside of the designated daytime working hours. * Construction activities will be restricted to daytime hours as much as possible. In the case of activities taking place during evening or nighttime hours, the noise limits of 65 dBA for evening hours and 60 dBA for nighttime hours will be ensured. Additionally, the necessary approval from the Provincial Environmental Board will be obtained for evening and nighttime work. * In case of increased noise levels during construction, measures such as not operating heavy machinery simultaneously or using newer model vehicles as much as possible will be taken. * Residents living near the construction site will be informed throughout the construction period. | Contractors |
| Wastewater | * The wastewater generated during the construction activities will be integrated into the existing sewage system. | Contractors |
| Waste Oils | * Maintenance of machinery and equipment (e.g., oil change, battery replacement, etc.) will be carried out outside the Project Area by qualified service providers. * If oil changes, battery changes, tire changes, etc. are unavoidable at the construction site, dedicated areas (with appropriate drainage) will be used for this purpose. * An impermeable cover will be placed under the vehicles to prevent soil contamination, and this activity will be conducted away from water sources. * In case of any oil/fuel/lubricant spillage or leakage at the construction site, pollution will be controlled using absorbent materials, and contaminated soil (if any) will be removed to a sufficient depth and stored as hazardous waste. * All vehicles used in transportation will be equipped with absorbent material against any leakage or spillage. Workers will be instructed on the use and disposal of materials. Filters or materials saturated with petroleum products will be emptied into a suitable container to remove any free product before disposal. * Waste oils will be temporarily stored, collected and disposed of in separate containers according to the categories specified in the Regulation on Control of Waste Oils. Waste oil will be collected in containers placed on an impermeable surface. Different containers will be used for different categories of waste oil. Waste oil temporary storage containers will be marked "Waste Oil". * Waste vegetable oils will be temporarily collected in special containers. Waste oil will not be allowed to be discharged into receiving environments or toilets/sinks. | Contractors |
| Excavation, Construction and Demolition Waste | * Under no circumstances will excavation, construction, and demolition waste be disposed of on-site. * Only the portion of cut trees and shrubs, such as small branches, leaves, etc., not collected by the relevant forestry authority will be left on site, as this material will contribute to increased growth of local flora through fertilization of the soil. * Areas used for temporary storage of excavated waste will be reinstated as soon as the earthworks/construction activities in each relevant area are completed. * Topsoil will be removed separately from the excavated material | Contractors |

**Duties and Responsibilities**

Duties and Responsibilities

|  |  |
| --- | --- |
| Project Management Unit (PMU) | * Ensure that adequate resources are provided for the implementation of this Plan. * Review and update the Plan, as necessary * Ensure that technical support is provided to contractors for the implementation of the Plan. * Oversee contractor compliance with Project requirements through contractor monitoring and reports. |
| Contractors | * Ensure that this plan is implemented in line with Project standards * Ensure, as its main responsibility, the implementation of the Plan (also by Subcontractors, if any) and report to the PMU on non-compliance and performance of the Plan implementation. * Participate in the development of corrective and/or remedial actions when necessary (e.g., when non-compliances are identified, when there is a change in the relevant legislation, etc.). * Provide relevant trainings. * Carry out internal audits and daily audits and record non-compliances identified. * Ensure that relevant non-compliances are recorded and responded to promptly. * Review and update the Plan when necessary (in coordination with PMU). |

# ANNEX 9- WASTE MANAGEMENT PLAN

**1. Purpose and Scope**

The Waste Management Plan was developed to identify the primary applicable waste management requirements for the Project inccordance with relevant national legislation, the World Bank Environmental and Social Framework and relevant Environmental and Social Standards (ESSs). The Plan will be implemented during retrofitting/demolition/reconstruction phases of sub-projects under Component 2.

Throughout the Project and sub-projects, different types of waste and materials will be generated from different sources and activities. The purpose of this plan is to guide and ensure the collection, separation, storage, processing, transportation, and disposal of non-hazardous and hazardous wastes resulting from Project activities in a way that minimizes impacts on human health and the environment, including minimizing the loss of valuable reusable/recyclable materials.

The plan is in line with national legislation, Resource Efficiency, Pollution Prevention and Management ESS3 requirements and other applicable Good International Industry Practices (GIIPs). The Plan will be implemented systematically throughout the Project and sub-projects along with the following relevant management plans, documents, and procedures:

* Province-based Environmental and Social Management Plan(s) (ESMP),
* Environmental and Social Management Plan Checklist
* Labor Management Procedure (LMP),
* Community Safety and Traffic Management Plan,
* Province-based Pollution Prevention Plans, and
* Stakeholder Engagement Plan (including grievance mechanism)

This Plan is a living document and responsibilities, procedures and compliance actions should be updated as appropriate.

**2.Legal Requirements & Standards**

**2.1 National Legislation**

Environmental Law No. 2872, published in the Official Gazette dated 11 August 1983 and numbered 18132, provides the legal framework for the regulation of sectors and their possible effects on the environment.

Environmental Law has allowed the publication of various regulations. Those related to waste management and what the Project and sub-projects must comply with are explained below.

**2.1.1. Waste Management Regulation**

Waste Management Regulation is the implementing regulation published with a purpose to comply with the European Union Waste Framework Directive. The Regulation was published in the Official Gazette No. 29314 and dated 2 April 2015. The Waste Management Regulation provides a single comprehensive framework for waste management. It has repealed and replaced the Solid Waste Management Regulation and the General Principles of Waste Management Regulation as of April 2015 and the Regulation on the Control of Hazardous Wastes as of April 2, 2016.

Article 9 of the Regulation regulates the obligations of waste producers and waste owners, including:

* Taking necessary measures to minimize waste production.
* Preparing and presenting the waste management plan with measures for the produced wastes and the prevention and reduction it.
* Making annual waste production notifications through the internet-based system of the MoEUCC and
* When required, using the Urbanization and National Waste Transportation Form for wastes (the template is given in Annex 9-A of the Hazardous Waste Control Regulation, which was amended and repealed by the Waste Management Regulation).

**2.1.2. The Regulation on Control of Excavated Soil, Construction and Demolition Wastes**

The Regulation on Control of Excavated Soil, Construction and Demolition Wastes was published in the Official Gazette No. 25406 dated 18 March 2004. Articles 10, 34, 35, 36, 37, 38, 39, 40, 41 and 42 regarding the storage of wastes have been repealed by the Regulation on the Regular Storage of Wastes published in the Official Gazette dated 26 March 2010 and numbered 27533.

The purpose of this regulation is to determine the principles and procedures regarding the collection, temporary storage, transfer, recycling, reuse, and disposal of wastes in an environmentally friendly manner, as well as minimizing excavated soil, construction, and demolition wastes at the source of production.

Pursuant to Article 9 of the Regulation; Facilities producing excavation, construction and demolition waste are obliged to manage waste in a way that minimizes the negative impacts of waste on the environment and human health. Facilities must obtain the necessary permits for the generation, transport, and storage of waste. Facilities are not allowed to dump construction waste on places/locations and facilities other than those permitted by municipal or other authorities.

The regulation also stipulates that the Project owner is responsible for taking the necessary measures to minimize the noise and visual effects and dust emissions during the removal of the excavation material. The activity area should also be closed. In addition, planning should be done so that the amount of excavated soil is equal to the fill volume. Excavated soil should be used within the area of activity as much as possible.

**2.1.3. Packaging Waste Control Regulation**

Packaging Waste Control Regulation was published in the Official Gazette No. 28035 and dated 24 August 2011. The purpose of the regulation:

* To provide certain environmentally specific criteria, basic conditions, and properties for packaging production,
* To prevent the direct or indirect disposal of packaging wastes in a way that harms the environment, and
* To prevent and minimize the creation of packaging waste by using reuse, recycling, and recovery methods.

Packaging Waste Control Regulation states that packaging waste should be collected and stored separately from other wastes in order to ensure to reduce environmental pollution, make maximum use of landfills, contribute to the economy and it is disposed of without harming the environment.

The parties, which produce packaging waste within the borders of municipalities collecting wastes separately, are obliged to deliver the packaging wastes to the responsible municipalities or their contracted and licensed collection/separation organizations.

**2.1.4. Waste Batteries**

The Regulation on Control of Waste Batteries and Accumulators was published in the Official Gazette No. 25569 and dated 31 August 2004. The purpose of the regulation:

* To regulate the legal and technical principles for the determination of policies and programs from production to final disposal of batteries and accumulators,
* To ensure the production of batteries and accumulators with certain environmental criteria, basic conditions, and features,
* To prevent wastes from reaching to receiving environments,
* To provide the necessary technical and administrative standards in its management, and
* To establish a collection system for the recovery and final disposal of waste batteries and accumulators.

According to the regulation, battery and accumulator consumers are obliged to:

* To collect waste batteries separately from domestic waste,
* Delivering waste batteries to collection points to be established by businesses or municipalities that distribute and sell battery products,
* Delivering old accumulators to temporary storage areas created by businesses that distribute and sell accumulator products and those who operate vehicle maintenance and repair shops (accumulators cannot be delivered by waiting for more than 90 days after they become waste),
* Paying a deposit in case of purchasing a new accumulator without delivering the old ones, and
* To ensure that impermeable ground and other necessary conditions are provided in the temporary storage areas where batteries and accumulators will be stored.

**2.1.5. Waste Oil Control Regulation**

Waste Oil Control Regulation was published in the Official Gazette No. 26952 and dated 30 June 2008. The purpose of the regulation:

* To prevent the direct and indirect disposal of electrical waste and electronic waste oils to the environment.
* To ensure its temporary storage, transportation, and disposal without harming the environment and human health.
* To establish the necessary technical and administrative standards in the management of waste oils.
* To determine the necessary principles and programs for the establishment of temporary storage, collection, and disposal facilities, and
* To manage these facilities in an environmentally friendly way.

According to Article 9 of the Waste Oil Control Regulation, waste oil producers are obliged to take the necessary measures to minimize the creation of waste oils, including waste motor oils and residues from the processing of waste oils. Waste oil producers must make waste oil analyzes and report the production amounts to the MoEUCC. Waste oils of different categories should not be mixed with each other or with other hazardous wastes.

Waste oil producers must comply with the provisions of the Hazardous Waste Control Regulation for disposal. All records, including waste oil declaration forms and analysis reports, must be kept for at least five years. Regulations prepared by the MoEUCC should be followed for the transportation of waste oils.

Waste oil must be collected in red colored tanks/barrels, labeled as "Waste Oil". The barrels are placed in the warehouse with provisions for a sealed floor (at least 25 cm thick and lined with epoxy, geo membrane and similar insulating materials) as well as protection from rain.

**2.1.6. Electrical and Electronic Equipment Waste Control Regulation**

One of the main purposes of the Regulation, published in the Official Gazette No. 28300 and dated 22 May 2008, is to determine the methods and targets for minimizing the generation of electrical and electronic waste through reuse, recycling, and recovery.

**2.1.7. Communiqué on Recovery of Certain Non-Hazardous Wastes**

The Communiqué on Recovery of Certain Non-Hazardous Wastes was published in the Official Gazette No. 27967 and dated 17 June 2011. According to this communiqué, non-hazardous waste producers are obliged to prepare and implement a waste management plan for the recovery of these wastes, as well as minimizing their production.

Waste should be stored in sealed (or similar) containers in an impermeable floor and roof area. Non-hazardous waste can be temporarily stored at the construction site until they are recovered, up to one year. Producers are also obliged to send their non-hazardous waste to licensed collection and separation or licensed recycling facilities. In addition, a three-year waste management plan must be prepared and submitted to the Provincial Directorate of Environment and Urbanization.

In addition, it is obligatory to fill in the non-hazardous waste declaration form every year with the information of the previous year and to submit these forms digitally to the MoEUCC. It was also stated that copies of the forms should be kept for 5 years.

**2.2 World Bank ESF Requirements**

**2.2.1. Resource Efficiency, Pollution Prevention and Management - ESS3**

ESS3 recognizes that economic activity and urbanization often pollute the air, water and soil and consume limited resources and can threaten people, ecosystem services and the environment at local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the well-being of present and future generations. At the same time, more efficient and effective resource use, pollution prevention and greenhouse gas emission avoidance and reduction technologies and practices have become more accessible.

Throughout the Project lifecycle, the ESS3 determines the requirements regarding to resource efficiency and pollution[[43]](#footnote-43) prevention and management[[44]](#footnote-44) consistent with Global International Industry Practices (GIIP).

The objectives of the Resource Efficiency and Pollution Prevention and Management Standard are given below:

* To promote sustainable use of resources, including energy, water, and raw materials
* To prevent or minimize adverse impacts on human health and the environment by preventing or minimizing pollution from Project activities
* To prevent or minimize Project-related emissions of short- and long-lived climate pollutants
* To prevent or minimize the generation of hazardous and non-hazardous waste
* Minimizing and managing the risks and impacts associated with pesticide use.

**2.3 European Union (EU) Legislation**

European Union Directive 2000/532/EC2008/98/EC (Waste Framework Directive) predicts the general provisions regarding waste management and determines the basic waste management definitions. It requires the management of waste without endangering human health and harming the environment, and without posing a risk to water, air, soil, plants, or animals, and without causing disturbance due to noise or odors, and without adversely affecting rural areas or areas of special interest. Directive replaced the old EU directive on waste, hazardous waste and waste oils and now covers all wastes defined by Decision 2000/532/EC (i.e., European Waste Codes).

In an effort to adjustment of Turkish environmental protection standards with the EU's Waste Framework Directive (2008/98/EC) and the European Commission Decision (2000/532/EC), which creates a waste list, the Republic of Türkiye the MoEUCC adopted a new waste management regulation that will affect the important waste generating companies in Türkiye. The waste management implementation regulation, published to comply with the Waste Framework Directive, was adopted in 2015. Currently, the waste codes given in Annex 4 of the Turkish Waste Management Regulation are exactly the same as the European Waste Codes.

**3. Roles and Responsibilities**

Roles and responsibilities for the Environmental and Social (E&S) management of the Project are detailed in the Project ESMF. In this context, roles and responsibilities related to asbestos management are given in the table below:

Roles and Responsibilities

| **Roles** | **Responsibilities** |
| --- | --- |
| Project Management Unit  (PMU) | * Ensure adequate resources are provided for the implementation of this Plan. * Review and update the Plan as needed * Ensure that technical support is provided to contractors for the implementation of the plan. * Ensure that relevant training is provided by contractors through review of training records and relevant training documentation. * Supervising the contractor's compliance with Project requirements through contractor monitoring and reports. |
| Contractors | * Ensure that this plan is implemented in line with Project standards * Ensure the implementation of the Plan (also by the Subcontractors, if any) and to report the non-compliances and implementation performance of the Plan to the PMU. * Participate in the development of corrective and/or remedial actions when necessary (for example, when non-compliances are detected or there is a change in relevant legislation, etc.). * Provide relevant training. * Performing internal and daily inspections and recording any detected non-compliances. * Ensuring that relevant non-compliances are recorded and promptly responded. * Review and update the Plan as needed (in coordination with the PMU). * Ensure that asbestos management considerations are added in the daily checklist, which will be included in the monthly report to the PMU. |
| All Personnel | * Participating in training required for asbestos management. * Provide self-competence for the implementation of this plan. |

**4. Waste Management**

**4.1. Waste Management Approach**

The Waste Framework Directive (Directive 2008/98/EC) provides a waste hierarchy that sets priorities for the best overall environmental option in current waste legislation and policy. In this context, the EU waste hierarchy will also be the hierarchical approach of the Project and the waste management will be based on the following in descending order of preference:

EU Waste Hierarchy

No waste production if possible

Reducing waste generation at source

Reuse of waste/excess materials if possible

Recovery/recycling of waste materials, if possible

Disposal of waste off-site by a licensed waste company/municipality

The following good management practices will be used to minimize and appropriately manage site waste:

* Reducing waste generation (through management practices, avoiding or reducing material use, etc.) is the primary objective of this plan.
* Non-hazardous wastes will be separated from hazardous wastes.
* Waste recycling will be mandatory throughout all Project activities and relevant training will be provided.
* Wastes to be sent to licensed recycling/recovery companies will be separated according to their types.
* Efforts will be made to minimize the amount of hazardous materials used.
* Personnel working with hazardous materials and waste will be trained in proper use and management.
* Hazardous material leaks will be prevented through careful and logical management of materials.
* Where possible, non-hazardous alternatives will be used instead of hazardous materials.
* Regular inspections of storage areas will be made. Damaged or leaking containers will be replaced when detected.
* Corrective/Preventive maintenance will be performed on the equipment to prevent possible leaks.
* Waste storage areas will have secondary safety barriers or overflow containers.
* Under no circumstances, wastes will be disposed of at the construction site.

**4.2. Classification of Waste**

Project activities will result in the generation of various non-hazardous and hazardous wastes.

**4.2.1. Non-Hazardous Wastes**

Typical non-hazardous wastes are listed below.

* Domestic waste,
* Recyclable waste (e.g., paper, glass, metals, wood waste, trees, tin cans, textiles, etc.),
* Packaging waste,
* Waste tires and
* Excavation waste.

**4.2.2. Hazardous Wastes**

Different types of hazardous wastes possibly to be generated as a result of Project activities are listed below:

* Waste batteries and accumulators,
* Waste vegetable oil,
* Medical waste,
* Waste oil (from the maintenance of equipment and vehicles, transformers, etc.),
* Waste paint,
* Other hazardous wastes related to operation and maintenance activities and
* Materials that come into contact with hazardous materials (including pesticide boxes).

**4.3. Implementation**

**4.3.1. Waste Collection, Storage, Transportation and Disposal**

An industrial (hazardous and non-hazardous) waste management plan will be prepared in line with legal requirements and submitted to the Provincial Directorate of Environment and Urbanization. In addition, it is obligatory to fill in the waste declaration form every year in March, with the information of the previous year and to submit these forms digitally to the MoEUCC.

**4.3.2. Collection, Separation and Storage**

Wastes will be separated and temporarily stored in safe storage areas that are defined separately for hazardous and non-hazardous wastes. Transportation and final disposal activities are explained in Part 4.3.3.

*Non-Hazardous Wastes*

The management of non-hazardous wastes will be as follows:

* Domestic wastes will be collected in special bins in accordance with the Waste Management Regulation and will be temporarily stored at the construction site.
* Recyclable wastes will be separated and temporarily stored on site in designated areas.
* Packaging wastes will be collected separately and temporarily stored in the areas reserved for them at the construction site in accordance with the Packaging Waste Control Regulation.
* Appropriate waste containers will be provided at waste generation sites to facilitate safe and environmentally sound temporary storage. All containers will be clearly marked according to their contents.

*Hazardous Wastes*

The management of hazardous wastes will be as follows:

* In accordance with international standards and international common practice, hazardous wastes will be stored in undamaged, leak-proof, safe and suitable containers. In line with the relevant legislation, a specific area with a concrete floor will be used for storage.
* All waste containers to be used, will have a clear label and an accurate description of the waste type. This will inform site and external personnel for the safe collection and transport of waste. All unidentified waste will be considered hazardous waste. Waste labels will include information such as waste classification/category, waste volume, MSDS and required PPE. All old labels on containers will be removed or sealed to avoid confusion.
* Hazardous waste containers will be inspected regularly to determine if they are damaged or has any leaks.
* Hazardous waste containers will be kept closed and wastes will be stored in a way that no chemical reaction occurs.
* Vehicles and construction machinery will be used in the land preparation, construction, and closure phases of the Project. Maintenance of machinery and equipment (e.g., oil change, battery change, etc.) is planned to be done by qualified service providers outside the Project Area. If it is necessary to perform such activities (oil change, battery change, tire change etc.) at the construction site, areas reserved for this work (with appropriate drainage) will be used. In order to prevent soil contamination, a sealed cover will be placed under the vehicles and this activity will be performed away from water sources. If any oil/fuel/lubricant spills or leaks occur at the construction site, the pollution will be controlled by using absorbent materials and the contaminated soil (if any) will be taken to a sufficient depth and stored as hazardous waste.
* All vehicles used for transportation will have absorbent material against any leakage or spillage. Workers will be informed about the use and disposal of materials. Filters or materials saturated with petroleum products will be discharged into a suitable container to remove any free products prior to disposal.
* Waste oils will be temporarily stored, collected, and disposed of in separate containers according to the categories specified in the Waste Oil Control Regulation. Waste oil will be collected in containers placed on an impermeable surface. Different containers will be used for different categories of waste oils. There will be a "Waste Oil" sign on the waste oil temporary storage containers.
* Waste vegetable oils will be temporarily collected in special containers.
* Bulbs containing mercury
* Waste oils will not be allowed to be discharged into receiving environments or toilets/sinks.
* Waste batteries and accumulators will be collected and stored separately in accordance with the Regulation on Control of Waste Batteries and Accumulators.
* Vehicle maintenance in the Project will be done outside the construction site. However, when it is necessary to change the tires of vehicles and construction machines, the changed tires will be kept in the places reserved for them in accordance with the Waste Tire Control Regulation.
* Medical wastes will be collected separately from other wastes in accordance with the Regulation on Control of Medical Wastes.
* Project activities do not require the use of explosives. However, if necessary, waste explosives will be stored in containers of the same type as the original but marked as explosive waste and transported by licensed companies.

*Excavation, Construction and Demolition Wastes*

Soil and rock materials excavated during the land preparation and construction phase will be reused on site as much as possible. In addition to the excess excavation material to be generated, the following practices will be conducted for the management of other construction and demolition wastes:

* Excavation, construction, and demolition wastes will not be disposed of at the construction site, under any circumstances.
* Only the part of cut trees and shrubs such as small branches, leaves that is not collected by the relevant forestry authority will be left on the site, as this material will contribute to increased local flora growth through soil fertilization.
* Areas used for temporary storage of excavation waste will be restored as soon as the excavation works/construction activities in each relevant area are concluded.
* Topsoil will be taken separately from the excavation material.

**4.3.3. Transportation and Disposal**

*Non-Hazardous Wastes*

The following management controls will be implemented for the transport and recycling, recovery, and disposal of non-hazardous wastes:

* A protocol will be signed with the relevant municipality for the transportation of domestic wastes to the sanitary landfill.
* Agreements will be signed with licensed companies for the transport of separated recyclable waste and packaging waste.
* The part of the excavation waste that cannot be reused at the construction site will be transported to the excavation, construction, and demolition waste disposal areas, which are approved by the relevant municipality. This process must comply with the Regulation on Control of Excavation, Construction and Demolition Wastes.
* The company's agreements with licensed waste facilities will be added to this plan.

*Hazardous Waste*

The following management controls will be implemented for the transport and reuse, recovery, recycling, and disposal of hazardous waste:

* Hazardous wastes will be transported out of the construction site when the storage at the construction site approaches the maximum storage capacity levels. Hazardous wastes will be securely packaged and labeled before they are removed from the site to ensure they are transported safely to an approved landfill without harming the collectors or the environment.
* Waste batteries and accumulators collected separately; will be delivered to collection points established by municipalities or businesses engaged in the recovery, distribution, and sale of battery products.
* Waste tires; will be handed over to licensed transport, recycling or (as fuel) reuse companies.
* Medical wastes will be sent to a nearby health facility or medical waste disposal company under the supervision of the workplace physician.
* Waste oils will be transported to licensed processing and disposal facilities by licensed carriers. Before the transportation, the National Transportation Form will be filled, and the annual waste oil declaration form will be submitted to the relevant authorities.
* Waste vegetable oils collected in special containers will be sent to licensed companies for reuse/recovery.
* Licensed disposal facilities will be used for the transportation and disposal of other hazardous wastes.
* The company's agreements with licensed waste facilities will be added to this plan.

**5. Monitoring and Reporting**

Waste types, amount of collected waste of each type and waste classifications will be recorded monthly. Records of generated waste, from the time of production to the destination, will be kept. A sample waste registration form for this purpose is presented in Annex-1.

Annual waste declaration forms (online internet-based system of the MoEUCC, http://online.cevre.gov.tr) and National Waste Transport Forms (template, given in Hazardous Waste Control Regulation – Annex 9-A, which was repealed on April 2, 2016) will be stored at the construction site for 5 years.

During the construction and operation phase, daily inspections will be conducted regarding the management of waste at the construction site.

A sample checklist of issues to be addressed during inspections is provided in Annex-2. In addition to these inspections, quarterly internal inspections will be conducted during the construction phase. Inspection and monitoring results will be presented to the PMU and the World Bank as part of the biennial report.

Based on monitoring and inspection results, corrective and/or remedial actions will be determined and implemented. The performance of these activities will also be monitored and reported.

**6. Trainings**

The contractors will ensure that adequate training is provided to all personnel (including those of subcontractors, if any). The scope of the training covers the waste management duties and functions of workers; and ensures them to be aware of relevant aspects of this plan, relevant legislation and standards, and general waste management practices (e.g., tidiness, waste separation).

Details of the training (e.g., participants, topics, training hours provided) will be recorded and records kept on site. Personnel who routinely work with hazardous wastes and materials; will receive additional specialization training in which special handling, separation, labeling, storage, spill response and disposal requirements are explained in detail.

**7. Review & Update**

This Plan is a 'living' document and responsibilities, procedures and compliance actions should be updated if needed (for example, following a change in legislation). It is the responsibility of PMU and contractors to be fully aware of its contents. Contractors will provide relevant training to personnel and ensure that measures/commitments are implemented to ensure compliance with this Plan

Date (Month/Year): Waste Registration Form No:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Date** | **Waste Type (Hazardous/Non-Hazardous)** | **Subtype** | **Waste Amount (ton/m3)** | **Transporter** | **Disposal** | **Disposal Method** |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |

# ANNEX 10- ASBESTOS MANAGEMENT PLAN

**1. Purpose and Scope**

This Asbestos Management Plan (AMP) explains how the risks arising from asbestos-containing materials should be managed in all subprojects. This AMP also specifies asbestos-related procedures within line the Climate and Disaster Resilient Cities Project (Project) and is designed to effectively manage and minimize asbestos-related health risks to those working on the Project.

This plan is applied to the employees of the Urban Transformation Presidency of the Ministry of Environment, Urbanization and Climate Change, and all contractors who will work in deconstruction and construction works to be assigned within the Project.

This Plan is a 'living' document and responsibilities, procedures and compliance actions should be updated as appropriate.

**2. Legal Requirements & Standards**

**2.1. National Legislation**

The rules regarding the use of asbestos in Türkiye are regulated by the regulations, communiqués, and standards of different ministries.

In this context, the most important legislation is the Regulation on Health and Safety Precautions in Working with Asbestos, prepared by the Ministry of Labor and Social Security (MoLSS) and published in the Official Gazette (OG) dated 25/01/2013 and numbered 28539. With this legislation, regulations were made on the prevention of exposure of employees to asbestos dust in asbestos removal, deconstruction, repair, maintenance, and removal works, and protection from health risks arising from this exposure, and also on determination of limit values and other special precautions.

With the Dust Fighting Regulation (Date of OG: 02/04/2015, No:29314), prepared by the MoLSS and published in the OG dated 05/11/2013 and numbered 28812; the procedures and principles regarding the necessary precautions to be taken in order to combat dust in terms of occupational health and safety and to protect the workers from the effects of dust and prevent the risks that may arise from dust in the workplaces, were determined.

The most up-to-date regulation regarding asbestos safety in national legislation is the "TS 13633 Practice Rules for Complete and Partial Demolition of Buildings" standard, published by the Turkish Standards Institute. In the aforementioned standard, the basic principles of the operations regarding asbestos, which may cause significant health and safety risks, during the office work and field research to be performed before the complete and partial (restoration, deconstruction, etc.) demolition operations for the buildings are specified, and a special title is given on the subject of asbestos.

With the Communiqué on Asbestos Removal Training Programs, prepared by the MoLSS and published in the OG dated 29/06/2015 and numbered 28692; procedures and principles regarding the qualifications, training, training programs and exams to be held at the end of the asbestos removal training of the specialists and the training, training programs and their certification of the asbestos removal workers who will take part in asbestos removal, deconstruction, repair, maintenance and removal works, were determined.

Issues related to the management of asbestos wastes in Türkiye are regulated by the Environmental Legislation. In accordance with this legislation, asbestos-containing waste is considered as “hazardous waste” and its packaging, transportation and disposal by storage should be conducted within this framework. The relevant legislation is presented below;

* Waste Management Regulation (Date of OG: 02/04/2015, No:29314)
* Regulation on Regular Storage of Wastes (Date of OG: 26/03/2010, No: 27533)

**2.2. World Bank ESF Requirements**

**2.2.1. Resource Efficiency, Pollution Prevention and Management - ESS3**

ESS3 recognizes that economic activity and urbanization often pollute the air, water and soil and consume limited resources that can threaten people, ecosystem services and the environment at local, regional, and global levels.

Hazardous wastes pose risks to human health, property, ecosystem services and the environment due to their physical or chemical properties. Wastes containing asbestos should be classified as hazardous waste.

If the waste generated is considered hazardous, the Project is expected to comply with current requirements, national legislation, and applicable international conventions, including those related to cross-border movement, for the management of hazardous waste (including storage, transportation, and disposal). In the absence of such requirements, Good International Industrial Practice (GIIP) alternatives will be adopted for an environmentally valid and safe waste management and disposal. If hazardous waste management is conducted by third parties, they will use reputable and legitimate contractors that are licensed by the relevant governmental institutions and obtain chain of custody documentation regarding transportation and disposal to the final destination.

Within the scope of the Project, licensed waste sites, which are operated at acceptable standards will be determined and these sites will be used. Where licensed sites are not operated to acceptable standards, waste sent to these sites will be minimized and alternative disposal options will be considered, including the possibility of developing recovery or disposal facilities at the Project site or elsewhere.

**2.2.2 Community Health and Safety – ESS4**

ESS4 recognizes that Project activities, equipment and infrastructure can increase community exposure to risks and impacts. The ESS4 defines requirements for the management and safety of hazardous materials.

The Project will prevent or minimize the possibility of community exposure to hazardous substances that may occur due to the Project. Where there is potential for the public (including workers and their families) to be exposed to hazards, particularly life-threatening hazards, the Project will take exceptional care to avoid or minimize exposure by modifying or removing the situation or substances that cause potential hazards. Where hazardous materials are part of existing Project infrastructure or components, the Project will use due diligence to eliminate exposure during construction and Project implementation, including abandoning.

The Project will implement measures and actions to control the safety of the transfer of hazardous materials and the storage, transportation and disposal of hazardous materials and waste, and will implement measures to prevent or control community exposure to such hazardous materials.

**3. Roles and Responsibilities**

Roles and responsibilities for the Environmental and Social (E&S) management of the Project are detailed in the main body of the Project ESMF. In this context, roles and responsibilities related to asbestos management are given in the table below:

Roles and Responsibilities

| **Roles** | **Responsibilities** |
| --- | --- |
| Project Management Unit  (PMU) | * Ensure adequate resources are provided for the implementation of this Plan. * Review and update the Plan as needed * Ensure that technical support is provided to contractors for the implementation of the plan. * Ensure that relevant training is provided by contractors through review of training records and relevant training documentation. * Supervise the contractor's compliance with Project requirements through contractor monitoring and reports. |
| Contractors | * Ensure that this plan is implemented in line with Project standards * As its main responsibility, to ensure the implementation of the Plan (also by the Subcontractors, if any) and to report the non-compliances and implementation performance of the Plan to the PMU. * Participate in the development of corrective and/or remedial actions when necessary (for example, when non-compliances are detected or there is a change in relevant legislation, etc.). * Provide relevant training. * Performing internal and daily inspections and recording any detected non-compliances. * Ensuring that relevant non-compliances are recorded and promptly responded. * Review and update the Plan as needed (in coordination with the PMU). * Ensure that asbestos management considerations are added in the daily checklist, which will be included in the monthly report to the PMU. * Negative health effects on workers, service providers and society due to accidents and incidents that may occur during the asbestos inventory, removal, transportation and disposal process. * General occupational health and safety risks that may apply to any demolition activity. * Demolished material is harmful to environment if it is not disposed of adequately. Especially if the material or waste is dangerous or might be dangerous. * Check out the Mitigation Plan in Section 5.1 and the measures presented in Section 3.1. |
| All Personnel | * Participating in training required for asbestos management. * Provide self-competence for the implementation of this plan. |

**4. Asbestos Management**

The General Directorate of Occupational Health and Safety of the MoLSS explained the steps to be followed in asbestos work with a workflow chart. The aforementioned workflow chart is presented in Annex -1(Workflow in Asbestos Studies). Within the scope of the Project, the steps given in Annex-1 will be followed in the works with asbestos in the demolition, maintenance and repair activities that will be performed in the buildings.

**4.1 Course of Action Before Starting Deconstruction**

Although it is not a requirement in terms of legislation within the scope of urban transformation practices, during the issuance of the demolition license before the demolition of the buildings, the relevant municipalities require the contractors to conduct an asbestos inventory study and prepare an asbestos inventory report in order to determine whether there is asbestos in the building to be demolished. The diagram describing the asbestos detection process in question is given below. Definition of the relevant steps are also provided below.

Identification of parts of buildings, containing asbestos

1. Identification of Asbestos-Containing Components in Buildings
2. Determining the type of asbestos
3. Preparation of business plan and institution structure
4. Assignment of Occupational Safety Specialist (construction sites are classified in very hazardous class according to NACE code)
5. Preparation of a risk assessment
6. Preparation of asbestos risk analysis
7. Photographing the current condition of the construction site
8. Determination of the required number of employees with Asbestos Removal Certificate and their duties
9. Assignment of Asbestos Removal Specialist
10. Completion of Social Security Institution (SGK) entrances, health checks (including working at height and respiratory system examinations), occupational safety trainings and certification of these trainings or checking related documents.
11. The Asbestos Removal Specialist will prepare and review documents and files.
12. Notification of the Provincial Directorate of the Turkish Employment Agency and the MoLSS

Asbestos Identification and Management Flowchart



Employer/ Building Owner

Within the scope of the Regulation on Health and Safety Measures in Working with Asbestos; the analysis of solid samples, taken to investigate the presence of asbestos before deconstruction, demolition, maintenance, and reconstruction works, is considered as occupational hygiene measurement test and analysis. Laboratories authorized by the MoLSS; may perform sampling and analysis and are allowed to accept samples from outside for analysis. Samples coming from outside can be accepted to the laboratory, provided that they are taken by an Asbestos Removal Specialist (Samples from urban transformation areas are considered within this scope). For the acceptance of samples coming from workplaces where no Asbestos Removal Specialist is employed (for example, samples taken during maintenance, repair works related to a part of the process or for the control of raw material content, etc.); the samples are required to be taken by an A Class Occupational Safety Specialist. If asbestos is detected as a result of the inventory study, a risk analysis should be performed.

**4.2. Preparation of the Site Before Asbestos Removal**

**4.2.1. Informing the Employees**

Before asbestos removal works, employees will be informed about the following issues.

* Health risks arising from asbestos and/or dust emitted from asbestos-containing materials
* Limit values specified in the regulation and measurements that must be made continuously in ambient air
* Hygiene rules to be followed, including not smoking
* Use of PPE and precautions to be taken
* Special precautions designed to minimize asbestos exposure
* The sites where asbestos waste will be stored and how the waste will be transported to these sites

**4.2.2. Marking**

The necessary signs should be placed on the work areas where asbestos containing materials are used and the packages used for the transportation of asbestos waste after dismantling. In order to create a safe working area, while marking with “Stop, No Unauthorized Access” signs, there should be a label in accordance with the sample provided in Annex 17 of the Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals.

Warning Signs (Work Area Warning Boards and Asbestos-Containing Package Labels)

metin, yazı tipi, logo, grafik içeren bir resim

Açıklama otomatik olarak oluşturuldu

**UNAUTHORIZED PERSONEL NOT ALLOWED**

**ATTENTION**

**CONTAINS ASBESTOS**

It is harmful to health to inhale asbestos powder. Review the safety recommendations

White “a” on black background

To be written with standard wording in white or black font on red background

**4.2.3. Creating the Quarantine Area**

In working areas where high fiber concentrations are likely (black area), a quarantine area must be established in order for asbestos removal to be performed in a controlled manner. This quarantine area prevents the exposure of asbestos fibers to other people and workers in the environment by hindering the spread of asbestos fibers during asbestos removal works, waste packaging and cleaning of the deconstruction site.

Quarantines should be designed in such a way that deconstruction works can be done easily in the area where asbestos is to be removed. In determining the dimensions, the number of workers and the size of the equipment to be used should be considered. For example, if a scissor lift or a scaffold will be used, they should be large enough to provide comfortable equipment use. If the quarantine area is larger than necessary, it increases the spreading area of asbestos, therefore the size of the quarantine area should be kept at an optimum level.

The most commonly used material for quarantines is polyethylene coating. This material is highly preferred because of its flexible and impermeable structure. This coating should be thick enough to withstand the erosion and corrosion of quarantine. In most cases, a 1000-gauge (250 micron) coating is sufficient. In exposed areas, the polyethylene coating may not have sufficient strength due to external factors such as wind, so alternative materials such as polyvinyl chloride (PVC) sheet reinforced with woven nylon mesh can be considered.

The most common means of supporting the coating material are timber frames. Specially designed frames such as metal or plastic tubes can also be used. Some wood with a width of 50 mm x 50 mm is sufficient for the wooden sticks used. The coating must be fixed to the bars using staples, tape, and spray adhesive.

The quarantine area must be airtight. All leaks must be detected and sealed. All places where air escape may occur, such as corners, window ledges, doors or area around the negative pressure unit should be properly taped or sealed with suitable foam material.

In very confined and hot areas, the use of certain foams and adhesives close to pipelines or breathing space can cause harmful if they were used in high concentrations. This situation should be avoided.

If the breaches of sealing cannot be prevented with these precautions, additional measures should be taken. These can be as follows;

1. The performance of the negative pressure unit may be increased,
2. Glove bag may be used,
3. Mini-quarantine areas can be set up inside the quarantine area.

Quarantines must be established before any work is done, including inserting injection needles into the asbestos including materials, and the covering material must be disposable.

**4.2.4. Negative Pressure Unit (NPU)**

No matter how well designed, the quarantine cannot be guaranteed to be airtight and there may be some degree of leakage. Therefore, it should be ensured that the air pressure inside the quarantine is slightly below atmospheric pressure. With that inequality, any leaking airflow inside the quarantine moves inwards, not outwards, so the asbestos dust stays in the quarantine area. However, sufficient fresh air should be provided to replace the exhausted air. This air must enter quarantined area in a controlled manner with shower enclosures or airlocks. In this way, the ventilation of the quarantine is regulated, and fresh air is provided to the asbestos workers. In principle, the NPU should be located opposite the airlocks. However, the optimal location for the NPU depends on several factors, including the shape of the quarantine area, accessibility of the walls or suitability of walls to accommodate the unit. The airlock alone can provide enough fresh air for a small or simple quarantine; however, additional air intakes may be required for larger or complex facilities. These air inlets should have filtration (pre-filter) and should be sealed by taping around. The NPU should normally be located outside the quarantine and only the prefilter should be seen from inside. This depends on access and available space. A flexible piping may be required between the main HEPA filter and the pre-filter in quarantine, in which case this flexible pipe should be maintained and inspected regularly.

Sufficient negative pressure should be created inside the quarantine area and this pressure should be distributed as evenly as possible in the quarantine area. The location of the negative pressure unit should provide effective airflow in the quarantine and airlocks. Air locks and waste cabinets should not be seen as an alternative to negative pressure.

**4.2.5. Entering Quarantine (Air Lock)**

The most important feature for quarantine is shower cabins or air locks. Thanks to the air locks, the entrance and exit of the personnel, equipment and wastes are kept under control. Airlocks and waste cabinets must be at least 1m x 1m x 2m (height) and they should be larger where larger wastes such as pipelines or wood chips are disposed of. Where confined in one direction (i.e., along a corridor), airlocks and waste cabinets should extend in the other direction (i.e., 0.8m x 2m x 2m). If enough space is available, separate airlock and waste cabinet should be used. Air locks should be designed in a way to prevent the leakage of asbestos dust from the passages between the cabinets. This is usually achieved by vertically shearing of the coating between the cabinets. These openings prevent the outside air from entering and the inside air from flowing out. In order to control the air flow, the bottom of the inner slit should be weighted with plastic or wooden sticks. It is essential to provide sufficient reserve air into the quarantine.

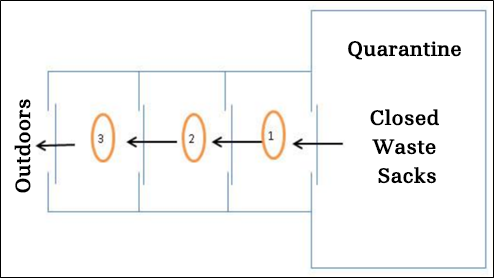
**4.2.6. Hygiene Unit**

The hygiene unit (the system designed for personnel cleaning) should be adjacent to the quarantine area, and if this is not possible, airlocks should be used. Airlocks should be designed in such a way that they do not spread asbestos dust into the environment. The use of the transition system is undesirable and should be avoided as much as possible. Connecting shower units directly to quarantine or to air locks is preferred. The purpose of airlock and waste cabinets is to provide additional control over spreads, and they should be installed adjacent to the quarantine to control air movement during accidental leaks, personnel movement, and waste transfers.

**4.2.7. Waste Cabinet**

Waste cabins are used for the waste transfer and their design is shown in the figure below:

Waste Cabinet Design



**Waste Cabinet Design**

In cabin number one, the outside of the waste bags is cleaned by wiping. In cabin number two, the waste bag is transferred into the second waste bag. In cabin number three, the waste is stored temporarily and an outsider personnel member takes the waste bag from there and carries it to the temporary waste storage facility. Waste should never be discharged directly from the hygiene unit.

**4.2.8. Observation Panel**

Observation panels (camera system, etc.) should be attached to the walls of the quarantine so that the Asbestos Removal Specialist can see what is happening inside without having to go inside. The number and location of these panels depend on the location, size, and complexity of the quarantine. Transparent plastic observation panels should be placed over the coating during the construction of the quarantine. Panels should be taped on both sides have the minimum dimensions of 60cm x 30cm and must be placed at a height of 1.5 m from the floor. Observation panels should also be in the airlock and waste cabinets. Where viewing from panels is impractical, the camera system can be used as an alternative for specialists to observe and monitor developments in the quarantine. The camera system should be protected for ease of cleaning.

**4.2.9. Site Preparation**

Before starting work in the building, a hygiene unit, including the quarantine, should be purchased, and installed. PPE to be used during the initial setup of the quarantine should be determined. The deconstruction area should be examined. The purpose of this operation is to determine the items to be removed and to cover the items that cannot be taken out in order not to have difficulty during the cleaning. The work area should be as free from plants, equipment, and furniture as possible. All remaining equipment, such as electrical equipment, must be pre-cleaned and then covered with a polyethylene coating and tightly taped to prevent contamination. If there are boilers or chimneys in quarantine are, they must be closed to prevent the spread of asbestos due to fumes

If there is any asbestos material in the dismantling area, a preliminary cleaning should be done. For this, all loose materials must be removed before the quarantine is established. Pre-cleaning should be performed using appropriate dust prevention and control measures, including vacuuming with an H-type vacuum cleaner, surface wiping, temporary encapsulation with polyvinyl acetate (PVA), tape or adhesive film, spray wetting, and bagging. In addition, if there is asbestos-free dust and waste, pre-cleaning should be done for this as well. These wastes can be considered as normal waste. Otherwise, after the work starts, this waste will be considered as asbestos waste and must be disposed of as hazardous waste.

**4.2.10. Smoke Test**

Before deconstruction begins in the quarantine, the tightness of the quarantine should be tested by pumping smoke from the smoke generator while the negative pressure unit is not operating. Large leaks will be readily apparent; but small leaks will show themselves after a little wait. These small leaks can cause asbestos to be released into the environment during removal. The easiest way to examine fugitive smoke is to shine light over it with a flashlight. If any leakage is encountered, that area should be re-examined, and the leaking part should be taped.

**4.3. Necessary Materials and Personal Protective Equipment**

Before starting the deconstruction work, the materials listed below, and personal protective equipment must be provided.

**4.3.1 H Type Vacuum Cleaner**

Industrial vacuum cleaners in H dust class and suitable for asbestos-containing dust removal should be used in accordance with EN 6035-2-69 in order to clean the small parts spread around during asbestos removal and to remove the fibers stuck to the clothes by vacuuming.

During the works in buildings, low pressure must be maintained in the working area with help of suction devices. In this way, in case of leakage, it is ensured that fresh air from outside enters the work area, and that asbestos air does not flow out of the work area.

**4.3.2. Binding Agent**

During the deconstruction of asbestos-containing structures, there is a risk that the fibers attached to the components will fly off and mix with the breathing air. For this reason, surfaces must be coated with fiber-binding agents (e.g., plaster fixer) and pressure less spraying method should be used. This ensures that the fibers adhere well to the component.

**4.3.3. Hygienic Devices**

Washing facilities should be available in all asbestos work areas so that workers can wash their faces and hands before eating or smoking. During extensive work on asbestos-containing structures, a transition area separated by showers and allowing for separate storage of casual and work clothes is required.

**4.3.4. Personal Protective Equipment**

Protective Clothing

* For protective clothing, disposable body protective coveralls that have anti-static properties should be taken.
* A new protective clothing must be used for each entry into the contaminated area.
* Coveralls used should be appropriate to the Type 5 airborne solid particles standard according to TS EN ISO 13982-1 and Type 6: Limited protection standard against splashing liquid particles according to TS EN 13034.
* Protective clothing and the personal clothing of the employees are kept in separate places.

Respiratory Protective Mask

* The full-face shield must be equipped with a hazard-appropriate filter.
* The suitability of the respiratory protection must be tested before use and its physical dimensions must be the suitable for the user.
* Improper respiratory protection will provide little to no protection.
* A suitable respiratory protection should have a minimum specified protection factor of 20 or more, but 50 or more is recommended.

Disposable respirators:

* Disposable Respirators with FFP3 protection level 50 or more protection factor and compatible with TS EN 149+A1 harmonized standard and EN149:2001+A1:2009 standard, can be used.

Full Face Mask:

* A full-face mask can be used with a particle filter with P3 protection level according to TS EN 143 harmonized standard and EN143+A1/AC standard.

Motorized Respiratory Protection:

* For the motor parts, like battery, a combined shield with EN 12941 standard can be used. It also should comply with every standard suitable for the selected respiratory, head, eye, hearing, and face protection class.

Other Personal Protective Equipment:

* Occupational safety shoes that can be put directly on the feet without laces or buckles should be worn. Boots should be preferred over shoe covers, as they involve the risk of slipping. Washable boots can be preferred.
* Disposable work gloves should be used. If a glove with high mechanical resistance, high electrical resistance or chemical resistance is to be used depending on the job, thin hygiene gloves with high gripping ability can be used inside these gloves. After each asbestos removal operation, the glove should be placed in properly sealed asbestos waste bags after the worker has left the contaminated area. A new pair of safety gloves should be worn each time you enter the contaminated area.

**4.4. Removal of Asbestos Containing Materials by Boxing and Separation**

It is necessary to properly separate termites and/or contaminated materials without creating dust and breaking parts as much as possible. In addition, before starting the cutting, chemical adhesive liquid should be sprayed on the relevant area in order to suppress the dust spread. It is ensured that after squeezing the adhesive liquid, the cut and disassembled parts are put into special sealed foil and/or asbestos sacks (big bags), packaged and labeled and placed in the waste cabinet, which is determined by the contractors, before disposal.

**4.5. Course of Action After Deconstruction**

After the Deconstruction process is completed, the following operations should be performed;

1. If necessary, cleaning all areas indoors with a filtered industrial type vacuum cleaner, and if not, simply humidifying,
2. Wet cleaning with chemicals and/or non-chemical materials,
3. Spraying a special liquid material containing fiber adhesive, on all surfaces

**4.6. Management and Disposal of Asbestos Waste**

The asbestos waste management should not be considered as an issue that will be dealt with only after the deconstruction and demolition works are completed. Asbestos-containing waste should be collected at the end of every working day, placed in bags bearing the asbestos sign, and stored regularly at the workplace. Necessary warnings and guards should be placed to prevent personnel unrelated to waste procedures from accessing waste, and all employees should be informed that asbestos storage locations should not be entered. Double bags should be used if there is a possibility that the stored material will break holes in the bags (e.g., sharp, hard waste). Wetting the waste bags with a fiber binder solution is also recommended. When the deconstruction and demolition works are over or the wastes accumulate in such an amount that it is economical to transport, the waste should be transported and disposed of in accordance with the legislation and by signing a contract with the waste transport company licensed by the MoEUCC and with the authorized waste disposal organization.

Asbestos, which is revealed as a result of deconstruction from the building, is in the nature of "waste" and must be transported and disposed of in accordance with the provisions of "waste legislation". According to Article 11 of the Environmental Law; facilities, businesses, and settlements that are not deemed appropriate to directly or indirectly deliver their wastes generated as a result of production, consumption and service activities to the receiving environment are obliged to treat and dispose of their wastes in accordance with the standards and methods determined in the regulations and to obtain the prescribed permits. This provision, which applies to all wastes, also applies to the disposal of asbestos waste.

Within the scope of the Annex-4 waste list of the Waste Management Regulation (WMR) published in the Official Gazette dated 02/04/2015 and numbered 29314 by the MoEUCC, asbestos-containing wastes that will be generated as a result of the Project activities should be considered as "insulation materials and asbestos-containing construction materials”.

Waste Codes for Insulation Materials and Construction Materials Containing Asbestos

|  |  |  |
| --- | --- | --- |
| **Waste Codes** | **Waste Code Definition** | **Explanation** |
| 17 06 | Insulating materials and building materials containing asbestos |  |
| 17 06 01 | Insulating materials and building materials containing asbestos | M\* |
| 17 06 05 | Insulating materials and building materials containing asbestos | M |

\* M mark: The sign in the "Description" column at the level of the six-digit waste code indicates that the waste is a possible hazardous waste. In order to determine whether the wastes marked in this way are hazardous or not, a study should be performed to determine the hazardous properties of the waste as stipulated in Article 11 of the Waste Management Regulation.

The hazardous properties of the wastes marked with (M) in the waste list, must be determined. In these studies, evaluations regarding H3-H8, H10 and H11, which are among the features listed in Annex-3/A of the same regulation, are made on the basis of the concentration values ​​in Annex-3/B. Analysis studies are carried out by laboratories that have been qualified for Annex-3/B from the MoEUCC.

According to the Waste Management Regulation, the implementation of the disposal process should be controlled. Asbestos-containing materials will be appropriately labeled and stacked. In the online programs of the MoEUCC, it will be ensured that hazardous materials containing asbestos are sent to licensed disposal facilities by using the waste management application over the Integrated Environmental Information System.

During the disposal of asbestos waste, the following will be considered,

* Asbestos waste should be wrapped and packaged without breaking.
* Asbestos waste should be labeled after packaging without breaking.
* Asbestos waste must be sent to a licensed disposal facility upon completion of online registration.
* Asbestos waste should be sent to the disposal facility by licensed vehicles.
* Asbestos wastes may not be discharged into unloading areas or designated areas for excavation materials.
* Asbestos wastes cannot be discharged along streams.
* Asbestos waste cannot be incinerated.

Aforementioned asbestos wastes, within the framework of the provisions specified in Article 30 (titled "Wastes requiring consideration of special circumstances) of the Regulation on the Regular Storage of Wastes, published in the Official Gazette dated 26/03/2010 and numbered 27533, can be stored in class II storage facilities, without testing.

**5. Review & Update**

This AMP is a 'living' document and responsibilities, procedures and compliance actions should be updated if needed (for example, following a change in legislation). It is the responsibility of PMU and contractors to be fully aware of its contents. Contractors will provide relevant training to personnel and ensure that measures/commitments are implemented to ensure compliance with this AMP.

The standards presented in this annex are minimum compliance standards which can and should be supported with additional measures as required by the conditions of the project sites.

**Annex 1 - Workflow in Asbestos Studies**

Workflow in Asbestos Studies

metin, ekran görüntüsü, çevrimiçi reklamcılık, web sitesi içeren bir resim

Açıklama otomatik olarak oluşturuldu

# ANNEX 11- CHANCE FIND PROCEDURE

**1. Introduction**

Urban Transformation Presidency (UTP) of the Ministry of Environment, Urbanization and Climate Change (the MoEUCC) is responsible for the sub-project activities to be carried out within the scope of the Project and the management and protection of archaeological and cultural heritage sites/resources in the areas affected by these activities. Natural and Archaeological Sites, Cultural and Historical Buildings will not be included in the Project. However, it is still possible to encounter some unknown archaeological sites and cultural heritage assets as “Chance Finds” during the Project activities.

**1.1. Purpose**

The purpose of this document is to outline the procedure and related responsibilities required in relation to managing the Chance Finds process during the works to be carried out within the sub-project.

**1.2. Definitions**

Definitions

|  |  |
| --- | --- |
| Change Find | Any potential objects, features or areas of cultural inheritance that have been defined as a result of regular monitoring of Project-related construction works but extrinsically to an official site survey. |
| Museum Directorates |  |
| Regional Conservation Boards |  |
| Project | Climate and Disaster Resilient Cities Project |
| Work to be Done or Mandatory Actions | Represents mandatory conditions |
| Compulsory Work | Indicates that a provision is not mandatory but recommended as good practice |

**2. Roles and Responsibilities**

The Project Management Unit (PMU), which will be established under The Urban Transformation Presidency, is obliged to comply with this procedure along with all its affiliated units and subcontractors throughout all activities for all sub-projects under Component 2. All workers involved in sub-projects’ activities will receive training on the implementation of this procedure.

Roles and responsibilities for the Environmental and Social (E&S) management of the Project are detailed in the Project ESMF. In this context, roles and responsibilities regarding the chance find process are given in the table below:

Roles and Responsibilities

| **Roles** | **Responsibilities** |
| --- | --- |
| Project Management Unit (PMU) | * Ensure adequate resources are available to implement this procedure. * Reviewing and updating the procedure as needed * Ensure that technical support is provided to contractors to implement the procedure. * Ensure that relevant training is provided by contractors through review of training records and relevant training documentation. * Supervising the contractor's compliance with Project requirements through contractor monitoring and reports. |
| Contractor  Project/Site Manager | * Ensure that this procedure is implemented in line with Project standards * As its main responsibility, to ensure the implementation of the procedure (also by the Subcontractors, if any) and to report the non-compliances and the implementation performance of the procedure to the PMU. * Participating in the development of corrective and/or remedial actions when necessary (e.g., when non-compliances are detected, when there is a change in the relevant legislation, etc.). * Providing relevant training. * Performing internal and daily audits and recording any observed non-compliances. * Ensuring that relevant non-compliances are recorded and promptly responded to. * Reviewing and updating the procedure as necessary (in coordination with the PMU). * Ensure that chance finds are included in the daily checklist to be included in the monthly report to the PMU. |
| All employees | * Participating in training required for chance finds. * Providing provides self-competence for the implementation of this procedure. |

**3. Chance Find Process**

The step-by-step process to follow any chance finds in the Project site and its area of impact is given in the table below.

Chance Find Process

|  |  |  |  |
| --- | --- | --- | --- |
| **STEP 1– Following a chance find:**   1. All works in the survey area will cease. 2. A transitional buffer zones will be established around the chance find area. 3. Site management and the museum archaeologist will be contacted immediately. 4. The area of the finding will be adequately secured by markings, signposts and banners, etc. 5. Protection of the site the chance finding will not be transported lifted or damaged further. | | | |
| **STEP 2 – Registration**  Chance Find Notification Form Section A will be filled in and a copy will be forwarded to the Project/Site Manager in 24 hours. | | | |
| **STEP 3 – Communication with local authorities**  The director of the related museum will be notified regarding the chance find. | | | |
| **STEP 4 – Museum Decision**  The archaeologist of the related museum will decide actions to follow in the chance find site. | | | |
| **STEP 4 A – Site or the find is of no significance**   1. Museum archaeologist declares that the site/find is of no significance. 2. Project/Site Manager notifies respective authorities. 3. The Project/Site Manager keeps a copy of the chance finds record for his/her own records. 4. No further action is required. 5. The chance find procedure ends. 6. Construction activities can continue. | | **STEP 4 B – Site is significant**   1. Museum archaeologist declares that the site/find is significant. 2. The archaeologist of the museum directorate decides on the next steps and informs the Project/Site Manager. 3. Project/Site Manager notifies respective authorities. 4. Go to Step 5. | |
| **STEP 5 – Site survey**  Project staff follows the instructions of the archaeologist of the related Museum. | | | |
| 1. Following the site survey, the museum archaeologist declares that the **site is of** **minor significance**. 2. Project/Site Manager informs the PMU. 3. Project/Site Manager records Part C of the Chance Find Form. 4. No further action is required. 5. The chance finds procedure ends. 6. ***Construction activities can resume.*** | 1. Following the site survey, the museum archaeologist declares that the **site is moderately significant**. 2. More advanced works such as the test pit/recovery excavation or remote sensory surveys will be completed. 3. Museum archaeologist will instruct and/or supervise works. 4. Project/Site Manager informs the PMU. 5. Project management will provide an archaeological task force under the lead of the museum archaeologist. The task force will be composed of qualified archaeologists as well as other specialists and workers. 6. Upon completion of excavation, the team will report to the museum. 7. Museum forwards the findings of the survey to the Regional Cultural Asset Conservation Board. 8. The Regional Cultural Asset Conservation Board will officially approve such recovery and notifies the Project management. 9. Project/Site Manager records Part C of the Chance Find Form. 10. No further action is required. 11. The chance finds procedure ends. 12. ***Construction activities can resume.*** | | 1. Following the site survey, the museum archaeologist declares that the site/find is **highly significant**. 2. Recovery excavation will be completed. 3. The site will be handled in observance of the provisions of the Law No.2863 on the Protection of Cultural and Natural Assets dated 21.07.1983. 4. Museum Archaeologist provides instructions and/or supervision for the test pit/archaeological recovery excavation. 5. Project/Site Manager informs the PMU. 6. Project management will provide an archaeological task force under the lead of the museum archaeologist. The task force will be composed of qualified archaeologists as well as other specialists and workers. 7. Upon completion of excavation, the team will report to the museum. 8. The Regional Cultural Asset Conservation Board will officially approve such recovery and notifies the Project management. 9. The site will be registered and placed under protection as per the Turkish legislation. 10. Project/Site Manager informs the PMU. 11. Project/Site Manager records Part C of the Chance Find Form. 12. No further action is required. 13. The chance find procedure ends. 14. ***Construction activities may resume in accordance with the Board's decision or additional preventive studies may be required.*** |

**4. Monitoring and Reporting**

Project/Site Manager will visually monitor any and all construction and other activities as proof of presence of cultural inheritance assets.

Chance Finds will be recorded in the Chance Finds Notification Form. Print copies of Chance Find Notification Forms will be available on site, which will be always scanned once filled in and registered and saved.

Chance Find Notification Forms will be updated by the Project/Site Manager, which be recorded in the Chance Finds Log. This document will be regularly checked.

**CHANCE FIND REPORT FORM****/ RASTLANTISAL BULUNTU RAPOR FORMU**

Chance Find Report Form

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PART A**  **BÖLÜM A** | | | | | |
| Project Location:  *Proje Sahası* | District (İlçe):  Village (Köy): | | Date:  *Tarih* | | Form No: |
| Name of person reporting chance find:  *Rastlantısal buluntuyu rapor eden kişinin ismi* | | | | | |
| Was work stopped in the immediate vicinity of the chance find? ☐ Yes ☐ No  *Rastlantısal buluntunun tam çevresinde iş durduruldu mu? Evet Hayır* | | | | | |
| Was a buffer zone created to protect the chance find? ☐ Yes ☐ No  *Rastlantısal buluntuyu korumak için tampon bölge oluşturuldu mu? Evet Hayır* | | | | | |
| NOTIFICATION  *BİLDİRİM* | | | | | |
| Project/Site manager contacted ☐ Yes ☐ No  *Proje/Şantiye Müdürü ile irtibata geçildi Evet Hayır* | | | | | |
| **CHANCE FIND DETAILS**  ***RASTLANTISAL BULUNTU AYRINTILARI*** | | | | | |
| GPS coordinates  *GPS koordinatları* | | | Photo record ☐ Yes ☐ No  (HD quality – no cell phone photos)  *Fotoğraf kaydı Evet Hayır*  *(HD kalitesinde – cep telefonu fotoğrafı değil)*  If not, explain why:  *Yok ise nedenini açıklayınız*  Other records ☐ Yes ☐ No  Specify (drawings, HD quality videos, etc.):  *Diğer kayıtlar Evet Hayır*  *Belirtin (çizimler, HD kalite videolar, vb.)* | | |
| Description of chance find:  *Rastlantısal buluntunun tanımı* | | | | | |
| Description of site and vegetation: (e.g. surface sediment type, ground surface visibility, distance to closest watercourse, etc.)  *Sahanın ve bitki örtüsünün tanımı: (örn. Yüzey sediman türü, yüzey zemin görünürlüğü, en yakın su yoluna olan mesafe, vb.)* | | | | | |
| **PART B**  ***BÖLÜM B*** | | | | | |
| NOTIFICATION OF MUSEUM DIRECTORATE ARCHAEOLOGIST  *MÜZE MÜDÜRLÜĞÜ ARKEOLOĞUNA BİLDİRİ* | | | | | |
| Monitoring archaeologist contacted museum directorate archaeologist ☐ Yes ☐ No  *Arkeolog müze müdürlüğü arkeoloğu ile irtibata geçti. Evet Hayır*  Date of notification:  *Bildirim tarihi*  Name of museum directorate and Name of museum archaeologist:  *Müze müdürlüğü ve Müze müdürlüğü arkeoloğunun ismi*  Contact number of museum directorate archaeologist:  *Müze müdürlüğü arkeoloğunun iletişim numarası* | | | | | |
| **DECISION OF MUSEUM DIRECTORATE ARCHAEOLOGIST**  ***MÜZE MÜDÜRLÜĞÜ KARARI*** | | | | | |
| Date of site visit:  *İlk saha ziyaret tarihi:* | | | | | |
| ☐ Site of no significance - Construction to proceed with no further action – End of chance find procedure  *Önemsiz saha – İnşaat daha fazla araştırma yapılmadan devam edilebilir – rastlantısal buluntu prosedürün sonu.*  Date of notice to resume work:  *İşe başlama tarihi bildirisi* | | | ☐ Site of significance - Further actions required  *Önemli saha – Ek araştırma gerekmektedir*  Please Fill out Part C  *Lütfen Bölüm C’yi doldurun.* | | |
| Name of museum directorate archaeologist:  *Müze müdürlüğü arkeoloğunun ismi*  Contact information:  *İletişim numarası* | | | | | |
| Project/Site manager contacted ☐ Yes ☐ No  Proje/Şantiye Müdürü ile irtibata geçildi Evet Hayır | | | | | |
| **PART C**  ***BÖLÜM C*** | | | | | |
| FURTHER FIELD INVESTIGATION  *EK SAHA ARAŞTIRMASI* | | | | | |
| ☐ Site of minor significance  *Önemsiz saha* | | ☐ Site of moderate significance  *Az önemli saha* | | ☐ Site of major significance  *Çok önemli saha* | |
| Describe additional work to be conducted:  *Yapılması gereken ek işlerin tanımları* | | | | | |
| Date started:  *Başlangıç tarihi* | | | Date completed:  *Bitiş tarihi* | | |
| Date of notice to resume work:  *İşe başlama tarihi bildirisi* | | | | | |
| Name of museum directorate archaeologist:  *Müze müdürlüğü arkeoloğunun ismi:*  Contact information:  *İletişim numarası* | | | | | |
| Construction manager contacted ☐ Yes ☐ No  *Proje/Şantiye müdürü ile irtibata geçildi Evet Hayır* | | | | | |

Chance Find Form

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DATE OF FIND** | **BRIEF DESCRIPTION OF THE CHANCE FIND** | | **NAME OF AUTHORIZED STAFF HAS BEEN NOTIFIED** | | **ACTION TAKEN** | | **NAME OF AUTHORIZED STAFF FILLED THE CHANCE FIND FORM** | | **STATUS (OPEN/CLOSED)** | | **OTHER CONSIDERATIONS** | |  |
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Contact Information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **MUSEUM** | **ADDRESS** | **TELEPHONE** | **FAX** | | **E-MAIL** |
|  |  |  | |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CONSERVATION  BOARD | AREAS OF  RESPONSIBILITY | ADDRESS | TELEPHONE | FAX | E-MAIL |
|  |  |  |  |  |  |

# ANNEX 12- ENVIRONMENTAL & SOCIAL SCREENING CHECKLIST FOR SUBPROJECTS

The sub-projects to be proposed within the scope of Component 2 can be divided into three types as per the activity to be performed as below:

* **Type-I:** The sub-projects with demolition and reconstruction - buildings were registered as risky building, however, no demolition activity has been performed at the time of loan application
* **Type-II:** The sub-projects with retrofitting - buildings were registered as risky building, however, loan application is made for only retrofitting rather than demolition and reconstruction
* **Type-III:** The sub-projects with only reconstruction - buildings were registered as risky building and demolished before loan application, and the application is only made for reconstruction.

**ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST**

|  |  |
| --- | --- |
| **PART-I** | |
| **Sub Project Type** | Type III |
| **Name of Subproject** | Reconstruction within the Scope of Climate and Disaster Resilient Cities Project: |
| **Projected Start Date** |  |
| **Address** |  |
| **Prepared by** |  |
| **Preparation Date** |  |

| **PART-II: Environmental and Social Risks - Current Situation** | | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Environmental and Social Considerations** | | **Projected Risk According to the Current Situation (provide as much detail as possible in the columns)** | | | | | | | | | | | | | | | | | | | |
| **Risk Level** | | **No Risk** | | **Low Risk** | | **Moderate**  **Risk** | | | **Substantial Risk** | | | | | | | | **High Risk** | | | | |
| What is the level of the risk of the subproject to damage a known cultural heritage in terms of sub-project area’s proximity? | |  | |  | |  | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| What is the level of the risk of the subproject to pollute a water body in terms of sub-project area’s proximity? | |  | |  | |  | | | | | |  | | | |  | | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| What is the risk regarding impacts related with dust generation in terms of the sensitivity level of the receptors? | |  |  | | |  | | | | | | |  | | | | | |  | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| What is the risk level regarding impacts related with noise generation in terms of the sensitivity level of the receptors? | |  | |  | |  | | | | | | | |  | | | | | |  | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| What is the risk level regarding vulnerability status of the population of the building to be demolished/reconstructed/ retrofitted (the vulnerable group population of the building to be demolished can be assessed)? | |  | |  | | | |  | | | | | | |  | | | | | |  |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| What is the risk level regarding livelihood impact for any worker working in the building (e.g., supers and other workers population)? (This section should be completed if there are personnel (eg. super) or commercial enterprises in the building, providing brief information about their status following the building’s risk assessment. If neither applies to the sub-project, please clearly indicate this.) | |  | |  | |  | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| What is the risk of in-adequate waste management in terms of the waste management capacity of the region where the sub-project will be realized? | |  | |  | | |  | | | |  | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | |
| **PART-III: Environmental and Social Risks - Anticipated risks of sub-project activities** | | | | | | | | | | | | | | | | | | | | | | |
| **Environmental and Social Considerations** | **Anticipated Risk (provide as much detail as possible in the columns)** | | | | | | | | | | | | | | | | | | | | | |
| **Risk Level** | **No Risk** | **Low**  **Risk** | | | **Moderate**  **Risk** | | | | | **Substantial**  **Risk** | | | | | | | | **High**  **Risk** | | | | |
| What is the risk of presence of asbestos material at the building to be demolished/retrofitted in terms of the building’s age? (As a pre visual observation assessment)? |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | | | |
| What is the risk regarding impacts related with dust generation in terms of the volume of building to be demolished and/or reconstructed? |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | | | |
| What is the level of risk of the subproject in terms of possible increase on the traffic load, given the duration (depending on the size of the work, e.g., the size of the new building) and intensity of the activities. |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | | | |
| What is the risk regarding impacts related with construction & demolition waste generation of the sub-project (for instance, such criteria can be assessed: volume of the building to be demolished, nature of the activity to be performed (much less construction & demolition waste will be generated during retrofitting when compared to demolishing) etc.)? |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | | | |
| What will be the extent of occupational exposure and other OHS risks of the subproject, other than asbestos (e.g., will there be work at height during retrofitting activities, or how much will the risk of working at height be when performing reconstruction activities, depending on the design of the new structure, etc.)? |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation**: | | | | | | | | | | | | | | | | | | | | | |
| What will be the level of the risk of the subproject within the scope of RF?  This section will be filled out by taking into consideration the following:   * Identification of vulnerable groups (if any) affected by the building to be transformed under the Project and determination of their entitlement (tenant/homeowner) status.   *This is an indicative piece of information. Please adjust it according to the information you have.*  Please provide details with about the potential vulnerable groups in the building with reference to their rights within the scope of the CDRC Project. (i.e. additional interest deduction, rental support, etc.).  *Vulnerable groups: Female-headed households, elderly, persons with disabilities, poor households (including those with many children) and persons without social security insurance (including unemployed youth and households with child laborers), migrants / Syrians under temporary protection / Ethnic groups, persons and groups whose livelihoods depend on the structures covered by the Project and who will be permanently displaced economically and physically (e.g.supers)* |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation**:    Within the scope of the Climate and Disaster Resilient Cities Project, beneficiaries who have not previously benefited from rental assistance or interest support have been informed that they can apply for and benefit from rental assistance in accordance with Article 16 of the Implementing Regulation of Law No. 6306 and the conditions specified in the Rental Assistance Guide, even if the one-year application period has passed.  Accordingly, the project will ensure that all eligible PAPs (homeowners, renters, business owners, etc.) receive compensation in accordance with the Project’s RF. | | | | | | | | | | | | | | | | | | | | | |
| Other environmental and social risks (if any, please identify nature and level) |  |  | | |  | | | | |  | | | | | | | |  | | | | |
| **Explanation:** | | | | | | | | | | | | | | | | | | | | | |

| **PART-IV: Environmental and Social Risks - Current Status (For Type-III subprojects only)** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Environmental and Social Considerations** | **Risk According to Predicted / Observed Conditions** | | | | |
| **Risk Level** | **No Risk** | **Low**  **Risk** | **Moderate**  **Risk** | **Substantial**  **Risk** | **High**  **Risk** |
| What is the risk in terms of presence of unmanageable amount of demolition waste, if they are still present at the site or areas close to the site, if any? |  |  |  |  |  |
| **Explanation:** | | | | |
| What is the risk of future grievance regarding dust generation, due to evidence of such grievance during demolition? (Was there a significant complaint(s) about dust during the demolition?) |  |  |  |  |  |
| **Explanation:** | | | | |
| What is the risk of future grievance regarding noise generation, due to evidence of such grievance during demolition? (Was there a complaint about noise during the demolition?) |  |  |  |  |  |
| **Explanation:** | | | | |
| What is the risk of meeting with nuisance with neighbors due to a damage to other buildings during the demolition process? |  |  |  |  |  |
| **Explanation:** | | | | |
| What is the risk of future issues due to lack of demolition plan during the demolition or insufficiency of it in terms of quality? |  |  |  |  |  |
| **Explanation:** | | | | |
| What is the risk in terms of asbestos presence at the demolition site as a pre visual observation assessment) |  |  |  |  |  |
| **Explanation:** | | | | |
| What is the risk in terms of legal / reputational / public discomfort due to any fatal accident or accident caused disability during the demolition process? |  |  |  |  |  |
| **Explanation:** | | | | |
| As a preliminary observation, are there any property owners who will benefit from the additional interest rate discount specified in the sub-project?  (This is an indicative piece of information. Please adjust it according to the information you have.  ﻿  *(Within the scope of the Project, four categories determined by the Presidency for annual interest rate reduction on loans are presented below):*  ***Category I:*** *Citizens who do not own any other independent unit registered in the land registry besides the risky building in which they reside, and are homeowners residing in the same property with their household.*  ***Category II****: Households with low and middle income (50,650 TL and below).*  ***Category III****: Families of martyrs, veterans, war and duty disabled individuals, widows and orphans, retirees, citizens with at least 40% disability, and households where the main income earner is a woman or where there is a high level of social vulnerability.*  ***Category IV:*** *For projects where an A or B type social vulnerability ID card is presented, an annual interest rate reduction of 0.50 or 0.25, respectively, is applied.*  (For additional interest rate reduction categories, please visit the link below:  <https://kentseldirenclilik.csb.gov.tr/proje-kapsaminda-verilecek-kredilerin-yillik-faiz-oranina-baskanligimizca-belirlenmis-olan-4-kategoriden-her-bir-kategori-icin-yillik-bazda-faiz-indirimi-uygulanacaktir-haber-286788>) |  |  |  |  |  |
| **Explanation:** | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PART-V: Screening Summary** | | | | | | | | | | |
| **Designated Category** | **Environmental** | | | | | **Social** | | | | |
| High\* | Substantial\* | Moderate\* | | Low\* | High\* | Substantial\* | | Moderate\* | Low\* |
|  |  |  | |  |  |  | |  |  |
| **Reasons for Determining the Category and Related Details** |  | | | | |  | | | | |
| **Required Tools** | Neighborhood Level ESIA\*\* | | | C-ESMP Checklist\*\*\* | | | | E&S Audit / Environmental and Social Action Plan\*\*\*\* | | |
|  | | | REQUIRED. | | | |  | | |

\* Note to User: If one or more of the questions asked in the screening list on environmental issues are answered as "high risk", the relevant sub-project will be identified as "high risk" in environmental terms.

\*\* Note to User: Neighborhood level / based ESIAs will not be sub-project specific. In case more than 10 sub-projects with a social risk classification of "high" and environmental risk classification of "substantial" are implemented in the same neighborhood within a one-month period, this box will be filled in the screening checklist of each sub-project and sent to the PMU head office for their review.

\*\*\* Note to User: It will in all probability be required for each proposed sub-project, however, its scope will be determined based on the assessments in this screening list.

\*\*\*\* Note to User: E&S Audit will be required for each Type-III subproject. The requirement for an Environmental and Social Action Plan will be determined based on the results of the audit but is highly likely to be required. The ESAP will include relevant environmental and social corrective measures based on the findings of the E&S Audit.

# ANNEX 13- LIST OF NON-ELIGIBLE TYPES OF SUB-PROJECTS

The list of non-eligible types of sub-projects are presented below:

* Any sub-project that is included in the World Bank Group/International Finance Corporation Exclusion List
* Any sub-project that includes the buildings registered as Cultural Heritage.
* Any sub-project that will have impacts on Natural Habitats/Critical Habitats and trigger an overall ESS6 such as alteration of environmentally important areas, including wetlands, native forests, grasslands, and other “critical” natural habitats and ecosystem services.
* Any sub-projects where in-situ transformation is not possible.
* The buildings which are not registered as risky building within the scope of Law and Implementation Regulation.
* Risky buildings within designated Disaster Exposed Areas.
* Any sub-project that would affect the quality and/or quantity of international waterways as defined in WB OP 7.50 and that would benefit from existing hydroelectric dams in a way, triggering any dam safety issues under the scope of ESS4.
* Any Type-III sub-Project, whose demolishing works had been completed before October 1, 2020.
* Any sub-project which would be classified as “High Risk”[[45]](#footnote-45) in terms of environmental risks.

# ANNEX 14- OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT PLAN

**1. Purpose and Scope**

This plan presents the Occupational Health and Safety (OHS) management principles for the subproject activities within the scope of Component 2 of the Project. Prior to construction activities, the Contractor will also develop its own Occupational Health and Safety Management Plan (OHSMP) in line with national legislation to address OHS issues.

This plan outlines the framework of the OHS system to be followed by the Contractor during the land preparation and construction phase.

This plan has been prepared to be implemented by the Project Management Unit (PMU), Contractors and Subcontractors. In addition, Contractors are required to adopt plan requirements within their management plans. The roles and responsibilities for the implementation of the Plan are presented in Chapter 3.

This Plan is a living document and responsibilities, procedures and compliance actions should be updated as appropriate.

**2. Legal Framework**

**2.1. National Legislation**

The main national legislation that the Project is subject to on occupational health and safety is as follows:

* + Occupational Health and Safety Law No. 6331
  + Health and Safety Signs Regulation
  + Implementing Regulation on the Duties, Authorities, Responsibilities and Training of Workplace Physicians and Other Health Personnel
  + Regulation on Emergency Situations in Workplaces
  + Implementing Regulation on the Procedures and Principles of Employee Occupational Health and Safety Training
  + Communiqué on Workplace Hazard Classes Regarding Occupational Health and Safety
  + Regulation on the Duties, Authorities, Responsibilities and Training of Occupational Safety Specialists
  + Occupational Health and Safety Services Regulation
  + Occupational Health and Safety Risk Assessment Regulation
  + Regulation on Occupational Health and Safety Boards
  + Regulation on Health and Safety Measures in Asbestos Work
  + National Occupational Health and Safety Council Regulation
  + Regulation on Stopping Work at Workplaces
  + Regulation on Health and Safety Conditions in the Use of Work Equipment
  + Regulation on the Protection of Employees from the Hazards of Explosive Environments
  + Implementing Regulation on the Use of Personal Protective Equipment in Workplaces
  + Implementing Regulation on the Vocational Training of Those Who Will Work in Dangerous and Very Dangerous Class Jobs
  + Regulation on the Protection of Employees from Risks Related to Noise
  + Regulation on Health and Safety Precautions in Working with Chemicals
  + Regulation on Laboratories Performing Occupational Hygiene Measurement, Testing and Analysis
  + Regulation on Health and Safety Precautions in Working with Screened Vehicles
  + Regulation on the Protection of Employees from Vibration Related Risks
  + Regulation on Occupational Health and Safety in Temporary or Fixed Term Jobs
  + Communiqué on the Qualifications and Selection Procedures and Principles of the Employee Representative on Occupational Health and Safety
  + Regulation on Combating Dust
  + Regulation on Support of Occupational Health and Safety Services
  + Implementing Regulation on the Prevention and Mitigation of Major Industrial Accidents
  + Regulation on Occupational Health and Safety in Construction Works
  + Regulation on the Procedures and Principles of Employment of Children and Young Workers
  + Communiqué on Supporting Occupational Health and Safety Services
  + Regulation on Protection of Buildings from Fire
  + Communiqué on Categorization Guide of Personal Protective Equipment

**2.2. World Bank ESF Requirements**

**2.2.1. Labor and Working Conditions - ESS2**

ESS2 emphasizes measures relating to occupational health and safety that should be applied to the Projects and sets the requirements that should be fulfilled by financed Projects.

**2.2.2. Environmental Health and Safety Guidelines**

The World Bank Group Environmental, Health and Safety Guidelines (EHS Guideline) are technical reference documents with general and industry-specific examples of GIIP. EHS Guideline is used as a technical source of information during Project appraisal. The EHS Guideline contains the performance levels and measures that are generally considered to be achievable in new facilities at reasonable costs by existing technology. Occupational Health and Safety is addressed in the General EHS Guideline document under Section 2. In addition, in Section 4.2, risks and measures related to occupational health and safety are specified in construction and demolition activities.

**3. Roles and Responsibilities**

Involvement of all in implementing, maintaining and continually improving OHS processes is the key to successful completion and achievement of quality objectives set by the management. All Project personnel will therefore be required to be familiar with the content of this plan and will participate in implementing, maintaining and improving the management system. It is the responsibility of the PMU and all key personnel to ensure that the requirements for quality are fulfilled for works under their responsibility.

All new staff and staff who are given new responsibilities are to be inducted into the requirements set out in this plan in general and into their function and responsibilities in particular. In this context, roles and responsibilities related to occupational health and safety management are given in the table below:

Roles and Responsibilities

| **Roles** | **Responsibilities** |
| --- | --- |
| Project Management Unit (PMU) | * Ensure adequate resources are provided for the implementation of this Plan. * Review and update the Plan as needed * Ensuring that technical support is provided to contractors to implement the plan. * Ensure that relevant training is provided by contractors through review of training records and relevant training documentation. * Supervising the contractor's compliance with Project requirements through contractor monitoring and reports. |
| Contractor  Management Representative / Project Manager | * Demonstrates the values through H&S Leadership outlined within this H&S plan. * Provides suitable and sufficient resources (e.g., people, equipment and budget) to ensure H&S department can fully function. * Reviews H&S performance to provide support and commitment and to ensure that areas of concern are recognized and effectively managed. * Provides active participation in the implementation of the safety program (e.g., audits, safety committees, training etc.). * Recognizes personnel who continuously demonstrate commitment and proactive leadership qualities with regard to H&S. * Ensures that H&S will be the first specific topic, at all Project related meetings. * Reviews the H&S performance on an ongoing basis, provide support and commitment to ensure that areas of H&S concern are recognized and managed. * Establishes coordination to resolve the non-compliance issues that cannot be addressed / resolved by the line organization. * Participates actively in the implementation of the safety program (e.g., audits, safety committees, training etc.). * Approves specific work method statements and risk assessments for work being carried out, where applicable. * Will co-ordinate with the H&S Expert and facilitate the weekly H&S meetings. * Will set a personal example and assist in the proactive promotion of safety as a personal objective. * Ensures that all sub-contractors at the site are aware and trained in the H&S requirements of the Project. * Actively participates in construction site/ camps and office inspections. * Ensures that this plan is implemented in line with Project standards * As his/her main responsibility, ensures the implementation of the Plan (also by the Subcontractors, if any) and reports the non-compliances and the implementation performance of the Plan to the PMU. * Participates in the development of corrective and/or remedial actions when necessary (e.g., when non-compliances are detected, when there is a change in the relevant legislation, etc.). * Provides relevant training. * Performs internal and daily audits and recording any non-compliances detected. * Ensures that relevant non-compliances are recorded and promptly responded to. * Reviews and updates the Plan as needed (in coordination with the PMU). * Develops and implements a program for monitoring and analysis of all environmental incidents and contingencies * Ensures that OHS considerations are included in the daily checklist to be included in the monthly report to the PMU |
| Contractor  OHS Focal Point | * Provides office H&S support and assistance as required. * Evaluates and monitors the safety performance on a weekly and monthly basis. * Develops all necessary ISO 45001:2018 Systems Documents * Develops core H&S Strategies, Procedures, Instructions etc. * Effectively manages the safety personnel under his control and provide appropriate direction and training as required optimizing their effectiveness on site * Establishes an inspection scheme and schedule that involves all levels of site supervision, office personnel and other exposed to the define stage of the Project * Implements an H&S training program * Reviews the results of inspections of PMU to identify safety issues and deficiencies, and to advise PMU on findings * Co-ordinates the investigation of any incident (LTI, near miss, property damage etc. as necessary) * Identifies any trends relevant to incident investigations that become apparent and to ensure that remedial actions have been agreed and corrective action performed and recorded * Reviews, compiles, analyses, and interprets contractor Key Performance Indicator data to determine causes, trends, and relationships of injury/illness, major severity potential Incidents and all other unplanned events * Inspects the place of employment, by visual observation and mechanical testing equipment, to observe and report on potential violations of any of the above H&S standards * Gathers evidence and prepares reports on safety violation complaints and occupational accidents and fatalities * Reviews accident, injury, and illness reports to detect problem areas related to employee / contractor safety * Act as a team member of all Incident Investigation committees where required |
| All Staff | * Learning, understanding and complying with all Health & Safety procedures, rules and practice which are applicable to their conduct at all times whether at or away from the workplace * Employees are responsible for their personal safety and the safety of their co-workers, through both their acts or their omissions * Be constantly aware of their work situation and report hazardous situations to their supervisors, stopping work and informing their immediate supervisor if there is a potential for any harm * Comply with all health and safety requirements, practices and other initiatives at all times * Use and maintain the appropriate supplied Personal Protective Equipment (PPE), reporting all deficiencies and replacing as necessary * Reporting substandard procedures or conditions to their immediate supervisor * Understand that any employee who jeopardizes their safety and health and /or the safety and health of others will be subject to disciplinary action (including immediate termination of employment) * Working in a safe manner at all times. * Stopping their immediate or impending work where they consider the work being performed is ‘at risk’ or unsafe |

**4. Mitigation Measures and Management Controls**

**4.1. Risk Assessment and Management**

Risk assessment and the management of risks is a key process for the management of H&S and is central to meeting the expectations of the Project’s H&S goals. The approach focuses on identifying, assessing and managing H&S related risks in all Project activities.

The approach is one of systematic identification of hazards, recording of hazards, performing risk assessments, and devising risk controls to eliminate or reduce risk to at least tolerable level that is “As Low as Reasonably Practicable (ALARP)”.

The main categories of activity for which risk assessments are required on a case-by-case basis are:

* + Hazard Identification (HAZID);
  + Hazard and Operability Study (HAZOP);
  + Quantitative Risk Assessment (QRA);
  + Layout reviews;
  + Design and engineering reviews;
  + Utilization of an Action Tracking Register.

The Contractor will implement a number of risk assessment and risk management activities prior to the commencement of construction activities.

Actions will be taken to resolve potential problems prior to beginning work or mobilization to site, underlining the need to determine levels of risk for all activities to impose appropriate management controls.

The Contractor is required to continue the development of these assessments to ensure that risks are mitigated prior to execution of the work. The Contractor will develop a comprehensive training program that will be in compliance with Turkish H&S Legislation and the requirements of the World Bank.

**4.2. Hazard Identification**

Identification of hazards is the responsibility of all personnel who access all Project areas. The Contractor must ensure that hazards with potential to harm personnel are identified, assessed (in terms of risk) and controlled to reduce the risk.

The Contractor will provide a range of tools to assist in the identification, assessment and control of hazards and risks pertaining to activities within the Project area.

Risk assessment framework should be in place to provide for the efficient assessment of risks, and allow for the implementation of controls commensurate with the level of risk identified.

Hazards and risks are identified through other means such as:

* + throughout the course of a work activity;
  + during workplace inspections;
  + during pre-start inspections of equipment;
  + through Incident Analyses;
  + during auditing activities; and
  + via a range of other methods.

**4.3. Incident Management**

The Contractor must ensure immediate response to and timely reporting, analysis and communication of all incidents to PMU.

All personnel have a responsibility to report all incidents regardless of severity, to their supervisor as soon as practicable.

All incidents will be recorded in the approved incident reporting system, and be analyzed to a level commensurate with the actual consequence or potential risk rating, whichever is higher.

**4.4. Injury Management**

The Contractor is committed to return workers to meaningful and productive employment at the earliest possible time.

**4.5. Fitness for Duty**

The Contractor employees will undergo a medical assessment to ensure they are medically fit to perform their role before commencing the works and these controls will be repeated annually.

Employees must make their supervisor informed of any pre-existing injury or illness which may affect their performance or has the potential to impact safety and health in the workplace. A medical assessment may also be required to determine associated risks or limitations.

The Contractor will ensure that work activities do not aggravate a disclosed injury or illness, or impact the safety and health of the workplace.

**4.5.1. Health Surveillance**

The Contractor must ensure that health assessments are carried out in respect of all personnel who engage in specific tasks with the potential for occupational exposure, if:

* + an identifiable disease or other adverse effect on the health of the employee may be related to the exposure;
  + there is a reasonable likelihood that the disease or adverse effect may occur under the particular conditions of work; and
  + there are recognized techniques for detecting indications of the disease or adverse effect.

Health Surveillance is carried out to monitor for possible health effects that may arise following occupational exposures at concentrations above accepted exposure standards. Where a risk assessment determines there is a reasonable likelihood that employees may be exposed to an occupational hazard at levels exceeding accepted values, management will conduct specific health monitoring to assess actual exposures and the effects of these exposures on personnel.

**4.5.2. Fatigue Management**

Fatigue is defined as an impaired physical and/or mental condition that arises from an individual’s exposure to physical and mental exertion and inadequate or disturbed sleep.

The Contractor recognizes that fatigue may arise from hours and patterns of work and activities, and travel/commute time. As it is also influenced by factors outside of work, such as family responsibilities, stress, lifestyle, personal health etc., the management of fatigue is a shared responsibility between management and the individual.

**4.6. General Hazard Prevention**

The Contractor acknowledges the risk associated with Project area operations, and provides for the reporting and rectification of hazards.

**4.6.1. Working Alone**

Where personnel are required to work alone, the activities and conditions should be subjected to risk assessment and a safe system of work should be developed.

**4.6.2. Manual Handling**

Where a manual handling task is required, a risk assessment will be completed to identify the hazards. The risk of injury should be assessed for each hazard, and appropriate controls implemented, including manual handling training as appropriate.

The Contractor must ensure suitable powered mechanical plant or equipment and lifting aids are provided to enable personnel to avoid heavy manual tasks.

**4.6.3. Hygiene and Sanitation**

The Contractor must supply suitable facilities for personnel including:

* + toilet facilities within a reasonable distance from each workspace;
  + sanitation and hygiene facilities that are properly maintained;
  + eating places that are dry, clean, well-ventilated and have adequate seating, tables, hand washing and waste disposal facilities; and
  + potable water supplies available to all personnel.

Personnel must not intentionally pollute work areas or misuse or damage any sanitation or hygiene facilities provided.

**4.6.4. Occupational Hygiene**

The Contractor must ensure commitment to monitoring and reporting of occupational health hazards and hazardous occupational environments, and implement controls to reduce risk in accordance with all applicable regulations and, wherever practicable, with regard to accepted best practices.

Specific occupational hygiene assessments will be conducted with reference to approved methodologies and applicable standards. Ongoing assessments will be conducted and, as required, controls implemented for the following occupational health hazards:

* + airborne contaminants such as metal dusts, respirable silica and asbestos fibers; and
  + occupational noise exposure.

Risk assessment, evaluation and control of occupational hazards may be undertaken in consideration of the following broad hazard categories:

* + chemical hazards - such as fumes and vapors;
  + physical hazards - those related to heat, cold, noise, vibration, ionizing radiation, ultra-violet light and workplace lighting;
  + biological hazards - including mosquito-borne viruses, potable water contaminants and other water-borne hazards such as legionella; and
  + ergonomic hazards - including manual handling hazards.

**4.6.5. Hazardous Substances**

The Contractor must ensure the safe control of hazardous substances and reduce the level of exposure to personnel, property and the environment in accordance with the ESIA Requirements.

A risk assessment will be undertaken to assess the health risks to personnel. Health Surveillance may be required to monitor the health of personnel who are at significant risk of exposure to hazardous substances. Material Safety Data Sheet Forms will be present near each chemical and hazardous substance.

**4.6.6. Personal Protective Equipment (PPE)**

The Contractor must ensure that all personnel and visitors wear or use personal protective equipment provided if it is necessary to protect them from harm. Personal protective equipment will be properly fitted, and users instructed in their use.

All personal protective equipment supplied must conform to an applicable be properly maintained and, if it becomes defective, replaced.

**4.6.7. Safety Signs**

The Contractor must ensure that sufficient Safety Signs are posted in workplaces and travel ways to prevent incidents, identify hazards, indicate the location of safety and fire protection equipment, and provide guidance and instruction in emergency procedures.

**4.6.8. Fall Prevention**

The Contractor must ensure that all personnel undertaking activities where there is a risk of a person falling from one level to another do so in a controlled manner to reduce the risk of personal injury.

**4.7. Task Specific Hazard Prevention**

**4.7.1. High Risk Work**

The Contractor must identify High Risk Work, as detailed in the Danger Classes List Communique Related to Occupational Health and Safety (O.G. 25.11.2009/ 27417), and implement a procedure or risk assessment specific to that task to ensure adequate controls are in place to eliminate, prevent or control possible risks.

The Contractor must ensure that personnel performing High Risk Work having relative training with respect to Regulation on The Procedures and Principles Of Employee Health And Safety Trainings (O.G. 15.03.2013 / 28648).

**4.7.2. Electrical Work**

An electrical log book will be kept at each operational site to record plans, work carried out and other relevant information.

Electrical equipment will be provided with full current isolating devices capable of being secured in the isolating position wherever practicable. Where such features are not practicable, a risk assessment will be conducted to establish suitable alternative controls, and outcomes communicated to impacted personnel.

**4.7.3. Scaffolding**

Scaffolding may be used for the purpose of supporting access or working platforms, personnel, plant or other material.

Personnel erecting scaffold must ensure that an area where scaffold is to be erected is clear of rubbish and material or equipment not required for immediate use.

The Contractor must ensure personnel are not required to use incomplete scaffold. Where incomplete scaffold is to be left unattended, danger tags, warning signs or other appropriate measures will be used to alert personnel and deter them from unauthorized access.

**4.7.4. Driving Safety**

The Contractor must ensure that personnel permitted to drive either a vehicle in Contractor controlled areas or a Contractor owned vehicle on public roads, hold a current driver’s license and comply with the relevant road rules for that class of vehicle.

All personnel driving vehicles on Contractor land must obey all traffic directions, traffic rules and the relevant Traffic Management Plan.

**4.8. Access and Site Security**

Access to the Project area will be restricted by the Contractor and necessary precautions will be taken such as fencing the area and placing relevant signs, etc.

It is the Contractor’s responsibility to ensure that all site security requirements identified in the Risk Assessment for this activity are fully implemented.

**4.9. Site Induction and Site Safety Rules**

Site inductions will be carried out by the Contractor. Arrangements for site inductions for this Project will be:

* + Any new worker coming to the work site will be briefed on the site safety rules including the site logistics plan, hazards, evacuation procedures, emergency and first aid procedures, and the duties and responsibilities of all persons on site.
  + A Site Induction briefing and Site Safety Rules will be developed in Turkish and in English.
  + All attendees of the Site Induction briefing will be recorded.
  + Visitors will be given a brief site induction (either orally or in writing) and will be accompanied at all times during their visit to the site.

**4.10. Workplace Inspections**

Inspections of the Project site should be carried out weekly. Contractor will undertake weekly inspections of the whole work site, and specifically of:

* + Equipment
  + Scaffolds
  + Small tools
  + Lifting devices
  + Electrical cables
  + Fire extinguishers
  + First aid kits

Records of the inspections will be kept by H&S Expert.

**5. Training, Reporting and Monitoring**

**5.1. Training**

The Contractor will be committed to providing employees with the necessary training to perform their work safely and effectively.

Refer to the Employment and Training Plan (ETP) for further information about the identification, coordination and management of training.

All personnel are required to complete the induction training. This induction informs participants of the minimum safety, environmental and security requirements to gain access to the Project area.

On completion of the Induction Training, personnel will be suitably inducted to their work area. They will be informed of the hazards and controls, the location of firefighting and first aid equipment, and emergency response and evacuation procedures as a minimum.

It will be the responsibility of the H&S Expert to control and determine the training needs of the personnel, prepare the training programme and have it approved by the Project manager. Trainings may be renewed or additional trainings may be provided if it is seen necessary by H&S expert or Project Manager in case of a significant incident etc.

**5.2. Reporting**

Daily inspections will be carried out under the coordination of the H&S Expert. All serious incidents including near misses will be reported, investigated, and documented immediately to PMU and WB. In this scope, the World Bank and PMU will be promptly notified of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers including but not limited to; incidents and accidents encountered during construction works, environmental spills, etc. Sufficient detail will be provided regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate measures or corrective actions taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervision consultant, as appropriate. It will be ensured that the incident report is in line with the World Bank’s Environment and Social Incidence Response Toolkit (ESIRT). Subsequently, as per the Bank’s request, a report on the incident or accident and propose any measures to prevent its recurrence will be prepared.

All contact with and reporting to government officials is to be done by the H&S Expert in consultation with the Project Manager. In regard to injuries, all compensation carriers have specific legislative reporting requirements for the employer, worker, and attending physician(s).

All incidents will be reported to the H&S Expert immediately. All incidents that require medical attention or have the potential for medical attention require immediate notification to the Project Manager. All serious incidents will be reported to the Project Manager immediately – the notification of any government agencies will be coordinated by the Project Manager.

The H&S Expert and the Project Manager will be promptly notified of equipment or property damage. The Incident Report Form will be completed for all incidents and forwarded to the district office for administrative processing.

**5.3. Monitoring**

Key monitoring activities outlined in the ESMF will focus on ensuring compliance with the mitigation measures and management controls described in this plan, using key performance indicators.

Monitoring activities for each Occupational Health and Safety issue will be detailed in the management / implementation plans and procedures to be prepared by the Contractor prior to the start of the land preparation and construction phase. Monitoring activities will be designed to target specific issues to meet site-specific requirements, in line with the plan framework presented in the ESMF and taking into account key performance indicators.

Performance indicators for the implementation of the Plan are provided below and relevant indicators will also be included in the Project's Environmental, Health and Safety (EHS) procedures and plans:

OHS Management

|  |  |  |  |
| --- | --- | --- | --- |
| **Key Performance Indicator** | **Target** | **Records** | **Responsibility** |
| H&S Audit and Review Schedule | At least once a week | H&S Records  Audit Reports | HS Expert |
| H&S Policies communicated to all Project personnel | At least once a month | Minutes of Meetings  Training Records | HS Expert |
| Management engagement in H&S Meetings/ Reviews to demonstrate visible leadership | At least once a month | Minutes of Meetings | Project Manager |
| Weekly H&S Meetings | At least once a week | Minutes of Meetings | HS Expert |
| H&S Walkdowns | At least once a week | H&S Records  Audit Reports | HS Expert |
| H&S Induction - All Project site personnel receives before commencing the work at site | Before starting the works | Training Records | HS Expert |
| Emergency Drills | Twice a year | H&S Records  Audit Reports | Project Manager |
| H&S Reporting | Quarterly | Quarterly Monitoring Reports | Project Manager |

Lagging Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| **Key Performance Indicator** | **Target** | **Record** | **Responsibility** |
| Number of fatalities | 0 in a year | H&S Records  Incident Reports | Project Manager |
| Lost Time Incident | 0 hours in a year | H&S Records  Incident Reports | Project Manager |
| Total Recordable Injury | 0 hours in a year | H&S Records  Incident Reports | HS Expert |
| Incidents reported and investigated | After each incident | H&S Records  Incident Reports | HS Expert |

**6. Review & Update**

This Plan is a living document and will be updated as responsibilities, procedures and compliance actions are needed (for example, following a change in legislation). It is the responsibility of PMU and contractors to be fully aware of its contents. The Contractors will provide relevant training to staff and ensure that measures/commitments are implemented to ensure compliance with this Plan.

# ANNEX 15- CONTRACTOR ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN CHECKLIST TEMPLATE

Contractor Environmental and Social Management Plan (C-ESMP) Checklist has been prepared for the purpose of identifying and implementing measures to sustain and/or eliminate potential environmental and social risks and impacts that may arise from the project activities to be carried out in the sub-projects of the Climate and Disaster Resilient Cities (CDRC) Project.[[46]](#footnote-46)

C-ESMP Checklist clearly states who will take action, when and how, during the construction phase of the project to manage, monitor and keep potential environmental and social risks and impacts at an acceptable level. C-ESMP has been prepared in accordance with the CDRC Project's ESMF, SEP, LMP, which have been prepared primarily in accordance with Turkish laws and regulations, but also in accordance with World Bank policies and the ESF.

C-ESMP Checklist refers to relevant legal and regulatory framework, assesses the environmental and social risks and impacts that will occur during the subproject, identifies guidelines and procedures to ensure that social and environmental issues are systematically addressed during the subproject phase, and discusses measures and plans to reduce, mitigate and offset adverse risks and impacts.

C-ESMP Checklist provides an environmental and social baseline for the sub-project and project site in question and a detailed list of mitigation measures to encounter the environmental and social risks. The document also clearly explains responsibilities of the parties about environmental and social monitoring.

C-ESMP Checklists includes also the following annexes and sub-management plans:

Annex 1 – Sample Grievance Register Form

Annex 2 – Sample Grievance Closure Form

Annex 3 – Sample Grievance Registration Log

Annex 4 – General Project and Site Information (Maps, Drawings and Photographs)

Annex 5 – Resource Efficiency and Pollution Prevention Plan

Annex 6 – Community Safety and Traffic Management Plan

Annex 7 – Code of Conduct

Annex 8 – Waste Management Plan

Annex 9 – Environmental and Social Screening Checklist

# ANNEX 16- E&S AUDIT REPORT TEMPLATE

The E&S Audit Report for demolition works under the CDRC Project is a key safeguard instrument designed to assess whether demolition activities carried out by beneficiaries (contractors and right holders) align with the Project’s environmental and social standards. The report is a crucial part of the Project's E&S management and is required prior to the issuance of financial support for reconstruction works.[[47]](#footnote-47)

The demolition phase of urban transformation projects presents significant environmental, health, safety, and social risks—including noise, dust, waste management, traffic congestion, and safety hazards. The E&S Audit serves to:

* Assess compliance with national laws and the ESF.
* Identify existing gaps in environmental protection and occupational health and safety (OHS) measures.
* Ensure that no irreversible harm is caused to people or the environment during demolition.

The audit evaluates the demolition site in terms of waste handling and disposal procedures, impacts of dust and noise generation, worker safety protocols, traffic and pedestrian safety around the site, community health and safety concerns, social issues, such as impacts on neighboring properties or vulnerable groups and so on.

It includes visual observations, interviews, documentation review, and incorporate site photos and checklists to support findings.

To successfully pass the E&S Audit and proceed with the next phase of the CDRC Project, potential beneficiaries must comply with legal demolition procedures, including permits and proper documentation, ensure that contractors implement basic OHS measures: proper fencing, warning signs, use of PPE, and first aid availability, manage debris and waste in an environmentally sound manner, with records of legal disposal, minimize disturbances to neighbors by implementing dust suppression, noise control, and traffic safety measures, cooperate with E&S specialists conducting the audit and providing access to the site, records, and relevant personnel.

Failure to meet these requirements may result in delays in disbursement of project funds or mandatory corrective actions.

1. *For details please see the Project Appraisal Document (PAD):* [*https://documents1.worldbank.org/curated/en/099955009082212553/pdf/BOSIB09755adcf0b60b1370d3698b9987d0.pdf*](https://documents1.worldbank.org/curated/en/099955009082212553/pdf/BOSIB09755adcf0b60b1370d3698b9987d0.pdf) [↑](#footnote-ref-1)
2. *The Project Management Unit (PMU) is established under a UTP department at the MoEUCC* [↑](#footnote-ref-2)
3. *The ESMF is available at:* [*https://kentseldirenclilik.csb.gov.tr/ingilizce-dokumanlar-i-108261*](https://kentseldirenclilik.csb.gov.tr/ingilizce-dokumanlar-i-108261) [↑](#footnote-ref-3)
4. *SEP is available at:* [*https://kentseldirenclilik.csb.gov.tr/ingilizce-dokumanlar-i-108261*](https://kentseldirenclilik.csb.gov.tr/ingilizce-dokumanlar-i-108261) [↑](#footnote-ref-4)
5. *The LMP is available at:* [*https://kentseldirenclilik.csb.gov.tr/ingilizce-dokumanlar-i-108261*](https://kentseldirenclilik.csb.gov.tr/ingilizce-dokumanlar-i-108261) [↑](#footnote-ref-5)
6. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-6)
7. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-7)
8. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-8)
9. Republic of Türkiye, Governorship of Kocaeli, Provincial Directorate of Environment, Urbanization and Climate Change. Kocaeli Province 2023 Environmental Status Report. 2023. [↑](#footnote-ref-9)
10. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-10)
11. Republic of Türkiye, Kocaeli Governorship, Provincial Directorate of Environment, Urbanization and Climate Change. Kocaeli Province 2023 Environmental Status Report. Kocaeli, 2023. [↑](#footnote-ref-11)
12. Keten, Akif, Vedat Beskardes ve Zeynep Arslangündoğdu. Observation On Ornithofauna of Kocaeli-Yuvacık Dam Watershed in Turkey. Düzce: Journal of Environmental Biology, 2010. [↑](#footnote-ref-12)
13. Republic of Turkiye, Governorship of Kocaeli, Provincial Directorate of Environment, Urbanization and Climate Change, Kocaeli Province 2021 Environmental Status Report, 2021. [↑](#footnote-ref-13)
14. Republic of Türkiye, Ministry of Environment, Urbanization and Climate Change, Directorate of Geographical Information Systems. [↑](#footnote-ref-14)
15. TurkStat, National Education Statistics. [↑](#footnote-ref-15)
16. The Council of Higher Education, 2025. [↑](#footnote-ref-16)
17. Republic of Turkiye, Ministry of Industry and Technology, Socio-Economic Development Ranking Research of Provinces and Regions, 2017. [↑](#footnote-ref-17)
18. Socio Economic Development Index (SEGE/SEDI) is a study periodically conducted by General Directorate of Development Agencies of Ministry of Industry and Technology at region (NUTS-2), province and district levels. Based upon a wide-ranging set of variables on demography, employment, health, education, financial, competitiveness, innovation and quality of life etc. SEGE defines six tiers of development with first tier being the most and the sixth tier being the least developed for provinces and districts. [↑](#footnote-ref-18)
19. *The definitions of migrants and SuTP are given in Section 6.3.1.8 “Vulnerable Groups”* [↑](#footnote-ref-19)
20. *Ministry of Family and Social Policy, General Directorate of Family and Community Services. Strategy Paper for Roma Population (2016-2021). April 2016. Ankara*

    *Access address:* [*http://www.sp.gov.tr/upload/xSPTemelBelge/files/wZYtU+Roman\_Vatandaslara\_Yonelik\_Strateji\_Belgesi\_2016-2021\_.pdf*](http://www.sp.gov.tr/upload/xSPTemelBelge/files/wZYtU+Roman_Vatandaslara_Yonelik_Strateji_Belgesi_2016-2021_.pdf) [↑](#footnote-ref-20)
21. Saban Artan, E. 2015. Research Report on the Project for Removing the Barriers to the Employment of Roma Citizens Living in Kocaeli. Roma Federation and SGM Academy, June 2015. Funded by the Eastern Marmara Development Agency (MARKA), Republic of Türkiye Ministry of Development. [↑](#footnote-ref-21)
22. İstanbul Metropolitan Municipality Department of Cultural Heritage and Istanbul Planning Agency. 2020. Istanbul Roma Workshop 2019. Istanbul: Istanbul Metropolitan Municipality. [↑](#footnote-ref-22)
23. Ministry of Culture and Tourism [↑](#footnote-ref-23)
24. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-24)
25. Kocaeli Province Industry Situation Report, 2020. [↑](#footnote-ref-25)
26. Kocaeli Province Industry Situation Report, 2020. [↑](#footnote-ref-26)
27. Kocaeli Chamber of Industry. Access Address: https://kosano.org.tr/rakamlarla-kocaeli/?utm\_source [↑](#footnote-ref-27)
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29. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-29)
30. Republic of Türkiye Kocaeli Governorship [↑](#footnote-ref-30)
31. Kocaeli Metropolitan Municipality [↑](#footnote-ref-31)
32. Republic of Türkiye Ministry of Agriculture and Forestry, General Directorate of Agricultural Reform, Agricultural Investor Advisory Office. 2024. Agricultural Investment Guide. [↑](#footnote-ref-32)
33. Republic of Türkiye Ministry of Agriculture and Forestry [↑](#footnote-ref-33)
34. Republic of Türkiye Kocaeli Governorship [↑](#footnote-ref-34)
35. Kocaeli Metropolitan Municipality, 2024. Kocaeli Urban Transformation-Oriented Development Strategy Plan. [↑](#footnote-ref-35)
36. Republic of Türkiye Ministry of Industry and Technology, Kocaeli Provincial Directorate of Industry and Technology, 2021. Kocaeli Provincial Industry Status Report. [↑](#footnote-ref-36)
37. *A “High Risk” environmental rating generally would entail the following impacts (a) significantly impact on human populations, including settlements and local communities (b) alteration of environmentally important areas, including wetlands, native forests, grasslands, and other “critical” natural habitats and ecosystem services; (c) direct pollutant discharges that are large enough to cause degradation of air, water or soil, endangered species and “critical” habitats; (d) largescale physical disturbances of the site and/or surroundings; (e) extraction, consumption or conversion of substantial amounts of forest and other important natural habitats, including above and below ground and water-based ecosystems; (f) measurable modification of hydrologic cycle; and (g) hazardous materials in more than incidental quantities. It should be noted here that, as the whole Project is rated as “High Risk” in terms of social risks, subprojects with “high risk” in terms of social risks will not be non-eligible. Therefore, professional judgement will be used to identify “high risk” categorization in terms of environmental aspects during screening phase.* [↑](#footnote-ref-37)
38. You can access the SEP via: <https://webdosya.csb.gov.tr/db/kentseldirenclilik/icerikler/moeucc-sep-turkeyurbanres-l-ence-p173025----2023-04-17-eng-20230518143435.docx> (03.06.2024).

    16 You can access the webpage via: <https://kentseldirenclilik.csb.gov.tr/> [↑](#footnote-ref-38)
39. Web sayfasına şu adresten ulaşabilirsiniz: [https://kentseldirencliği.csb.gov.tr/](about:blank) [↑](#footnote-ref-39)
40. The Labor Management Procedures (LMP) is available at: <https://webdosya.csb.gov.tr/db/altyapi/icerikler/moeucc_lmp-20220705095035.pdf> [↑](#footnote-ref-40)
41. In the Law and the Implementing Regulation, the Administration refers to “Municipalities within the boundaries of municipalities and adjacent areas, special provincial administrations outside these boundaries, metropolitan municipalities in metropolitan provinces and, if authorized by the MoEUCC, district municipalities within the boundaries of metropolitan municipalities”. Since all of the provinces within the scope of the Project are metropolitan cities, the “Administration” will be used as the Municipality within the scope of the Project*.* [↑](#footnote-ref-41)
42. The RF is available at: <https://webdosya.csb.gov.tr/db/altyapi/icerikler/moeucc_rf-20220601190650.pdf> [↑](#footnote-ref-42)
43. The term "Pollution" is used to refer to both hazardous and non-hazardous chemical pollutants in solid, liquid, or gaseous form and includes thermal discharge into water, emissions of short and long-lived climate pollutants, offensive odors, noise, vibration, radiation, electromagnetic energy and contains other components, such as the creation of potential visual impacts, including light [↑](#footnote-ref-43)
44. Considering that measures to promote reductions in the use of energy and raw materials, as well as local pollutant emissions, also generally promote the reduction of emissions of short- and long-lived climate pollutants, "pollution management" is defined as short- and long-lived climate pollutant emissions, unless otherwise specified in this ESS. It includes measures designed to prevent or minimize emissions of pollutants, including climate pollutants. [↑](#footnote-ref-44)
45. *A “High Risk” rating generally would entail the following impacts (a) significantly impact on human populations, including settlements and local communities (b) alteration of environmentally important areas, including wetlands, native forests, grasslands, and other “critical” natural habitats and ecosystem services; (c) direct pollutant discharges that are large enough to cause degradation of air, water or soil, endangered species and “critical” habitats; (d) largescale physical disturbances of the site and/or surroundings; (e) extraction, consumption or conversion of substantial amounts of forest and other important natural habitats, including above and below ground and water-based ecosystems; (f) measurable modification of hydrologic cycle; (g) hazardous materials in more than incidental quantities; and (h) involuntary displacement of people and other significant social disturbances. It should be noted here that, as the whole Project is rated as “High Risk” in terms of social risks, sub Projects with “high risk” in terms of social risks will not be non-eligible. Therefore, professional judgement will be used to identify “high risk” categorization in terms of environmental aspects during screening phase.* [↑](#footnote-ref-45)
46. To access the C-ESMP Checklist template: <https://webdosya.csb.gov.tr/db/kentseldirenclilik/icerikler/c-esmp-checkl-st-10.06.2025_clean-20250610130041.docx> [↑](#footnote-ref-46)
47. To access the E&S Audit Report Template: <https://webdosya.csb.gov.tr/db/kentseldirenclilik/icerikler/e-s-aud-t-report-1-20250819085458.docx> [↑](#footnote-ref-47)