Türkiye Flood and Drought Management Project

(Project No: P179313)

Preparation of the Environmental and Social Management Plan (ESMP) for the Çorum Sungurlu District Center Stream Rehabilitation Project (TFDMP-DSI-ESMP-CQS-02)

Environmental and Socical Managament Plan (ESMP)

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ABBREVIATIONS

AoI	Area of Influence
APs	Affected Parties (APs)
CHS	Community Health and Safety
CLO	Community Liaison Officer
CLS	Community Level Survey
DSI	General Directorate of State Hydraulic Works
EIA	Environmental Impact Assessment
E&S	Environmental and Social
ESF	Environmental and Social Framework
ESS	Environmental and Social Standard
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMS	Environmental and Social Management System
ESMP	Environmental and Social Management Plan
EU	European Union
FGD	Focus Group Discussions
GBVH	Gender Based Violence and Harassment
GIIP	Good International Industry Practices of World Bank
GM	Grievance Mechanism
HLS	Household Level Survey
IFI	International Financing Institutions
MoAF	Ministry of Agriculture and Forestry
MoEUCC	Ministry of Environment, Urbanization and Climate Change
NA	Not Applicable
NGO	Non-governmental Organization
OHS	Occupational Health and Safety
OIPs	Other Involved Parties
RP	Resettlement Plan
PAS	Project Affected Settlement
PIU	Project Implementation Unit
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SEP	Stakeholder Engagement Plan

SYGM	General Directorate of Water Management
TURKSTAT	Turkish Statistical Institute
ToC	Table of Content
TOR	Terms of Reference
WB	World Bank
WBG	World Bank Group
WSVA	Water Source Vulnerability Analysis

EXECUTIVE SUMMARY

This Environmental and Social Management Plan (ESMP) has been prepared for the Sungurlu District Center Stream Rehabilitation Project, which will be implemented in Sungurlu District of Çorum Province, Türkiye, within the framework of the Türkiye Flood and Drought Management Project (TFDMP) financed by the World Bank (WB).

The Project aims to reduce flood risks and improve hydraulic conditions in the district center through structural flood protection measures along Budaközü Stream, Akçay Stream, and Diği Stream. The planned works include the construction of reinforced concrete and masonry channel structures and new bridge crossings in urban and semi-urban sections of these watercourses.

The project's area of influence covers a total of 13 neighborhoods. From a social impact perspective, no changes in population size or composition are expected as a result of the project, and overall social impacts are assessed to be low to moderate in magnitude. While no physical displacement is anticipated at this stage, limited land acquisition and/or temporary land use may be required during project implementation. Impacts related to land acquisition will be managed in accordance with applicable national legislation and the requirements of ESS5, and appropriate mitigation measures will be implemented, including stakeholder engagement and the operation of an accessible grievance mechanism throughout the construction period.

Potential injuries may occur as a result of work-related accidents during project activities. In order to effectively manage these processes throughout the construction phase, compliance with applicable national and international occupational health and safety regulations is required. Limited temporary employment is expected to be generated during the construction works under the subproject. Priority will be given to contributing to the local economy through the use of local materials during construction and the procurement of various goods and services from local suppliers.

The local population is expected to be affected by traffic activities, which are anticipated to intensify during the construction phase. Impacts are expected on access roads in neighborhoods along the project site. These impacts may include potential traffic accident risks due to shared use of the roads by communities accessing residential areas and heavy construction machinery. Schools, places of worship and healthcare facilities are located near the project alignment. Therefore, community health and safety risks may arise from construction traffic and temporary disturbances. These risks are intended to be mitigated through site-specific occupational health and safety measures, the use of personal protective equipment, traffic management practices, and the implementation of an accessible grievance mechanism throughout the construction period.

The impacts of the project on both environmental quality and social structure have been assessed in this report. Environmental baseline conditions were evaluated considering water resources, climate, biodiversity, seismic characteristics, air quality, water quality, and noise levels, while social baseline conditions were examined in terms of social infrastructure, land acquisition, livelihoods, cultural heritage, labor management and flow, vulnerable groups, and social equity. In addition, national and international regulations, guidelines, standards, and requirements have been reviewed to allocate responsibilities for the implementation of mitigation measures.

1 INTRODUCTION

This Environmental and Social Management Plan (ESMP) has been prepared for the Sungurlu District Center Stream Rehabilitation Project, which will be implemented in Sungurlu District of Çorum Province, Türkiye, within the framework of the Türkiye Flood and Drought Management Project (TFDMP) financed by the World Bank (WB).

The Project aims to reduce flood risks and improve hydraulic conditions in the district center through structural flood protection measures along Budaközü Stream, Akçay Stream, and Diği Stream. The planned works include the construction of reinforced concrete and masonry channel structures and new bridge crossings in urban and semi-urban sections of these watercourses.

This ESMP identifies the potential environmental and social risks and impacts associated with the construction phase of the Project and defines mitigation, monitoring, and institutional measures to be implemented in accordance with national legislation and the World Bank Environmental and Social Framework (ESF). The document is intended to serve as an operational tool for the Contractor and the supervising authorities to ensure that construction activities are carried out in an environmentally and socially sound manner.

1.1 Background of the Assignment

The Government of Türkiye, through the General Directorate of State Hydraulic Works (DSİ), is implementing the Türkiye Flood and Drought Management Project (TFDMP) with financial support from the World Bank, with the objective of strengthening national capacity in flood risk management and reducing the adverse impacts of flood events on vulnerable communities.

Within this framework, the Sungurlu District Center Stream Rehabilitation Project has been identified as a priority subproject due to the recurring flood events affecting residential areas, public infrastructure, and economic activities in Sungurlu District. Historical flood records indicate that Budaközü Stream, Akçay Stream, and Diği Stream periodically overflow their banks during intense rainfall events, causing significant damage to properties and posing risks to public safety.

In response to these challenges, DSİ has planned comprehensive stream rehabilitation and flood protection works, including the construction of channel walls and bridges, to increase conveyance capacity, stabilize stream banks, and improve flow control within the urban sections of the watercourses.

In line with the requirements of the WB-ESF and relevant national environmental legislation, this ESMP has been prepared to guide the implementation of the Subproject, ensure effective management of environmental and social risks, and establish clear responsibilities for mitigation, monitoring, and reporting throughout the construction phase.

1.2 Legal and Institutional Framework

ESMP provides detailed explanations about the legislation concerning environmental protection, pollution prevention, and control, as well as occupational and community health and safety.

National and international laws and regulations related to environmental and social issues to which the Project is subject and the differences between these laws and regulations are detailed in Annex-2.

1.3 Objectives, Scope and Structure of the ESMP

The primary objective of this ESMP is to ensure that the Subproject is implemented in an environmentally and socially sound manner by identifying potential impacts associated with construction activities and defining appropriate mitigation and monitoring measures. The ESMP also aims to ensure compliance with applicable national environmental and social legislation and the WB ESSs.

The scope of the Environmental and Social Management Plan covers all construction-related activities of the flood and sediment control works on the Budaközü, Akçay, and Diği streams; these include riverbed regulation, canal lining, shoreline protection works, material transportation, operation of construction machinery, and labor-related activities. Potential environmental and social impacts arising during the construction phase are assessed, and corresponding mitigation and monitoring measures are defined.

Operation and maintenance activities are expected to result in negligible impacts and are therefore addressed at a general level.

This ESMP is structured to provide a systematic framework for environmental and social management of the Subproject. The document includes the legal and institutional framework, description of the Subproject, baseline environmental and social conditions, impact assessment, mitigation and monitoring measures, institutional responsibilities, stakeholder engagement arrangements, grievance mechanism, and implementation and reporting procedures. The assessment methodology is presented in Annex–3.

1.4 Description of the Subproject

The Sungurlu District Center Stream Rehabilitation Project will be implemented within the administrative boundaries of Sungurlu District, Çorum Province, Türkiye. The Subproject covers three main watercourses passing through the district center, namely Budaközü Stream, Akçay Stream, and Diği Stream.

The primary objective of the Subproject is to reduce flood risks in urban and adjacent residential areas by increasing the hydraulic capacity of the stream channels, stabilizing riverbanks, and improving the safety and functionality of existing crossings. The planned structural measures are designed to protect approximately 30,995 people directly and 48,158 people indirectly from flood-related hazards.

The main components of the Subproject are summarized as follows:

- Budaközü Stream: construction of approximately 6,900 m of reinforced concrete vertical channel walls and 11 new bridge structures;
- Akçay Stream: construction of approximately 1,770 m of vertical channel walls with reinforced concrete foundations and masonry superstructure, and 1 new bridge structure;
- Diği Stream: construction of approximately 3,750 m of reinforced concrete vertical channel walls and 6 new bridge structures.

Construction activities will include riverbed excavation and shaping, construction of concrete and masonry channel walls, bridge foundation works, installation of superstructures, material transportation, temporary site establishment, and reinstatement of disturbed areas following completion of works.

All works will be carried out primarily within the existing stream corridors and immediate banks, in urbanized and partially modified environments. No permanent land acquisition or resettlement is anticipated under the Subproject scope. Construction is planned to be undertaken in stages to maintain water flow continuity and minimize disruption to surrounding communities and traffic.

Photo 1-1 General view from the Project Area (Diği Stream)

The sub-project will be implemented by DSI, under the supervision of the Project Implementation Unit (PIU), through a construction company, in accordance with current Turkish legislation and WB ESSs..

2 BASELINE ENVIRONMENTAL and SOCIAL DATAs

This section presents the baseline environmental and social conditions of the Sungurlu District Center Stream Rehabilitation Project area and its surroundings prior to the commencement of construction activities. The baseline description is based on available official data, technical project documentation, site characteristics, and general regional information.

The purpose of this section is to characterize the existing physical, biological, and socio-economic environment within the project footprint and its area of influence, in order to provide a reference framework for the identification and assessment of potential impacts and the definition of appropriate mitigation measures under the ESMP.

2.1 Project Area

The Subproject is located within the administrative boundaries of Sungurlu District in Çorum Province, in the Central Anatolia Region of Türkiye. The project area comprises urban and peri-urban sections of three main watercourses passing through the district center, namely Budaközü Stream, Akçay Stream, and Diği Stream.

A significant portion of the planned channel regulation and bridge construction works is situated within the densely populated urban core of Sungurlu. The project corridors pass through residential neighborhoods, commercial zones, public service areas, and transportation corridors, where existing land use is already strongly influenced by urban infrastructure.

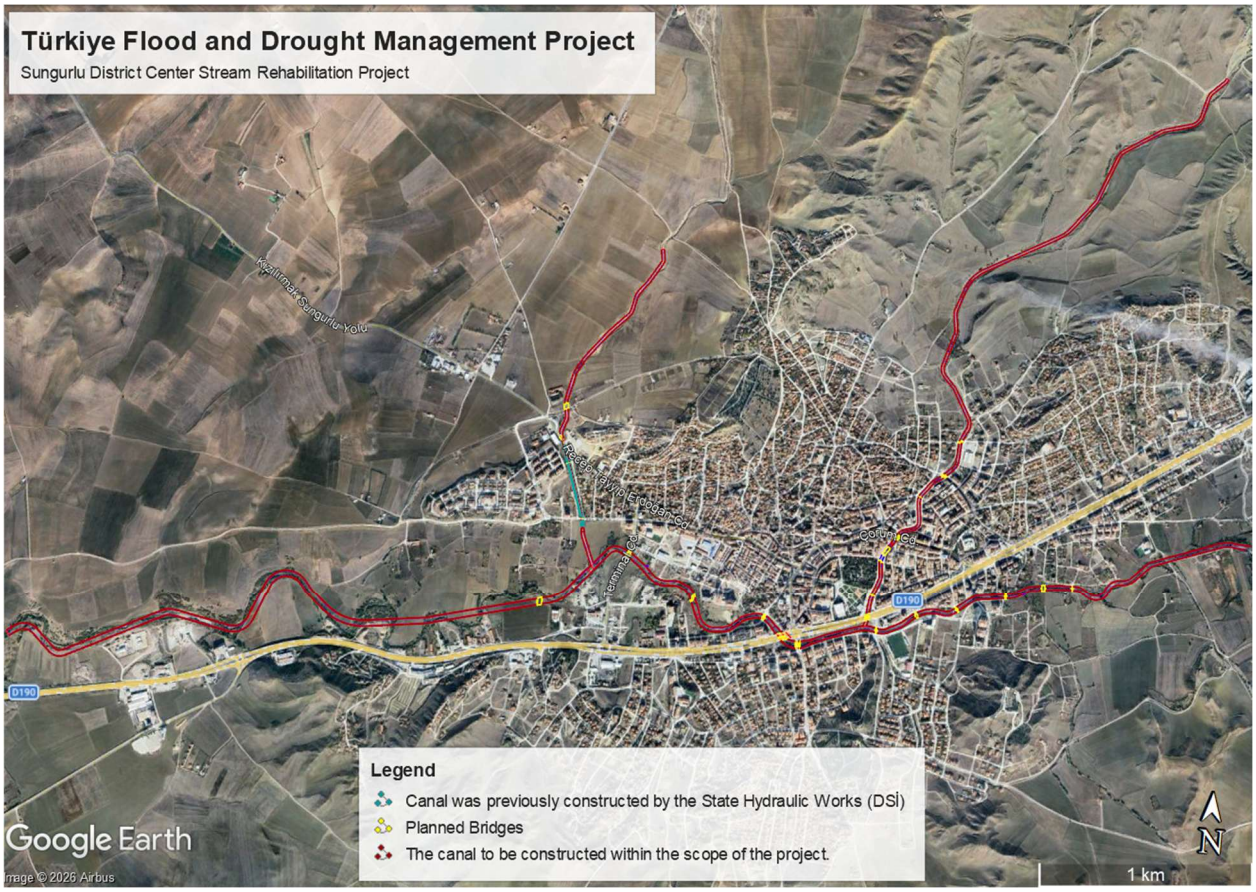

Figure 2-1 Satellite view of the Project Area

For the purposes of this ESMP, the Area of Influence (AoI) is defined at two levels:

- ✓ The primary area of influence covers a corridor extending approximately 25 meters on each side of the regulated stream channels and bridge construction sites. This zone represents the area that will be directly affected by construction activities, including earthworks, concrete works, machinery operation, material transportation, temporary access restrictions, noise generation, and dust

emissions.

- ✓ Beyond the primary corridor, the secondary area of influence is defined as the wider administrative boundary of Sungurlu District. This area may experience indirect and cumulative effects associated with the Subproject, such as temporary changes in traffic patterns, increased movement of construction vehicles, short-term disturbance related to construction logistics, and long-term positive impacts related to improved flood protection and public safety.

Given the inland and urban nature of the Subproject, no coastal, marine, or protected natural environments are present within the defined AoI.

2.2 Physical Environment

The Sungurlu District is located in the Central Anatolian Plateau, characterized by generally flat to gently undulating terrain with localized low hills and shallow valleys formed by fluvial processes. The project area is situated predominantly within the urbanized valley floors of Budaközü Stream, Akçay Stream, and Diği Stream, where natural landforms have been partially modified by previous flood protection works, road infrastructure, and urban development.

The physical environment of the Subproject area reflects long-term interactions between surface water flow, sediment transport, and human interventions, resulting in regulated or partially confined stream sections, artificial embankments, and altered channel geometries, particularly within the district center.

2.2.1 Topography and Geomorphology

Topographically, the project corridors follow low-elevation valley bottoms where the natural slopes are generally mild, facilitating urban expansion and infrastructure development. Elevation differences along the stream courses are limited, and the channel gradients are relatively low, typical of inland fluvial systems in Central Anatolia.

From a geomorphological perspective, the Budaközü, Akçay, and Diği streams represent small to medium-sized alluvial watercourses shaped primarily by seasonal runoff, sediment deposition, and episodic flood events. Their channels have been progressively modified through historical regulation works, including bank stabilization, partial lining, and bridge construction, resulting in reduced natural meandering and simplified channel morphology within urban sections.

No significant geomorphological hazards such as active landslides, rockfalls, or severe erosion zones have been identified along the immediate project alignments.

2.2.2 Climate and Meteorology

The climatic and meteorological characteristics of the project area are influenced by the transitional climate between the Central Anatolian Steppe and inland climate regimes. Sungurlu District is situated within the interior of Turkey, exhibiting a continental climate characterized by warm and relatively dry summers and cold, wetter winters, typical of the Central Anatolian plateau.

Long-term meteorological data from the Turkish State Meteorological Service for Çorum Province (including Sungurlu and surrounding stations) indicate that annual average temperatures range approximately between –0.3°C in winter months to over 21°C in summer months, with annual mean temperatures around 11.0–11.7°C. Average daily maximum temperatures occur in July and August, while the lowest average temperatures are observed in January and February.

Precipitation is distributed throughout the year, with a seasonal peak in spring (April–June) and moderate rainfall in autumn (September–November). According to long-term climate records, May and June are the wettest months, often receiving the highest monthly rainfall amounts, while July and August tend to be the driest. Average annual precipitation in the district center and Sungurlu region is approximately 430–480 mm, reflecting a moderate inland precipitation regime.

Average sunshine duration increases during summer months, with up to 10–10.2 hours per day in July and decreases in winter months. The number of precipitation days is relatively evenly distributed across seasons, with higher frequencies in spring and lower frequencies in summer.

The prevailing climatic characteristics, including marked seasonal temperature differences and moderate

precipitation, influence surface runoff patterns within the Budaközü, Akçay, and Diği stream catchments. Seasonal rainfall, particularly in spring, can contribute to increased stream flows, while cold winter periods may include snowfall affecting soil moisture and hydrological response ([1]).

2.2.3 Geology and Soils

The Sungurlu District and surrounding project corridors lie within the central part of the Çankırı–Çorum Basin, a structural depression formed in the Central Anatolian plateau. The regional geology comprises a complex assemblage of Paleozoic to Quaternary sedimentary and volcanic sequences, including schists, sandstones, conglomerates, limestones, marls, and more recent alluvial deposits. The succession reflects multiple tectono-sedimentary cycles associated with basin evolution, episodic uplift, and climatic variability. Paleozoic rocks consist of metamorphosed sequences, whereas Mesozoic and Tertiary units typically include clastic and carbonate lithologies; Quaternary units are predominantly alluvial in character.

In the immediate project area, surface expression of bedrock or extensive soil horizons is generally limited due to historical channel modification, urban landforms, and alluvial infill within the stream valleys. Local surface deposits along Budaközü Stream, Akçay Stream, and Diği Stream consist largely of alluvial sediments, gravels, sands, silts, and other unconsolidated materials deposited by fluvial processes. These alluvial fills have accumulated over time through seasonal runoff, sediment transport during flood events, and localized erosion and deposition cycles typical of shallow inland stream systems. As a result, distinct pedogenic soil profiles (e.g., well-developed A, B horizons) are uncommon within the immediate project corridor, and natural soil occurrences are substantially overprinted by anthropogenic grading, channel regulation, and urban construction.

Within the streams, sediment accumulation is pervasive and locally deep, contributing to reduced conveyance capacity and necessitating channel rehabilitation works. The prevalence of unconsolidated sediment fills along the stream beds is consistent with central Anatolian fluvial geomorphology, where alluvial processes govern the distribution of surface materials rather than deep soil formation.

Given these conditions, the project area is not characterized by significant agricultural or naturally developed soil units; instead, fluvial sediment and alluvial deposits dominate the near-surface geology within the project footprint and its immediate surroundings.

Photo 2-1 General view from the Project Area (Diği Stream)

[1] *Source: https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=A&m=CORUM*

Photo 2-2 General view from the Project Area (Diği Stream)

Photo 2-3 General view from the Project Area (Diği Stream)

Photo 2-4 General view from the Project Area (Budaközü Stream)

Photo 2-5 General view from the Project Area (Akçay Stream)

2.2.4 Hydrology and Hydraulics

The Sungurlu District Center Stream Rehabilitation Project is located within the Budaközü Stream catchment, which constitutes the main hydrological system draining the urban area of Sungurlu District. The project covers three main watercourses: Budaközü Stream, Akçay Stream, and Diği Stream, which converge within or upstream of the district center and collectively form the primary flood conveyance system of the settlement.

The hydrological regime of the project area is characterized by seasonal variability, with high flows occurring predominantly during late winter and spring due to rainfall and snowmelt contributions from the upstream catchment. Short-duration, high-intensity rainfall events also play a significant role in generating rapid surface runoff in the urbanized sub-basins, resulting in sudden increases in flow discharge and elevated flood risk within the district center.

According to the hydraulic and hydrological analyses conducted within the scope of the approved technical design report, design flood discharges were estimated for different return periods (Q100 and Q500) at critical locations along the stream network ([2]). The key calculated flood flows are summarized as follows:

- Budaközü Stream (downstream of reservoir regulation and tributary confluences):
  - Q100 ≈ 284.8 m³/s
  - Q500 ≈ 410.8 m³/s
- Diği Stream (regulated flow downstream of Diği Reservoir):
  - Q100 ≈ 42.3 m³/s
  - Q500 ≈ 63.5 m³/s
- Akçay Stream (upstream of confluence with Budaközü Stream):
  - Q100 ≈ 111.0 m³/s
  - Q500 ≈ 153.6 m³/s
- Combined flow of Budaközü, Diği, and Akçay streams at the main urban section:
  - Q100 ≈ 284.8 m³/s
  - Q500 ≈ 410.8 m³/s

These values indicate that the hydrological system of the district is capable of producing substantial peak discharges during extreme flood events, particularly when coinciding flows from Akçay and Diği streams enter the Budaközü channel within the urban corridor.

Hydraulically, the existing stream channels within the project area are constrained by dense urban

[2] DSİ. (2024). *Hydrological and Hydraulic Design Report for Budaközü, Akçay and Diği Streams – Sungurlu District Center Flood Control and River Rehabilitation Project (Rev.02).* General Directorate of State Hydraulic Works, Ankara.

development, bridges, and previous partial channel modifications. Current cross-sections are insufficient to safely convey the design flood discharges, leading to backwater effects, overtopping, and localized flooding during high-flow events. Sediment accumulation within the channel further reduces the effective flow capacity and aggravates hydraulic inefficiencies.

The proposed rehabilitation measures, including the construction of reinforced concrete vertical walls, channel lining, and new bridge structures, are designed to increase the hydraulic conveyance capacity of the river sections and to safely pass at least the Q100 design flood without overtopping. Bridge openings and channel geometries have been dimensioned based on the above design discharges to minimize flow obstruction, reduce flow velocities to acceptable levels, and limit erosion and structural loading.

Overall, the hydrological and hydraulic characteristics of the project area demonstrate that flood risk in Sungurlu District is primarily driven by high peak discharges generated within the Budaközü catchment and its tributaries under extreme meteorological conditions. The project therefore represents a critical structural intervention aimed at restoring hydraulic stability, reducing flood hazards, and improving long-term flow management within the urban environment.

2.2.5 Seismicity

According to the Türkiye Earthquake Hazard Map published by the Disaster and Emergency Management According to the Türkiye Earthquake Hazard Map published by the Disaster and Emergency Management Authority (AFAD), the project area is located within a zone of moderate seismic hazard. Historical earthquake records indicate that the region has experienced low- to medium-magnitude events, mainly associated with regional fault systems.

Local ground conditions in the project area are characterized by alluvial deposits overlying relatively shallow bedrock, which may result in limited local amplification of seismic waves. However, the planned river training works and associated structures are of low height and predominantly gravity-based, consisting mainly of concrete linings and stone protection works. Such structures are generally less vulnerable to seismic loading compared to rigid, multi-storey buildings.

Design parameters have been developed in accordance with applicable Turkish seismic design standards. Based on the national seismic hazard map, the peak ground acceleration (PGA) for the project area is approximately 0.215 g, and this value has been duly considered in the engineering design(See Figure 2-2).

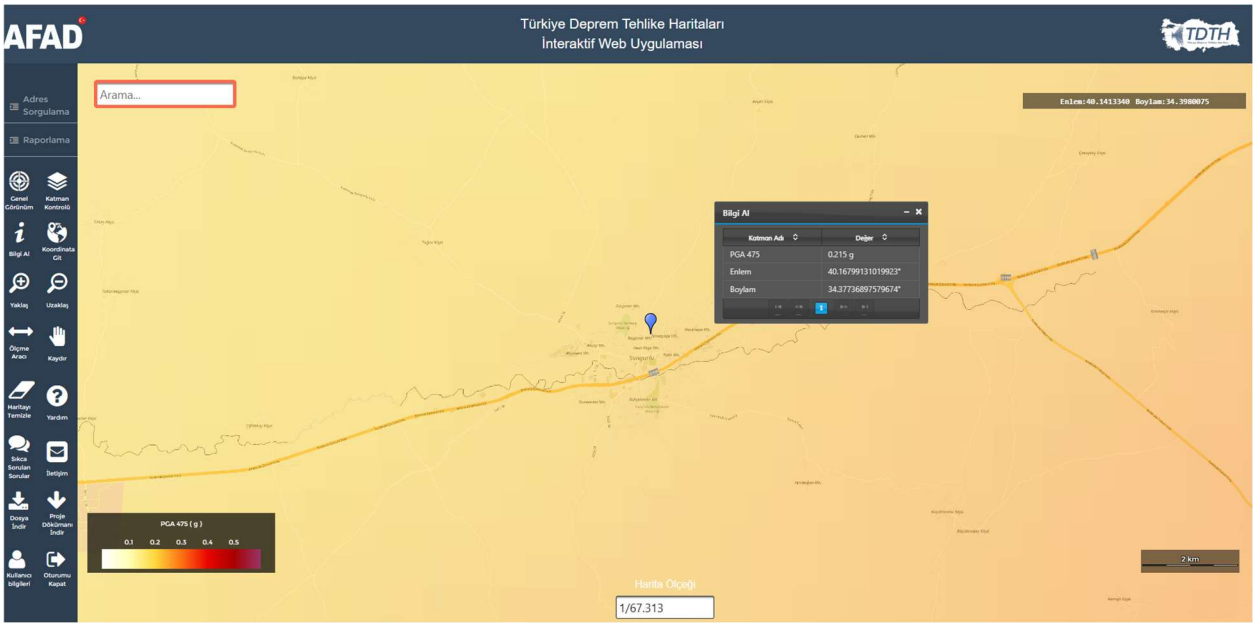

Figure 2-2 Türkiye Seismic Hazard Map

Source: *Türkiye Earthquake Hazard Maps Interactive Web Application, https://tdth.afad.gov.tr/TDTH/main.xhtml*

2.2.6 Air Quality

The Regulation on the Control of Industrial Air Pollution (RCIAP), which is aligned with relevant EU air

quality directives, aims to protect public health and the environment by establishing ambient air quality limit values and regulating emissions from industrial sources. In addition, the World Bank Group Environmental, Health and Safety (WB EHS) Guidelines provide reference values for fine particulate matter.

Within the scope of this ESMP, compliance with ambient air quality limit values for particulate matter (PM_{10} and $PM_{2.5}$) has been considered. Accordingly, the applicable limit values are 50 µg/m³ for PM_{10} as a 24-hour average (not to be exceeded more than 35 times per year) and 40 µg/m³ as an annual average, in line with the RCIAP. For $PM_{2.5}$, the reference limit values are 25 µg/m³ as a 24-hour average and 10 µg/m³ as an annual average, consistent with the WB EHS Guidelines.

According to the National Air Quality Monitoring Network, the nearest air quality monitoring station to the Project area is the Çorum – Mimar Sinan station, located approximately 60 km from Sungurlu District. The station measures ambient concentrations of NO_2, PM_{10}, and $PM_{2.5}$ (See Figure 2-3).

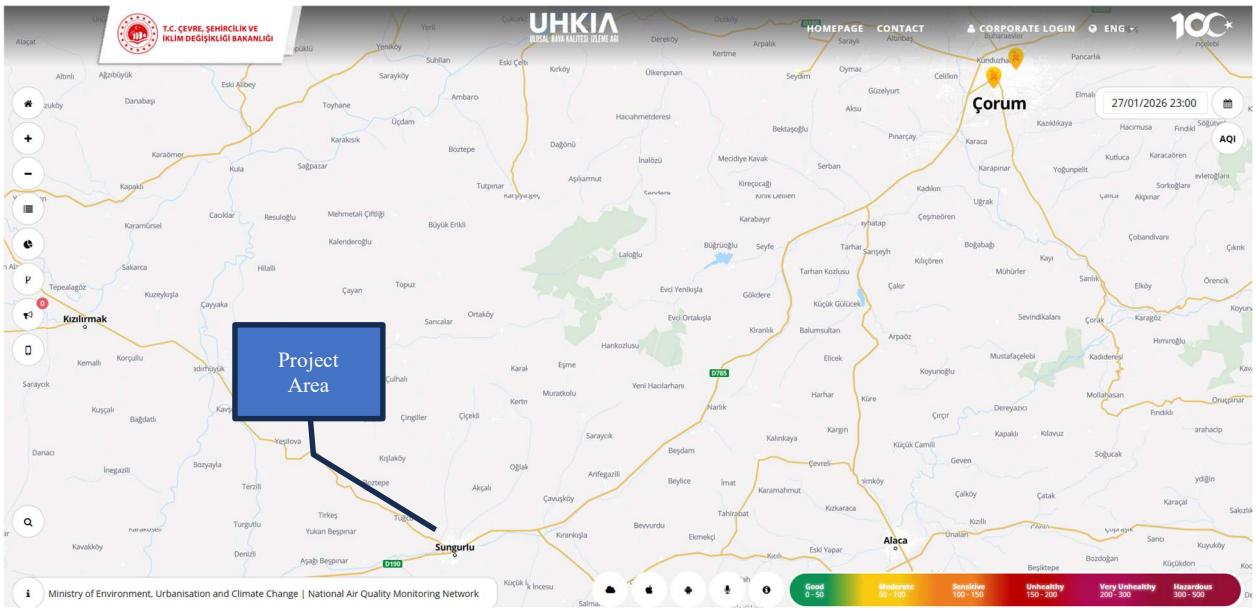

Figure 2-3 Air Quality Measurement Stations located near the Project Area
Source: Official website of the National Air Quality Monitoring Network, https://sim.csb.gov.tr/Services/AirQuality

The most recent one-year monitoring results for NO_2, SO_2, PM_{10}, and $PM_{2.5}$ obtained from the Çorum Air Quality Monitoring Station were reviewed, and the particulate matter results are summarized in Table 2-1.

Table 2-1 PM_{10} and $PM_{2.5}$ Measurement Results (2025)

Duration	PM_{10} Results	$PM_{2.5}$ Results
Annual Average Value (daily)	46.67 µg/m³	21.81 µg/m³
Number of Days Limit Value Exceeded Based on Daily Average Value	114 days	80 days
Highest Value (24 Hourly Average)	148.66 µg/m³	79.12 µg/m³
Lowest Value (24 Hourly Average	9.43 µg/m³	5.87 µg/m³

Source: Official website of the National Air Quality Monitoring Network, https://sim.csb.gov.tr/Services/AirQuality

2.3 Biological Environment

2.3.1 Terrestrial Ecology

The subproject area is located predominantly within the urban center of Sungurlu District and along highly modified stream corridors. Natural terrestrial habitats within the project footprint are very limited and largely degraded due to long-term urban development, channel modification, and recurrent flood events. Vegetation cover is sparse and mainly consists of ruderal and disturbance-tolerant plant species occurring along channel banks and adjacent urban plots. No protected terrestrial habitats or sensitive ecological features were identified within the project area during site observations.

2.3.2 Aquatic Ecology

The stream channels within the project area are heavily affected by sediment deposition and debris accumulation transported during flood events, resulting in altered channel morphology and reduced ecological functionality. During field surveys, partial surface flow was observed in the Budaközü Stream and Akçay Stream, while no active flow was present in the Diği Stream at the time of observation.

Aquatic habitats are therefore limited, fragmented, and characterized by unstable substrates dominated by sediment and coarse debris. The ecological value of the project reaches is considered low, and no notable aquatic species or sensitive habitats were recorded during site investigations.

2.3.3 Protected Areas and Sensitive Biological Receptors

A review of national protected area databases, relevant institutional records, and project location data indicates that there are no protected areas, national parks, nature conservation sites, wetlands, or other legally designated sensitive areas within or directly adjacent to the project area.

The nearest protected area to the subproject is Boğazköy–Alacahöyük National Park, which is located approximately 22 km from the project area in straight-line distance. Given this separation distance, the urban character of the project location, and the localized nature of the construction activities, no direct or indirect impacts on this protected area are anticipated (See **Hata! Başvuru kaynağı bulunamadı.**).

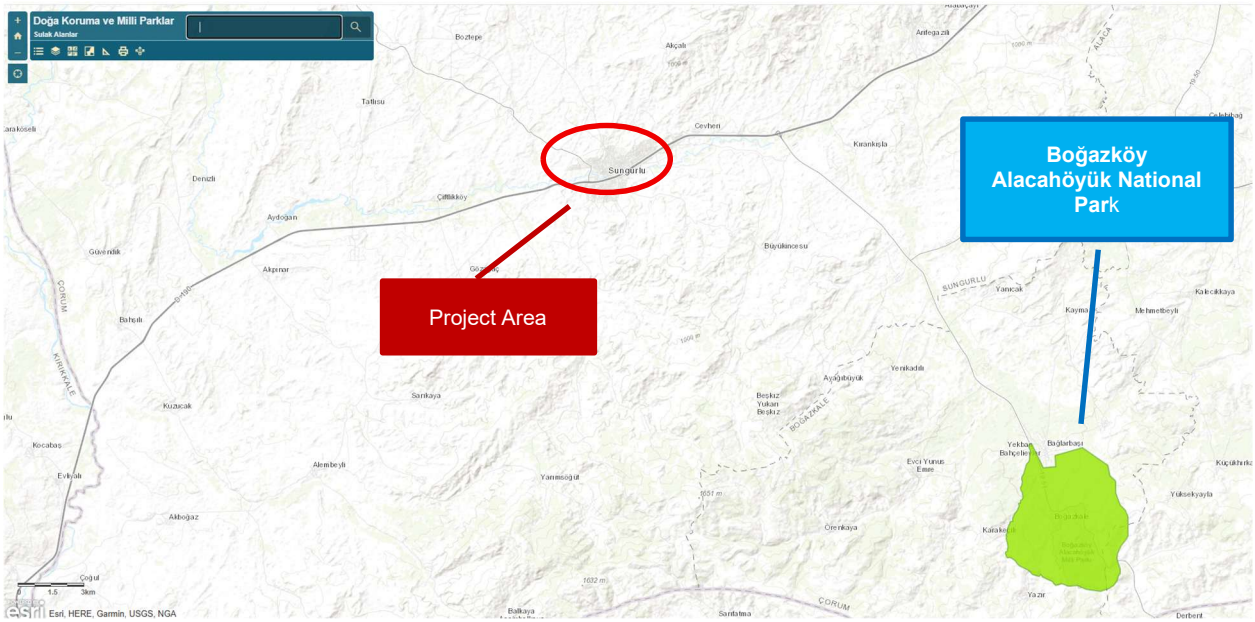

Figure 2-4 Satellite view from the Protected Areas Surrounding from the Project Area
Source: *Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks*
https://www.tarimorman.gov.tr/DKMP/Menu/26/Korunan-Alanlar

2.4 Socio-Economic Environment

According to the 2025 Provincial SEGE Index[3], which is used to compare the socio-economic development levels of provinces and districts in Türkiye, Çorum Province ranks 14th nationwide and is classified under the 2nd tier of development. This indicates that Çorum is among the provinces with a relatively high level of development in terms of economic diversification, employment opportunities, and infrastructure.

In contrast, Sungurlu District, located within the administrative boundaries of Çorum Province, ranks 463rd and falls under the 4th tier of development, reflecting comparatively lower socio-economic conditions than the provincial average. This disparity indicates that Sungurlu, which lies within the Project's Area of Influence, has a more economically vulnerable structure, and that households in the area may be more sensitive to potential impacts on livelihoods and income-generating activities.

[3] https://www.sanayi.gov.tr/merkez-birimi/b94224510b7b/sege

Considering this disparity, assessing the existing socio-economic conditions of the settlements located within the Project's Area of Influence, the relationship between residential areas and the stream corridor, and their proximity to basic public services is of critical importance for the accurate analysis of potential environmental and social impacts.

During the muhtar meetings conducted within the scope of the Environmental and Social Management Plan (ESMP), all headmen, except those of Turan and Fevzi Paşa neighborhoods, stated that the region had repeatedly experienced problems in past years such as stream flooding, blockage of stream mouths, damage to agricultural lands, and inundation of residential areas. The muhtars emphasized that, particularly during periods of heavy rainfall, the capacity of the stream beds is exceeded, putting houses, agricultural lands, and transportation infrastructure at significant risk. The muhtars of Turan and Fevzi Paşa neighborhoods indicated that they had not encountered such issues due to their neighborhoods being located farther from the stream route and the absence of agriculture and livestock activities in their areas.

Along the project alignment, there is a distinct spatial relationship between residential areas, commercial establishments, the stream bed, and transportation infrastructure.In the examined sections, residential areas are largely located on both banks of the Diği Stream, while local roads primarily serving vehicular access are situated between the settlements and the stream corridor(Figure 2-5). This settlement pattern indicates that the stream corridor functions not only as a physical divider but also as an area directly integrated with internal circulation, accessibility, and daily life practices within the settlements.

Figure 2-5 Project Alignment along Diği Stream and Surrounding Settlements

Considering this spatial configuration, it is essential that access to residential areas is not disrupted during construction activities under the project, that safe and controlled traffic flow is maintained on the roads surrounding the stream, and that temporary arrangements for pedestrian crossings are implemented. In addition, temporary disturbances such as noise, dust, and vibration will be minimized through appropriate technical and administrative measures. In this context, clear demarcation of work areas, temporary traffic management measures, and regular information sharing with the local community are considered key implementation tools for mitigating potential socio-economic impacts.

Socially sensitive areas located within and in close proximity to the Project Area of Influence constitute important components of the socio-economic environment. While the district hospital is located at a relatively distant position, approximately 1.5 km from the project alignment, primary healthcare centers are

situated at closer distances along the project route. In addition, the nearest educational facility to the project alignment is Fatih Primary School, located in the Fatih Neighborhood at an approximate distance of 20 m.

Along the project alignment, there are places of worship, such as mosques and small prayer areas, which are frequently visited by the local community. The nearest place of worship to the project route is Merve Mescidi, located approximately 40 m away, followed by Ümit Mosque at a distance of 140 m. Both are situated within the Fatih Neighborhood. The local population largely performs their daily prayers and special religious activities at these sites. Especially on Fridays and during religious holidays, these areas may experience high levels of use. Therefore, during project planning and construction activities, it is of great importance to ensure continued access to these places of worship. Any potential restrictions or access limitations arising during construction should be managed with careful consideration of community sensitivities.

In this context, construction working hours in sections where schools, mosques and healthcare facilities are located will be planned in consideration of education and service delivery hours, and the movement of heavy vehicles will be carried out in a controlled manner. Furthermore, where necessary, temporary arrangements will be implemented to ensure continuity of pedestrian access around school areas, and warning and directional signage will be clearly installed. Detailed information on these areas is provided in the Social Baseline (Annex 4).

2.5 Infrastructure and Services

This section describes the existing infrastructure and municipal services relevant to the implementation of the Subproject, including water supply, excavation waste management, concrete production facilities, and solid and liquid waste services in the project areas of Sungurlu district.

2.5.1 Water Supply

Potable and utility water services within the Sungurlu district are provided by Sungurlu Municipality through the existing municipal water supply network. The project area is located within the serviced urban zone, and no additional water abstraction from surface water bodies or groundwater resources is required for construction or workforce needs. Water demand during construction will be limited to domestic use by site personnel and minor operational activities (e.g., equipment cleaning and dust suppression) and will be met entirely through authorized connections to the municipal system.

2.5.2 Excavation Waste Storage Areas

Excavation activities associated with channel lining and bridge construction are expected to generate surplus soil and sediment material. For this purpose, municipally approved excavation waste storage and disposal areas designated by Sungurlu Municipality are available and will be utilized within the scope of the project. These areas are licensed for the temporary storage and final disposal of excavation spoil and construction-related inert materials. Transportation, storage, and disposal of excavation waste will be carried out in accordance with applicable national regulations and municipal requirements.

2.5.3 Concrete Plants and Material Supply Sites

Concrete required for the construction of the channel lining works and bridge structures within the Sungurlu District Center Stream Rehabilitation Project will be supplied from existing concrete batching plants operating within Sungurlu District and neighboring districts of Çorum Province, either by the municipality or by licensed private operators.

These concrete plants hold valid Environmental Permits and/or Temporary Activity Certificates issued in accordance with the Regulation on Environmental Permits and Licenses and operate in compliance with applicable national environmental standards.

No new concrete batching plants will be established within the scope of the Subproject. The existing facilities are considered sufficient to meet the anticipated concrete demand during the construction phase.

Concrete batching plants and material supply sites within Çorum Province that are likely to be utilized under the Subproject, and that possess valid environmental permits or temporary activity certificates, are presented in Table 2-2.

Table 2-2 Licensed Mining Facilities near the Project Area

Facility/Company Name	Address	Scope of Activity
HATTUŞAŞ Concrete Construction	Çorum Boğazkale Road, 8. Km. Sungurlu Çorum	Concrete Plant
SUNGURLU Municipality	Sungurlu Çorum Road, Cevheri Village Sungurlu Çorum	Concrete Plant
SUNGURLU Concrete Plant	Büyükincesu Village Sungurlu, Çorum,	Concrete Plant

2.5.4 Waste and Wastewater Services

Solid waste collection, transportation, and disposal services in Sungurlu District are provided by the Sungurlu Municipality through its established municipal waste management system.

Domestic wastewater generated within the municipal boundaries of Sungurlu is collected via the existing sewerage network and conveyed to the municipal wastewater treatment and/or discharge system operated by the municipality in accordance with applicable national regulations.

The management of solid waste and wastewater during the construction phase of the Subproject will be coordinated with Sungurlu Municipality and relevant local authorities and will be carried out in full compliance with national legislation and permit requirements.

2.6 Cultural Heritage

In the opinion letter provided by the Ankara Regional Board for the Protection of Cultural Heritage (Annex-10) it was noted that the project overlaps with the boundaries of the registered bridge and its protected area. To safeguard the cultural heritage and prevent any potential physical interventions on the registered structure, the project alignment has been revised. Accordingly, the Pazaşa Bridge (Budaközü)(seePhoto 2-6)) has been removed from the construction boundaries, and the project alignment has been updated to remain outside the bridge's protected area. During the rehabilitation works, indirect impacts of construction activities on the bridge will be carefully considered. Necessary distances and technical measures will be implemented to ensure that vibrations generated by heavy machinery during rehabilitation and stream rehabilitation do not compromise the structural integrity of the historic Pazaşa/Budaközü Bridge.

Furthermore, in the event that any movable or immovable cultural heritage is encountered during construction or rehabilitation activities, work will be immediately halted, the relevant museum directorate and protection board will be notified, and the Chance Find Procedure (see Annex-6) will be implemented. Rehabilitation works will also strictly adhere to landscaping and environmental design criteria to prevent visual incompatibility with the surrounding historic fabric.

Photo 2-6 Budaközü Bridge-Bahçelievler

3 ENVIRONEMNTAL and SOCIAL IMPACT ASSESSMENT

This section presents the assessment of potential environmental and social impacts associated with the construction of the Subproject. The assessment is based on the project design, planned construction activities, baseline environmental and social conditions, findings of the reconnaissance study report, site observations, applicable national legislation, and the World Bank ESSs.

The purpose of this assessment is to identify potential adverse impacts at an early stage, evaluate their significance, and provide a basis for the development of appropriate mitigation, monitoring, and management measures. Particular attention is given to construction-phase activities, as these represent the main source of potential environmental and social risks under the Subproject.

3.1 Identification of Anticipated Environmental Impacts and Assessments

This section identifies and evaluates the potential environmental and social impacts associated with the Çorum Sungurlu District Center Stream Rehabilitation Project, focusing on impacts arising during the construction phase. The assessment has been conducted in accordance with applicable national legislation and the World Bank Environmental and Social Framework (ESF), taking into account the scale, location, and nature of the proposed river training works.

Given that the Project is largely located within the urban center of Sungurlu District and involves channel rehabilitation, concrete-lined river sections, and bridge construction, the anticipated impacts are primarily localized, temporary, and construction-related. No operational-phase environmental or social impacts are expected, as the Project does not involve permanent industrial or commercial activities.

3.1.1 Riverbed Excavation and Channel Modification

Riverbed excavation and channel modification constitute the core construction activities of the Çorum Sungurlu District Center Stream Rehabilitation Project. The works will be implemented along the Budaközü Stream, Akçay Stream, and Diği Stream and include excavation of accumulated sediments and debris, reshaping of the channel cross-sections, construction of concrete-lined vertical walls, masonry-supported structures, and associated bridge foundations.

The project reaches are located in heavily modified urban stream corridors where natural river morphology has already been altered by previous flood events, sediment deposition, and existing infrastructure. Field observations indicate that streambeds are largely filled with flood-derived sediment and debris, with limited or no natural soil layers present, particularly within the active channel.

Potential environmental impacts associated with excavation and channel modification activities include temporary increases in turbidity during works carried out in wet sections, localized disturbance of riverbed material, and short-term disruption of limited aquatic habitats. These impacts are expected to be confined to the immediate work areas and to the construction period only. In reaches where no active flow is present (e.g., Diği Stream), in-water impacts are not anticipated.

All excavation works will be conducted within the predefined channel alignment and construction footprint. Excavated materials will be temporarily stored and transported to Sungurlu Municipality–approved excavation material stock areas, preventing uncontrolled disposal and secondary environmental impacts.

Overall, impacts related to riverbed excavation and channel modification are assessed to be temporary, site-specific, and of low to moderate significance, and can be effectively managed through the application of standard good construction practices and the mitigation measures defined in the ESMP.

3.1.2 Sediment Disturbance and Surface Water Quality Impacts

Sediment disturbance and associated impacts on surface water quality may arise during riverbed excavation, channel reshaping, and structural construction activities within the scope of the Çorum Sungurlu District Center Stream Rehabilitation Project. These impacts are typically related to the resuspension of fine sediments, temporary increases in turbidity, and localized changes in water quality parameters during in-channel works.

However, site observations conducted during the baseline assessment indicate that hydrological conditions

within the project streams significantly limit the magnitude of such impacts. Budaközü Stream and Akçay Stream exhibit only partial and discontinuous flow during most periods, while no active surface flow was observed in the Diği Stream at the time of assessment. The streambeds are largely dominated by flood-derived sediment and debris deposits rather than continuously flowing water.

Due to the limited or absent flow conditions, sediment resuspension and downstream transport during construction are expected to be minimal. Any temporary increases in turbidity are anticipated to remain confined to short channel sections and to dissipate rapidly once excavation activities cease. In reaches without active flow, no surface water quality impacts are anticipated.

Construction activities will be planned and implemented in a controlled manner, with excavation carried out in defined sections to minimize unnecessary disturbance. Excavated sediments will be promptly removed from the channel and transported to municipality-approved stock areas, preventing re-entrainment into the stream system during rainfall events.

Overall, potential impacts on sediment dynamics and surface water quality are assessed to be low in magnitude, localized, and temporary, primarily due to the urbanized nature of the stream corridors and the absence of sustained flow in large portions of the project area. With the application of standard sediment control and good construction practices, no significant or long-term deterioration of surface water quality is expected.

3.1.3 Disturbance to Aquatic Habitats

Potential disturbance to aquatic habitats during construction is expected to be limited due to the existing hydrological and physical characteristics of the project streams within the Çorum Sungurlu District Center Stream Rehabilitation Project. Field observations indicate that Budaközü Stream and Akçay Stream exhibit only partial and intermittent flow, while Diği Stream does not currently support active surface water flow. Streambeds are largely composed of flood-deposited sediment and debris and are already highly modified by urban development and previous flood events.

As a result, the presence of stable aquatic habitats and aquatic fauna within the project reaches is limited. Any disturbance associated with excavation and channel modification works is therefore expected to be localized and temporary, with no significant impact on established aquatic ecosystems. No long-term or irreversible impacts on aquatic habitats are anticipated, provided that construction activities are carried out in accordance with standard good construction practices.

3.1.4 Noise and Vibration Impacts

During the construction phase, temporary noise and minor ground-borne vibration will be generated by construction machinery, equipment operation, and material transportation activities along the Budaközü, Akçay, and Diği Stream corridor.

Noise impact modelling has been carried out based on a conservative scenario in which all equipment operates simultaneously. The results indicate that predicted noise levels decrease below both national regulatory limits and WB-EHS guideline values at distances of approximately 150–200 m from the source. As construction activities will be limited to daytime hours only, compliance is assessed against daytime limit values (Detailed Noise and Vibration Impact Assessment studies are provided in Annex-8).

The project is located predominantly within the urban center of Sungurlu, where existing background noise levels are already influenced by road traffic, commercial activities, and daily urban use. While short-term increases in noise levels may be perceptible at nearby residential and public receptors due to the close proximity of buildings, the impacts are expected to be temporary and localized.

No blasting, pile driving, or other high-vibration construction activities are foreseen within the scope of the Project. Accordingly, vibration impacts are expected to remain low and well below levels that could cause structural damage or long-term nuisance.

3.1.5 Impacts on Air Quality

During the construction phase of the Sungurlu District Budaközü, Akçay and Diği Streams Flood Control Project, temporary and localized impacts on ambient air quality are anticipated, primarily due to exhaust

emissions from construction machinery and dust generation during riverbed excavation, material handling, and transportation activities.

Dust emission calculations conducted for the Subproject indicate that the controlled dust emission rate at the construction site is approximately 0.780 kg/h, which remains below the 1 kg/h regulatory threshold defined under national legislation. Accordingly, significant deterioration of ambient air quality and the need for detailed dispersion modeling are not expected.

Although construction works will take place largely within the urban area of Sungurlu, the impacts on air quality are expected to be short-term, localized, and reversible, limited to active construction zones. With the implementation of standard dust control measures, including surface wetting, controlled material handling, and vehicle speed management, air quality impacts are assessed to be of low significance and manageable in accordance with national regulations and World Bank Group EHS Guidelines.

3.1.6 Water Use and Wastewater Management

During the construction phase of the Sungurlu District Budaközü, Akçay and Diği Streams Flood Control Project, water will be required primarily for domestic use by construction personnel, including drinking, sanitation, and hygiene needs. Limited quantities of water will also be used for construction-related activities such as concrete works and dust suppression.

It is estimated that approximately 20 personnel will be employed during peak construction periods. Based on a unit water consumption rate of 209 liters per person per day, the total daily domestic water demand is calculated as follows:

- Daily water use = 20 persons × 209 L/person/day = 4,180 L/day

Construction water supply will be provided through licensed municipal water sources operated by Sungurlu Municipality or other authorized supply points, in coordination with the relevant local authorities. No abstraction from Budaközü, Akçay or Diği streams is planned within the scope of the Subproject.

Domestic wastewater generation is expected to be approximately equivalent to the volume of domestic water consumption. Wastewater will be collected via mobile sanitary units or temporary on-site facilities and disposed of through the existing municipal wastewater management system or licensed service providers, in full compliance with applicable national legislation.

No direct discharge of untreated wastewater to the riverbeds or the surrounding environment will be permitted. Considering the limited workforce size, urban setting, short construction duration, and controlled wastewater management practices, impacts related to water use and wastewater generation are assessed to be low in magnitude, localized, and temporary.

3.1.7 Waste Management

Waste generation under the Subproject will occur only during the construction phase. The main waste streams are expected to include domestic solid waste from construction personnel, packaging waste, small quantities of recyclable materials, and limited amounts of hazardous waste such as waste oils, oily rags, used filters, and batteries.

All wastes will be segregated at source as hazardous, non-hazardous, and recyclable, and temporarily stored in designated and appropriately labeled containers within the construction site. A temporary waste storage area will be established on impermeable ground and equipped with necessary spill prevention and response measures.

Hazardous wastes will be stored for a maximum of six (6) months, while non-hazardous wastes will be stored for up to one year, in compliance with the Waste Management Regulation. All wastes will be transferred to licensed recycling or disposal facilities through authorized contractors, and waste quantities and transfer records will be duly documented and reported through the national waste information system.

3.1.7.1 Domestic Solid Waste Generation

Domestic solid waste will primarily consist of food waste, packaging, paper, plastics, and other household-type waste generated by site personnel.

Based on an average domestic solid waste generation rate of 0.96 kg/person/day, the estimated waste quantities are as follows:

- Sungurlu Site: 20 persons × 0.96 kg/person/day = 19,2 kg/day

Domestic solid waste will be collected in closed and labeled containers at each site and transferred regularly to the municipal waste collection system operated by Sungurlu Municipality. Final disposal will be carried out at licensed municipal solid waste disposal facilities in accordance with the Waste Management Regulation (Official Gazette No. 29314).

3.1.7.2 Packaging Waste and Recyclable Materials

Packaging waste (plastic, cardboard, paper, metal) will be generated from construction materials, consumables, and daily site activities. Recyclable construction materials such as scrap metal, wooden pallets, and limited quantities of concrete debris may also be generated.

These wastes will be segregated at source, temporarily stored in designated areas within the construction sites, and transferred to licensed recycling or recovery facilities in accordance with the Regulation on the Control of Packaging Waste (Official Gazette No. 31523) and relevant national legislation.

3.1.7.3 Hazardous Wastes

Small quantities of hazardous waste may be generated during construction activities, including:

- waste oils and lubricants,
- oily rags and absorbents,
- empty chemical containers (e.g., paint, additives),
- waste batteries and accumulators,
- used filters and contaminated packaging.

Maintenance and major repair of construction machinery will not be carried out on-site; however, minor emergency maintenance activities may occur if necessary.

All hazardous wastes will be collected separately in sealed, labeled containers, stored temporarily in impermeable and secure areas, and transferred to licensed hazardous waste treatment or disposal facilities in accordance with the Waste Management Regulation (No. 29314), Waste Oil Management Regulation (No. 30985), and Regulation on the Control of Waste Batteries and Accumulators (No. 25569).

3.1.7.4 Other Waste Types

- **End-of-life tires:** If generated, they will be delivered to licensed facilities in accordance with the Regulation on the Control of End-of-Life Tires (No. 26357).
- **Medical waste:** Only minor first-aid related waste may be generated. Any such waste will be managed in compliance with the Regulation on the Control of Medical Waste (No. 29959) and transferred to licensed medical waste treatment facilities.
- **Waste vegetable oil:** If food services are provided on-site, waste vegetable oils will be collected separately and delivered to licensed collectors in accordance with Regulation No. 29378.
- **Electronic waste:** Office-related electronic waste, if any, will be transferred to licensed recycling facilities under Regulation No. 32055.

3.1.7.5 Impact Assessment and Significance

The quantities of waste expected to be generated during construction are limited and manageable. Provided that waste is segregated, temporarily stored, transported, and disposed of in accordance with national legislation and World Bank EHS Guidelines, no significant adverse environmental impacts related to waste generation are anticipated.

Accordingly, impacts associated with waste generation during the construction phase are assessed as: Low in magnitude, Localized, Temporary, and Reversible.

Detailed mitigation and monitoring measures for waste management will be defined in the implementation section of the ESMP.

3.1.7.6 Transport of Materials

During the construction phase of the Çorum Sungurlu District Center Stream Rehabilitation Project, transportation of construction materials and excavated material will constitute a temporary and localized impact, particularly due to the project's location within the urban center of Sungurlu District.

Construction activities will require the transport of concrete, reinforcement materials, stone, and other construction inputs to the project sites along Budaközü Creek, Akçay Creek, and Diği Creek, as well as the removal of excavated riverbed material generated during channel excavation and structural works. Material transport will be carried out using existing urban roads and access routes, in coordination with Sungurlu Municipality.

Potential impacts associated with material transport include temporary increases in traffic density, noise, dust emissions, and minor safety risks for pedestrians and road users. These impacts are expected to be short-term, intermittent, and confined to active construction sections.

Mitigation measures such as preparation and implementation of a Traffic Management Plan, scheduling of transport activities outside peak traffic hours where feasible, covering of trucks, speed control, and the use of designated material stock and disposal areas approved by Sungurlu Municipality will be applied. With these measures in place, impacts related to material transport are assessed as low in magnitude, localized, and temporary.

3.2 Identification of Anticipated Social Impacts and Assessments

3.2.1 Population Change

River rehabilitation projects that reduce flood risk can contribute to enhanced safety in agricultural and residential areas, thereby supporting the continuity of economic activities. This may have an encouraging effect on retaining the local population in the area and, even in the absence of direct population growth, can contribute to maintaining the socio-economic stability of the region.

3.2.2 Occupational Health and Safety (OHS)

Potential injuries may occur as a result of occupational accidents arising from the tasks to be performed. Neglecting Occupational Health and Safety (OHS) considerations during planning, including inadequate risk assessments, insufficient safety measures, and inadequate allocation of resources, may lead to safety hazards during construction and increase overall risk levels.

Incomplete or defective design plans may pose hazards to workers; failure to adequately consider access routes, fall protection measures, or structural stability may result in accidents and injuries. Inadequate site preparation may create risks such as accidents, slips, trips, and falls due to unstable ground conditions, improper waste management, lack of barriers, and insufficient signage.

Based on the scope of the Stream Rehabilitation Project, a brief assessment of potential Occupational Health and Safety (OHS) risks is provided below:

1. **Working Near and Within Water Bodies:** Activities conducted in marine and river environments may involve risks related to drowning, slipping, sudden changes in water levels, and wave action.
2. **Manual Handling:** Manual handling of stones, concrete blocks, formwork, and other construction materials may lead to musculoskeletal injuries if proper lifting and handling techniques are not applied.
3. **Mobile Construction Equipment and Vehicles:** The operation of heavy machinery such as excavators, trucks, and cranes involves risks of collision, crushing, overturning, and injuries during maneuvering.
4. **Use of Marine Vessels and Floating Equipment (if applicable):** The use of boats, platforms, or floating equipment may result in accidents related to falling, impact, or loss of balance.
5. **Welding and Hot Works (if applicable):** Welding or other hot works required during steel element installation or maintenance activities may pose fire and burn hazards.
6. **Noise:** Construction activities, particularly those involving heavy machinery, may generate high noise levels, potentially leading to hearing damage.
7. **Vibration:** The use of heavy machinery and equipment such as compactors may expose workers to vibration, which may result in health issues following prolonged exposure.

8. **Adverse Weather and Marine Conditions:** Severe rainfall, waves, wind, and currents may adversely affect workplace safety and increase the risk of accidents.
9. **Community and Third-Party Safety:** Where construction areas are located close to settlements, fishing activities, or pedestrian access routes, risks to community members and third parties may arise.

To ensure the effective management of these processes during both the construction and operation phases, compliance with applicable national and international occupational health and safety legislation is required. A comprehensive risk assessment will be conducted prior to the commencement of works, and appropriate control measures will be implemented to ensure the safety and health of workers. The Occupational Health and Safety (OHS) Plan and related procedures shall be implemented on site.

3.2.3 Economy and Employment

During the construction phase of the Sungurlu District Center Stream Rehabilitation Project, approximately 20 personnel are expected to work on the project. A 'local priority' principle will be adopted to meet the demand for both skilled and unskilled labor.

- **Direct Impact:** It is aimed to contribute to household incomes in the short term, particularly through employment opportunities provided to residents of the project area and nearby settlements.
- **Labor Rights:** All recruitment and employment processes will be conducted in a transparent and non-discriminatory manner, in full compliance with national legislation, World Bank Environmental and Social Standard 2 (ESS2: Labor and Working Conditions), and Labor Management Procedures.

To stimulate the local market, the project will implement a “local procurement” strategy. In this context, the following are planned:

- Procurement of construction materials from regional suppliers whenever possible, Utilization of local authorized services for vehicle maintenance, repair, and logistics, Meeting the daily needs of the personnel from surrounding settlements.

This approach is expected to create a multiplier effect on the regional economy, providing indirect economic benefits.

To ensure the health, hygiene, and safety standards of the workers, arrangements will be made for accommodation, meals, and social activities at a location close to the construction site but away from residential areas, and facilities such as dining areas, rest areas, toilets, and showers will be provided for the project personnel. The working and living conditions of the personnel will be monitored to ensure compliance with the World Bank Environmental and Social Standards and Occupational Health and Safety (OHS) regulations.

The primary focus of the project is construction and rehabilitation activities; therefore, no permanent increase in continuous employment is anticipated under current planning. The impacts of the project on local employment and the economy are expected to be predominantly limited to the construction phase, temporary, and positive (providing economic mobilization). The project is not expected to exert any adverse pressure on local demographics or the existing economic balance.

3.2.4 Community Health and Safety (CHS)

During the construction and operation phases of the Project, security and safety risks such as traffic-related and personal safety issues are expected to arise. It is of great importance that these risks are identified in advance and minimized through appropriate management measures.

Interviews conducted with neighborhood muhtars within the Project’s area of influence indicate that the muhtars generally evaluate the Project as “not negative, but rather a process that involves temporary challenges while providing long-term benefits.” However, they also emphasized the presence of temporary positive and negative impacts. The muhtar of Bahçelievler Neighborhood requested that the works be

completed as quickly as possible and stated that Sungurlu District had been exposed to unpleasant odors for many years, expressing hope that this problem would be resolved within the scope of the project. Similarly, the muhtar of Turan Neighborhood stated that, if the project is implemented, the odors would be eliminated, noting that the existing unpleasant smells in the area cause discomfort for the community and that businesses operating in the area would also benefit from this improvement. This assessments reflects a strong expectation regarding the positive effects of improved environmental conditions on community health

On the other hand, the muhtar of Sunguroğlu Neighborhood emphasized the importance of sharing information with local stakeholders regarding the locations of additional bridges to be constructed, pointing to the need for transparency in the planning process, particularly in terms of access safety and daily mobility of users. The muhtar of Akçakent Neighborhood stated that an existing bridge in the neighborhood restricts visibility and that oncoming vehicles cannot be adequately seen. He noted that they had been informed that the bridge would be renewed and indicated that such renewal would have a positive impact on traffic safety. This statement highlights the need for careful consideration of existing infrastructure elements in terms of road safety and accident risks. Overall, feedback from the muhtars indicates that neighborhood representatives have a generally positive attitude towards the Project, while expecting a more planned approach to issues such as regular communication and traffic management throughout the construction process.

Construction activities to be carried out under the Project may pose certain public health risks. Accordingly, the potential impacts of factors such as dust, noise, and odor on public health should be regularly monitored and managed. Although there are no hospitals located in very close proximity to the project alignment, primary healthcare centers (Family Health Centers) are present (see Annex-4). In particular, mitigation measures and safety precautions should be strengthened in the vicinity of healthcare facilities.

As there are sensitive institutions such as schools along the project alignment(see Annex-4), the impacts of construction activities on these areas will be given special consideration. Temporary disturbances such as noise, dust, and vibration will be minimized through appropriate technical and administrative measures to ensure that students' health and educational activities are not adversely affected. In this context, measures such as adjusting working hours around the school, implementing temporary barriers and dust control measures, and providing safe pedestrian crossings for students will be implemented. In addition, regular communication and information sharing with school management and teachers will contribute to the proactive planning of potential risks.

The Project is not expected to increase the risk of infectious or vector-borne diseases (e.g., HIV/AIDS, malaria) among workers or communities due to changes in living and working conditions. The employment of local labor during the construction phase is planned, which will limit the influx of external workers and reduce the likelihood of disease transmission to surrounding communities. Therefore, no additional burden on local healthcare facilities is anticipated. In this context, it is important to regularly monitor risks that may affect public health and safety and to conduct periodic measurements of dust, noise, and odor levels. More detailed information on dust and noise impacts is provided in the Environmental Impact Assessment section.

3.2.5 Land Acquisition and Livelihood Sources

3.2.5.1 Land Acquisition

The lands affected by the project consist primarily of unregistered stream parcels. Therefore, no additional land acquisition is required for the project. However, the latest KMZ analyses indicate that in certain sections(Tekbağ and Gölbağları areas), the rehabilitation alignment deviates from the streambed, and some parcels are only partially affected. While the majority of these parcels remain outside the project alignment, only narrow areas near the road or stream corridor fall within the impact area. In line with international good practice and World Bank standards, all land parcels within the project's area of influence have been transparently identified, and the relevant information on these parcels is presented in Table 3-1

Table 3-1 Project-Affected Parcels

Block No	Parcel No	Area (m²)	Attribute
475	49	1.752,28	Poplar plantation

Block No	Parcel No	Area (m²)	Attribute
475	5	2.601,00	Garden
475	6	608,0	Field
447	48	1.559,0	Field
475	13	6.203,0	Five-story frame flour factory, five-story frame flour warehouse, two-story administration building, single-story frame wheat warehouse, and field
447	29	4.613,13	Field
475	31	12.875,00	Masonry gas station building and orchard land
475	29	1.183,00	Land plot
475	42	2.220,53	Masonry barn and house with land
475	40	2.417,88	House, livestock shed, and hayloft
475	38	2.615,14	Land Plot
475	34	2.404,50	Land Plot
475	20	2.083,45	House, barn, and yard
475	32	9.383,89	Field
358	1	9.235,00	Field
358	2	10.265,00	Field

Since the project alignment will largely follow the existing streambed, the lands will not be divided in a way that would affect agricultural activities. Structures are avoided wherever possible, and no residential buildings are affected by the project. Therefore, the project has no physical resettlement impacts. Furthermore, there is no need to relocate any commercial or industrial structures. However, some trees will be affected. During construction, potential impacts on community livelihoods are planned to be minimized. The most up-to-date information regarding land acquisition and use will be provided in the Resettlement Plan(RP) prepared specifically for the sub-project.

3.2.6 Labor Management and Labor Influx

A Labor Management Procedure (LMP) has been prepared for the project, which will be financed by the World Bank and managed and implemented by the General Directorate of State Hydraulic Works (DSİ). The LMP aims to promote fair and equitable employment practices, to ensure fair treatment, non-discrimination, and equal opportunities for all project worker, to protect the rights of project workers and to manage and control operations that may give rise to labor-related risks.

The procedures define the requirements for compliance with employment and working conditions, reporting obligations, roles and responsibilities, monitoring and training requirements, and expectations. The LMP will be adopted by DSİ and applied to all project workers. It explains how DSİ will comply with the World Bank Environmental and Social Standard 2 (ESS2): "Labor and Working Conditions" as well as with Türkiye's labor, employment, and occupational health and safety legislation.

The LMP assesses potential labor-related risks and impacts and describes how these risks and impacts will be mitigated and managed. DSİ will also seek to ensure that project contractors and other labor-engaging intermediaries implement these labor management procedures. The LMP is considered a "living document" and will be updated as additional information becomes available.

ESS2 applies to all project workers, including full-time, part-time, temporary, seasonal, and migrant workers. Construction activities do not require additional or specialized labor from outside the region and forced labor or child labor is prohibited. During the implementation of the project, there may be adverse impacts and risks related to occupational health and safety (OHS) for the workforce. These potential risks are listed below:

- Risks of slipping, falling, and drowning due to working in marine and coastal environments,
- Risks of crushing and impact during the lifting and placement of heavy structural elements and rock fill materials,
- Electrical works,
- Exposure to chemicals (such as paints, solvents, lubricants, and fuels),
- Traffic accidents,
- Lifting of heavy structures,

- Exposure to substances present in construction air (dust, silica, and asbestos),
- Ergonomic hazards during construction activities,
- Safety risks arising from adverse weather and marine conditions (waves, currents, wind),
- Welding hazards (fumes, burns, and radiation),
- Lack of awareness and knowledge regarding occupational health and safety requirements, including the use of personal protective equipment (PPE) and safe workplace practices,
- Risks related to ethical conduct, sexual exploitation and abuse/sexual harassment (SEA/SH), gender equality, and gender-based violence (GBV).

The Project Implementation Unit (PIU) will establish processes to address any additional workforce-related risks that may arise during project implementation.

3.3 ESMP Matrix, Risks and Effects, Mitigation Measures and Monitoring

This section presents the Environmental and Social Management Plan (ESMP) matrix, which consolidates the identified environmental and social risks and potential impacts associated with the Subproject, together with the corresponding mitigation measures and monitoring requirements. The ESMP matrix is designed to ensure that all foreseeable adverse effects during the construction phase are systematically addressed through clearly defined actions, institutional responsibilities, performance indicators, and monitoring mechanisms. It serves as a practical implementation and supervision tool to support compliance with national legislation, applicable international standards, and good international industry practice, and to ensure that environmental and social considerations are effectively integrated into day-to-day construction activities at the project site.

Table 3-2 ESMP Matrix, Risks and Effects, Mitigation Measures and Monitoring

Phase	Topic	Environmental and Social Risks	Mitigation Measures				Impact/Outcome Monitoring		
			Description of Risk / Expected Impact	Mitigation Measures	Final Impact Significance	Responsibility	Parameter	Period	Responsibility
Pre-Construction	Environmental & Social Management System	Inadequate management of environmental and social risks and impacts of the project	Moderate	Contractor shall prepare, submit for approval, and implement a Contractor ESMP (C-ESMP) prior to construction. C-ESMP shall include OHS Plan, Community Health & Safety & Traffic Management Plan, Waste Management Plan, Water & Wastewater Plan, Hazardous Materials Plan, Labor Management Plan (incl. Code of Conduct & GM), and Chance Find Procedure.	Minor	Contractor (implementation) / DSİ PIU (supervision) (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Approval status of C-ESMP; availability of plans; GM establishment records	Once before construction	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre-Construction	Environmental & Social Management System	Lack of qualified E&S staff	Moderate	Contractor shall employ at least one full-time OHS specialist and one Environmental Officer (social responsibilities may be assigned to Environmental Officer if approved). CVs shall be submitted for approval.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Number of E&S staff; approved CVs; site presence records	Once before construction & continuous	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre-Construction	Training of Workers	- Workers not trained on E&S and OHS risks	Moderate	- Contractor shall provide induction training to all workers before site entry and monthly refresher trainings (OHS, environmental protection, Code of Conduct, SEA/SH, community relations).	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Training attendance lists; training materials; number of trainings	Before mobilization & monthly	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre-Construction	Occupational Health & Safety	- Health risks due to lack of medical checks, risk assessment and emergency planning	Moderate	- Medical fitness checks for workers; site-specific risk assessment; Emergency Preparedness and Response Plan; preparation of OHS Plan compliant with Turkish legislation and WBG EHS Guidelines.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Medical certificates; approved risk assessment; emergency plan; OHS plan	Once before construction	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre- Construction	Seismicity	- Safety risks to workers due to seismic events	Minor	- Temporary facilities designed per Turkish seismic code; earthquake procedures in emergency plan; worker awareness training.	Negligible	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Emergency plan content; training records	Once before construction	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre-Construction	Air Quality & Noise	- Community complaints due to anticipated dust and noise	Minor	- Establish grievance mechanism and information sharing channel.	Negligible	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Grievance log	During construction	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre-Construction	Land acquisition	- There may be risks such as starting construction activities before the land acquisition process is completed.	Moderate	- Before any physical works under the project commence, the Resettlement Plan (RP) will be prepared, and land acquisition will be carried out in accordance with the RAP; physical works will begin only after the land acquisition is completed.	Minor	Contractor/DSİ (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Resettlement Plan content	Once before construction	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Pre-Construction/Construction	Stakeholder Engagement	- Insufficient information disclosure to stakeholders and	Moderate	- Organizing stakeholder engagement and consultation meetings during pre-construction, construction, and operation phases	Minor	Contractor / DSİ PIU (Regional	Number of stakeholder	Throughout the project	DSI PIU (Regional

Phase	Topic	Environmental and Social Risks	Mitigation Measures				Impact/Outcome Monitoring		
			Description of Risk / Expected Impact	Mitigation Measures	Final Impact Significance	Responsibility	Parameter	Period	Responsibility
	and Information Disclosure	lack of effective engagement may reduce social acceptance of the project and lead to misunderstandings, complaints, and social tension.		- Conducting regular information sharing and consultations with local mukhtars and relevant institutions - Establishing and effectively operating a Grievance Mechanism (GM) accessible to all stakeholders - Recording stakeholder views, concerns, and suggestions and integrating them into project implementation where feasible - The contractor will appoint a local community liaison officer (CLO) to lead communication with the local community and receive requests/complaints from community members.		Project Officer, Flood Control Projects Officer and Project Coordination Officer)	engagement meetings conducted Number of grievances and feedback received Grievance resolution rate	lifecycle (pre-construction, construction, and operation phases	Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Riverbed Excavation & Channel Works	- Increased turbidity, sediment dispersion, local habitat disturbance	Moderate	- Limit works to approved design; phased construction; avoid works during high flow events; no unnecessary excavation; daily visual checks.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Excavated area (m^2); volume (m^3); turbidity observations	Weekly / during works	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Noise & Vibration	- Disturbance to nearby receptors incl. Cumhuriyet Primary School	Moderate	- Daytime works only; equipment maintenance; minimize simultaneous noisy activities; inform school in advance; temporary barriers if needed. - Transportation of construction materials shall be limited to daytime hours and planned to avoid sensitive periods. - Vehicle speeds shall be controlled, and unnecessary idling of trucks shall be prohibited. - Designated transport routes shall be used to minimize disturbance to nearby receptors.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Noise complaints; site observations Records of material transport complaints (if any)	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Air Quality	- Dust emissions from excavation, transport and material handling	Minor	- Dust emissions are expected to remain below the 1 kg/h mass flow threshold defined in the Regulation on Control of Industrial Air Pollution, therefore no detailed dispersion modelling is required - Water spraying shall be applied on haul roads and unloading areas when needed. - Trucks carrying materials shall be covered. - Vehicle speeds shall be limited on access roads. - Material handling shall be avoided during strong winds where possible. - Regular inspection and maintenance of haul roads shall be carried out to reduce dust generation.	Negligible	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Visual dust; complaints	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Water Use & Wastewater	- Pollution from improper domestic wastewater management (50 workers)	Minor	- Use portable toilets or sewer connection; no discharge to stream; regular maintenance.	Negligible	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Wastewater service records	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Waste Management	- Improper disposal of domestic and hazardous waste	Moderate	- Segregation at source; licensed transport and disposal; no dumping or burning; records maintained.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Waste transfer forms	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Chemicals & Hazardous Materials	- Soil/water pollution and worker exposure due to spills	Moderate	- Bunded storage; labeled containers; spill kits; trained staff; secondary containment; safe refueling area; emergency procedures.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Storage condition; spill records; waste manifests	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project

Phase	Topic	Environmental and Social Risks	Mitigation Measures				Impact/Outcome Monitoring		
			Description of Risk / Expected Impact	Mitigation Measures	Final Impact Significance	Responsibility	Parameter	Period	Responsibility
									Coordination Officer)
Construction	Land Use	- Poorly planned construction activities, including excavation, leveling, and temporary storage of materials, may cause land degradation, which could also damage adjacent land and structures.	Moderate	- Construction personnel will be trained to adhere to the predefined construction boundaries. - The Project Grievance Mechanism will be implemented, and any complaints related to cultivable lands received through the mechanism will be assessed and corrective actions will be applied where necessary.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Grievance records	Throughout the project lifecycle	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Disruption of public services, particularly education, health, and religious facilities	- Disruptions caused by construction activities may lead to interruptions in public services, including education, health, and religious institutions, potentially causing social discomfort	Moderate	- Scheduling construction activities in a way that does not disrupt access to public services - Halting or minimizing noisy construction work during sensitive times such as prayer times or school hours - Maintaining regular communication and information sharing with the local community and relevant institutions - Implementing temporary arrangements according to the needs of the community	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Number of grievances and feedback received Grievance resolution rate	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Inappropriate Labor and Working Conditions	- Non-functional Worker Grievance Mechanism and inadequate accommodation conditions	Moderate	- Provisions regarding the prohibition of forced labor, child labor, and ESS2 requirements will be integrated into the contractor's tender documents and contracts. - Providing all workers with clear and understandable documents outlining employment conditions (wages, working hours, rights, etc.); providing verbal explanations to those with reading difficulties. - Ensuring that all personnel comply with the official "Code of Conduct" to manage interaction risks between workers and the local community. - Establishing an easily accessible Grievance Mechanism (GM) where workers can raise their concerns without fear of retaliation and informing workers about it. - Strict enforcement of occupational health and safety standards on-site and rigorous monitoring of the use of personal protective equipment (PPE).	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Number of grievances received through the Worker Grievance Mechanism (WGM), resolution rate, and average response time, Number of periodic on-site inspections of working conditions (working hours, PPE usage, accommodation areas, etc.) and non-compliance reports.	Monthly	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Community Health & Safety	- Risk of traffic congestion and accidents. - Pedestrian safety risk.	Moderate	- Implementation of traffic and access safety measures during construction activities to ensure the safety of the local community and workers. - Adoption of appropriate technical and administrative measures to minimize temporary disturbances such as noise, dust, and odor, ensuring that public health and students' education are not adversely affected. - Scheduling construction activities near schools and sensitive facilities according to working hours and halting noisy work during sensitive times. - Establishment of temporary pedestrian paths and barriers to ensure safe pedestrian crossings. - Establishment and effective operation of community feedback and grievance mechanisms (Grievance Mechanism).	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Number of trips Records of Traffic incidents by the Project Vehicles, Grievance records	Monthly	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Occupational Health and Safety	- Occupational health and safety risks to construction workers due to operation of heavy machinery, marine works, working at heights, handling of hazardous materials, traffic movements, and inadequate implementation of site-specific OHS measures, potentially leading to accidents, injuries, or fatalities.	Moderate	- The Contractor shall prepare and implement a site-specific OHS Plan in compliance with Turkish legislation and the WB EHS Guidelines. - The construction site shall be fully enclosed with a continuous fence of minimum 2.3 m height, given the urbanized setting. The integrity of the fencing shall be maintained throughout the construction period and regularly inspected. - Construction activities shall be planned to prevent accidents through identification of site-specific hazards, assessment of worker qualifications, verification of equipment safety, and implementation of electrical safety measures. - All workers shall receive OHS induction training prior to mobilization and regular refresher trainings and daily toolbox meetings during construction. - A safe and healthy working environment shall be maintained, and workers shall be informed of safety rules, risks, emergency procedures, and the grievance mechanism. - Appropriate PPE shall be provided and its use shall be strictly enforced.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Number of accidents and near misses OHS training records PPE usage compliance rate Daily toolbox talk records OHS inspection reports	Daily (site inspections) Monthly (reporting)	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)

Phase	Topic	Environmental and Social Risks	Mitigation Measures				Impact/Outcome Monitoring		
			Description of Risk / Expected Impact	Mitigation Measures	Final Impact Significance	Responsibility	Parameter	Period	Responsibility
				- Access to construction areas shall be controlled, hazardous zones shall be clearly marked, and public access shall be prevented by fencing, barriers, and warning signs. - Only trained and licensed operators shall be allowed to use vehicles and machinery. Speed limits shall be enforced and regular maintenance shall be conducted. - Works at height and hazardous activities shall be carried out only by qualified personnel using appropriate safety measures. - Hazardous materials shall be properly handled and stored in designated and secured areas. - Emergency preparedness and response procedures, including first aid facilities and periodic drills, shall be established on site. - All accidents, incidents, and near-miss events shall be recorded and reported to the DSİ Regional PIU. Major incidents shall be reported immediately and others within 24 hours. Corrective and preventive actions shall be documented. - The DSİ Regional PIU shall supervise the implementation of OHS measures and ensure corrective actions where necessary. - A Labor Management Plan shall be implemented, and written contracts defining working conditions shall be provided to all workers.					
Construction	Security	- Acts of vandalism or sabotage may occur, leading to damage and delays in construction. - The project may experience theft, vandalism, trespassing, or other security incidents during the construction phase, both inside and outside the project area. - Use of unsuitable security personnel may compromise the safety and reputation of the project.	Moderate	- Security personnel will be hired in accordance with Article 24° of ESS4, which outlines the requirements. - A risk assessment will be conducted for the risks posed by security arrangements both inside and outside the project area. - The borrower will adhere to the principles of proportionality, GIIP, and applicable national legislation regarding the hiring, training, equipment, and monitoring of security personnel. However, since national law does not require assessments for armed security forces, ESS4 will be followed. - An inquiry will be conducted during the hiring process of security personnel (or security service provider) to assess competency and check for any past abuse incidents. - Security personnel will receive training on the code of conduct, gender sensitivity, and local cultural awareness, or the security service provider will ensure their personnel receive similar training. The training will emphasize the use of force solely for preventive and defensive purposes, in proportion to the threat.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Security personnel training certificates Security incident records Risk assessment report	Quarterly	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Vulnerable Groups	- Vulnerable groups, including children, elderly, disabled persons, and school communities, may be affected by construction activities and require targeted mitigation measures	Moderate	- Local communities and school management will be informed about dust and noise mitigation measures and the construction work schedule. - Vulnerable groups (e.g., visually impaired, elderly who are homebound, etc.) will be included in these notifications. - The community liaison officer will be introduced to the local community. - Updated information on the grievance mechanism will continue to be provided to the community.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Number of vulnerable individuals informed, Number of awareness sessions conducted, Records of complaints from vulnerable groups	Monthly	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Cultural Heritage	- Construction activities may accidentally damage or destroy archaeological sites, artifacts, or cultural heritage features that are discovered during earthworks.	Moderate	- Contractor will take all physical activity on hold upon encountering a chance find and immediately inform 5th Regional Branch Office of DSI and DSI Regional PIU - Chance Finds Procedure (See Annex-6.) will be implemented to manage potential tangible cultural heritage and document any discovered tangible cultural heritage by recording its forms and collecting relevant documents. - Project personnel will be trained on the importance of cultural heritage, its protection, and the procedures related to chance finds. - During rehabilitation, necessary distances and technical measures will be applied to ensure that vibrations from heavy machinery do not compromise the structural integrity of the Budaközü Bridge.	Minor	Contractor / DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)	Presence of chance finds. Number of chance find incidents reported	Continuous during, foundation works	DSİ PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)

3.4 Implementation of ESMP, Capacity Building, and Training

Effective implementation of this ESMP is essential to ensure that the Subproject is carried out in compliance with national environmental legislation and the World Bank Environmental and Social Framework.

Institutional Responsibilities and Implementation Arrangements

The Contractor shall be primarily responsible for implementing all mitigation, monitoring, and reporting measures defined in the ESMP during the construction phase. ESMP requirements shall be integrated into construction methods, work programs, and subcontractor arrangements.

Prior to construction, the Contractor shall appoint qualified Environmental and OHS personnel to be permanently present on site and authorized to enforce compliance with the ESMP and legal requirements.

DSİ, through its Project Implementation Unit (PIU), (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer) shall supervise and monitor ESMP implementation, conduct site inspections, review monitoring results, and request corrective actions where necessary.

Capacity Building

To ensure effective implementation, the Contractor shall:

- Appoint site-based environmental and OHS staff prior to mobilization,
- Allocate sufficient financial, technical, and human resources,
- Establish procedures for environmental and social reporting and incident management, and
- Periodically assess performance and address identified capacity gaps.

Where necessary, external expertise may be engaged for specialized activities such as sediment management, hazardous waste handling, and emergency preparedness.

Training

The Contractor shall implement a documented training program covering:

- ESMP induction training for all personnel prior to site entry,
- Regular toolbox meetings on site-specific risks (sediment control, pollution prevention, traffic safety, noise, etc.),
- Technical training for operators and supervisory staff, and
- OHS training, including emergency response and use of PPE.

All training activities shall be recorded and made available to the DSİ PIU for verification.

4 STAKEHOLDER ENGAGEMENT

4.1 Brief Summary of Previous Stakeholder Engagement Activities

During the preparation of the draft Environmental and Social (E&S) documents, public consultation meetings were held on 08 January 2024 in the Sungurlu district of Çorum Province. A total of 30 participants attended the meeting held in Sungurlu.

Participants raised the following issues regarding the stream rehabilitation works: the possibility of storing water as a pool during the summer months, the construction of a pedestrian path along the canal, the limited number of stream crossing points, the preference for the works to be completed quickly and ensuring that water flow does not cause reed, mosquito, or swamp formation.[4]

4.2 Stakeholder Identification and Analysis

Stakeholder identification/mapping is the first step of Stakeholder Engagement Plan. The objective of stakeholder mapping is to identify each stakeholder group, and the nature of their interest and influence on the project. Stakeholder mapping is done as early as possible in the project cycle, and does not only list stakeholders, but also assess how they will be impacted by the project (direct or indirect impact) and assess their level of interest and potential influence on the project. The dynamics among the stakeholders, risks and opportunities of inclusion to the project are taken into consideration in the stakeholder mapping process.

The basis of stakeholder mapping is the level of interest and interaction with the project. Accordingly, stakeholders will be gathered in the following groups;

- Affected Parties, refers to persons, groups, and other entities within the Project Area of Influence (PAI) that are directly influenced (actually or potentially) by the project and/or have been identified as most susceptible to change associated with the project, and who need to be closely engaged in identifying impacts and their significance, as well as in decision-making on mitigation and management measures
- Other Involved Parties, refers to individuals/groups/entities that may not experience direct impacts from the Project but who consider or perceive their interests as being affected by the project and/or who could affect the project and the process of its implementation in some way.

Vulnerable Groups, persons who may be disproportionately impacted or further disadvantaged by the project(s) compared with any other groups due to their vulnerable status, and that may require special engagement efforts to ensure their equal representation in the consultation and decision-making process associated with the project.

Table 4-1 Stakeholder Identification and Interests

Stakeholder Type	Stakeholder Groups	Stakeholder Interest in the Project
Affected Parties (APs)	Settlements affected by the Project: Bahçelievler settlement Akçay settlement Akçakent settlement Gürpınar settlement Sunguroğu settlement Şekerpınar settlement İsmetpaşa Settlement Hacettepe settlement Yenihayat settlement Başpınar settlement Fatih Settlement Turan Settlement Fevzi Paşa Settlement Businesses located within the area of influence,	Administrative facilitation, rapid access to information, and timely response to issues Resolution of access-related issues to project areas Temporary increase in neighborhood population during the construction phase Potential impacts on daily life due to construction activities

[4] *General Directorate of State Hydraulic Works (DSİ), Türkiye Flood and Drought Management Project* (P179313) – Stakeholder Engagement Plan (SEP), *Ankara, 7 May 2024.*

Stakeholder Type	Stakeholder Groups	Stakeholder Interest in the Project
	Landowners and land users subject to expropriation, Seasonal workers, Residents of neighboring neighborhoods/villages Who may serve as a potential labor force.	
Other Interested Parties (OIPs)	• Çorum Governorate • General Directorate of State Hydraulic Works (DSİ) – 54th Branch Directorate • DSİ 5th Regional Directorate •General Directorate of Meteorology (MGM) •General Directorate of Forestry (OGM) •General Directorate of Combating Desertification and Erosion •General Directorate of Highways • Sungurlu Municipality • Neighborhood Headmen •AFAD •Commercial and industrial enterprises, including suppliers, contractors, subcontractors, and their employees, •Universities and research institutes (Hitit University and Sungurlu Vocational School), •Local or national NGOs / professional chambers	Administrative and technical coordination during project planning, implementation, and monitoring Ensuring public safety and reducing disaster and flood risks Monitoring and management of environmental and social impacts Acting as intermediaries in conveying local needs, sensitivities, and community expectations Ensuring regulatory compliance, inter-institutional coordination, and supervision
Vulnerable Groups	• Illiterate adults (Women: 384, Men: 184) • Persons with disabilities (Mental: Women 35, Men 39; Physical: Women 38, Men 46) • Elderly persons in need of care and social assistance (Women: 206, Men: 181) • Unemployed people (760) • Non-Turkish Speaker (Women:3, Male:2) • Refugee (Women:41 Male:38)	Vulnerable groups place importance on having equal access to project-related information and participation opportunities. In this context, they have a need for engagement activities that take into account literacy limitations, accessible communication channels and formats, and additional support to facilitate the participation of elderly people. In addition, project information will be made available in Turkish for vulnerable stakeholders, as well as in other appropriate languages for migrant workers and non-Turkish speakers. In addition, it is of importance to ensure that unemployed women and men residing within the project area of influence have access to the employment opportunities generated by the project and are given priority consideration for such opportunities.

This ESMP will also be disclosed and announced to the public through gazette announcements and other appropriate means. It will be made publicly available for at least seven days and subsequently consulted upon. All project-related written or printed materials to be distributed at project sites will be accessible to disadvantaged/vulnerable groups and individuals under the Project. These materials will be provided using large font sizes, simple and non-technical language, visual aids, and, where necessary, through verbal communication; and will be prepared in a culturally appropriate and easily understandable manner.

Throughout the implementation of the Project, regular and continuous consultations will be carried out with all project stakeholders, including vulnerable groups, to inform them about the Project's impacts, construction schedule, and any compensation they may be entitled to in the event of project-related land acquisition or loss of livelihood.

4.3 Stakeholder Engagement Program

4.3.1 Principles of SEP

In accordance with the principle of consultation, stakeholders will be informed and consulted during preparation stages of the project.

The Stakeholder Engagement takes into account the following principles for this project: transparent engagement, sensitive inclusive/non-discriminatory consultation, use of multiple outreach channels, user-friendly engagement tools, and inclusive and gender sensitive language.

Transparency

It is important that all the information about the project and its environmental and social risks and impacts are disclosed and shared with the stakeholders in an open manner. In order to achieve this the preparation and dissemination of relevant information and organization of meetings is important. The positive and negative impacts of the project need to be communicated openly with the stakeholders. Information disseminated will be in plain language, accurate and accessible.

Socially Inclusion

The stakeholder participation process will take into account the different and specific needs of various groups and communities. Possible communication barriers with these different groups and communities need to be overcome. To achieve this, it is important to train all personnel, especially the Contractor's public relations staff. The different needs of the stakeholders will be handled with sensitivity. These sensitivities may be based on cultural appropriateness, gender, language, ethnicity, remoteness, and similar factors. There will be no hierarchical structure in stakeholder engagement; different community members, groups, and communities will participate in the stakeholder engagement process on an equal basis.

Different engagement media need to be used in order to overcome possible barriers in participation especially in view of vulnerable groups.

Communication Channels

- Consultation meetings,
- Disclosure of documents and an integration of feedback provided by the stakeholders,
- Involvement of village mukhtars in the engagement process,
- The establishment and implementation of grievance mechanism,
- Website,
- Media announcements,
- Disclosure of telephone numbers and e-mail addresses.
- User-friendly communication

In order to meet the transparency, sensitivity and inclusivity principles it is important that the engagement tools are accessible, understandable and not complicated. Otherwise, disadvantaged groups, like people lacking formal education experiences or member of a marginalized groups would not be able to participate.

Extent of engagement tools

As well as accessible, diversified and understandable engagement tool also need to be well disseminated. Lack of wider dissemination would let some groups, communities or individuals who are affected by the project out of the process of engagement. Because of these visual and written announcements need to be complemented by face-to-face verbal communication.

Gender sensitive language

Negative attitudes and statements against women reflect itself not only through physical behaviors but also through our "language". Language has a cultural characteristic and is reproduced by women and men over generations. Therefore, the main focus is to ensure gender sensitive language and target group for gender sensitive communication is women and men community members and stakeholders.

4.3.2 Stakeholder Engagement Methods

To sustain ownership of the project stakeholders' during project implementation, and to increase positive social impact of the Sub-Project, some stakeholder engagement methods to be used in the implementation phase are explained in the SEP of the main Project. These engagement methods will be used throughout

the life cycle of the Project will be ensured. Parallel methods are planned to be used in particular for the Sungurlu District Center Stream Rehabilitation Project into the Sea Sub-Project.

Table 4-2 Sub-Project Stakeholder Engagement and Communication Tools

Method	**Sub-Project Level** – The Sungurlu District Center Stream Rehabilitation Project
Public Consultation Meetings	Public consultations will be conducted when draft ESMP are disclosed. The meeting participants will include but not limited to the representatives of DSI 5th Regional Directorate, subcontractor company representatives, muhtars, representatives and residents of the affected settlements (including PAPs), as well as any other interested parties.
Disclosure Activities	DSİ will inform its institutional stakeholders via email, the staff of the DSİ 5th Regional Directorate through official board announcements on one national and local newspaper, and the mukhtars representing the Project-Affected Entities (PAEs) by phone. This ESMP will be disclosed for a period of 15 days and will be open to contributions (verbal, written) from all stakeholders. Stakeholders will also be able to provide input to the plans during Public Consultation Meetings.
Digital and Visual Communication Tools	The website of DSI 5th Regional Directorate will be used to inform stakeholders about the important developments of the Project. Important developments and announcements about the project will be published on the website.
Grievance Mechanism (GM)	The sub-project will have a grievance mechanism managed by DSI. For the working principles of the mechanism, see Chapter 4.4. The sample forms in Annex 5-1 and Annex 5-2 will be used to record and close the received complaints.
Information and Communication	The materials will be shared with stakeholder institutions/organizations and mukhtars. These materials can include brochures, posters, and maps in which the information to be provided is explained in simple language. They will be presented in locations easily accessible to stakeholders. Mukhtar offices, coffee houses, and schools will be identified as places where posters can be placed. Considering the high human circulation in these locations, it is expected that the materials will contribute to increasing visibility.
Coordination with Local Communities	Necessary information will be provided by contacting the headmen of settlements and Project-Affected Persons (PAPs). Mukhtars will be invited to the meetings and given priority to follow project developments. In addition, notice boards at mukhtar offices, coffee houses, and other similar public places will also be utilized in this information-sharing process.

4.3.3 Consultation Schedule

The implementation program of the SEP is summarized in Table 4-4 and Table 4-4 below.

Table 4-3 Consultation Schedule

Time and location	**Activity**	**Information to be disclose**	**Method**	**Target stakeholder**	**Responsible Unit**
Draft E&S documents -	Public Consultation Meeting with local stakeholders	• E&S principles/commitments of the Sub-Project •Basic information about the Sub-Project •Stakeholder engagement and grievance mechanism	Face-to-face	Local stakeholders including PAPs and headmen. Communities of project 13 settlements, surrounding settlements PAPs directly affected by land acquisition of the project including vulnerable groups.	DSI Regional PIU
When significant incident occurs	Public Consultation Meetings	Important developments regarding the Sub-Project.	Face-to-face	Local stakeholders including PAPs and headmen. Communities of project 13 settlements, surrounding settlements PAPs directly affected by land acquisition of the project including vulnerable groups.	DSI Regional PIU

Table 4-4 Consultation methods

Time and location	Activity	Information to be disclose	Method	Target stakeholder	Responsible Unit
Preparation	Disclosure Activities	The subproject specific E&S documents and call to disclosure process of the draft E&S management plans.	DSİ should inform its institutional stakeholders via email, DSİ staff through a board/management announcement, and the mukhtars representing the Project-Affected Persons (PAPs) by phone. The documents related to this subproject will be disclosed to the public at a meeting held in the affected settlements. In addition, the documents will be published electronically on the project website.	Project-Affected Persons (PAPs), 13 project settlements, surrounding settlements, and vulnerable groups.	DSI Regional PIU
Project lifetime	Digital and visual Communication Tools	CHS (Community Health and Safety) and GM issues	Information about project stages, meeting dates, GM and CHS will be posted in public places (mukhtar's office, mosque, coffee houses, community education centers, schools, etc) E&S Documents of the project will be reachable in the web site of DSİ. Within the scope of CHS measures, necessary signs and markings will be hung to public spaces and construction areas for health and safety. Information about GM will be announced through a poster to be hung in public areas at PAS.	Project-Affected Persons (PAPs), including 13 project settlements, and vulnerable groups.	PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
		Important developments of the Project	Web-site of TFDMP, mukhtar offices, construction site.	All stakeholders of TFDMP and the sub-project	PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction	Warnings	CHS risk and warnings.	Warning signs: Within the scope of CHS measures, necessary signs and markings will be hung.	Project-Affected Persons (PAPs), 13 project settlements and vulnerable groups.	Sub-contractor, DSI Regional PIU
Construction and Operation	Stakeholder meetings and consultations	Publicize project activities and results and provide necessary information about the sub-project.	Project meeting dates will be announced and posted in public places (mukhtars, mosques, etc.).	13 settlements in the AoI of the Project, PAPs and vulnerable groups. Workers of the sub-project. Other local stakeholders affected by the sub-project.	PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)
Construction and Operation	Employment call	Local employment opportunities.	Website of the DSI (https://www.dsi.gov.tr/Sayfa/Detay/1873) Job application forms distributed to PASs, Board announcement for DSI employees.	Project-Affected Persons (PAPs),	Sub-contractor, DSI (Regional

Time and location	Activity	Information to be disclose	Method	Target stakeholder	Responsible Unit
				including those in the 13 project settlements, surrounding settlements, and vulnerable groups.	Project Officer)
Project lifetime	Grievance Mechanism (GM)	SEP, Principles of GM, Contact channels, solutions of the complaints	Grievances will be received through online, face-to-face, phone, or CİMER channels. Sample forms provided in Annex 5-1 and Annex 5-2 will be used to record and resolve the grievances. In addition, grievance forms will be made available not only at the construction site but also in all public places easily accessible to women and the community, such as coffee houses, mukhtar offices, and schools.	Project 13 settlements, PAPs and vulnerable groups. Workers of the sub-project. Other local stakeholders affected by the sub-project.	PIU (Regional Project Officer, Flood Control Projects Officer and Project Coordination Officer)

4.4 Grievance Mechanism (GM)

Within the project, stakeholders and citizens can submit their grievances through different channels:

CİMER: Grievances directed to public institutions can be submitted via the internet, telephone, fax, letter, or in person at the relevant units. Whistleblower-type grievances can be submitted anonymously. Grievances are responded to within 30 days.

YİMER: A centralized grievance system for foreigners. Grievances can be submitted via the internet, hotline (ALO 157), fax, letter, or in person at the Directorate General of Migration Management.

Project GM (DSİ-PIB): All project-related grievances, requests, suggestions, and opinions are received, recorded, and resolved within predetermined timeframes. A Grievance Committee may be convened when necessary.

Operation and Accessibility of the GM

- Grievances are handled at the Branch Directorate, Regional Directorate, and General Directorate levels within DSİ. Personnel are informed and trained about the GM.
- The GM is promoted through posters and brochures at construction sites, mukhtar offices, municipalities, governorates, and DSİ units.
- The needs of all stakeholders are considered, and appropriate channels are provided for vulnerable groups and SEA/SH survivors.
- Anonymous grievances are allowed; however, lack of name or contact details may delay the resolution process. Personal information is not shared with third parties and is used solely for resolving the grievance.
- Special measures are taken for groups facing access difficulties, including the elderly, illiterate individuals, persons with disabilities, and women living in rural areas.

Contractors and Worker Grievances

Contractors will also establish their own subproject-level GMs. DSİ's GM is designed to handle labor-related grievances and suggestions as well. If the complainant is not satisfied with the proposed resolution, the grievance can be escalated to a higher level. If all options have been exhausted and the issue remains unresolved, the complainant is advised of their right to legal recourse.

GM in World Bank Level

Communities and individuals who believe they have been adversely affected by WB or a WB project may submit their grievances to existing grievance mechanisms at the project level or to the World Bank. Grievance about the World Bank or the Project it is forwarded to the World Bank using the Grievance Redressal Service (GRS). GRS ensures that rievances received are investigated.

For the World Bank's GRS use this web link:

https://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service

Project affected communities or individuals can also raise their grievances to the World Bank Independent Inspection Panel (IIP). This panel determines whether the person or communities that made the grievance were harmed because of the breach of one or more of the WB's performance criteria. The panel can directly convey its concerns about the received grievances to the WB. At this stage, WB would have an opportunity to respond to the grievances. For information on how to submit grievances to the World Bank Inspection Panel, please visit https://www.inspectionpanel.org/.

In case of grievances regarding Gender Based Violence/SH/SEA

Women and men can express their opinions, grievances and recommendations on gender-based violence through grievance tools. The mechanism will provide a high level of accessibility, confidentiality and responsiveness, as well as assigning and training certain staff to handle such sensitive and serious grievances.

The grievance mechanism will be accessible, and the confidentiality of personal information will be ensured.

- Information activities will be carried out to inform women about the mechanism. Information activities will include the following types of information:
  - Women's rights
  - Self-protection in cases of violence and sexual abuse
  - Emergency phone numbers
  - Contact information of institutions and organizations to which they can apply
  - Grievance mechanism and privacy policy

The confidentiality principle of the grievance mechanism will be repeated in all information materials.

- The World Bank's "Good Practice Note – Addressing SEA/SH in IPF Involving Major Civil Works" document is taken as reference[5].
- The person receiving the grievance will distinguish this grievance from others.
- After the grievance is identified and separated from others, the following steps are followed:
  1. Accepting anonymous grievances and keeping the complainant's information confidential and submitting the grievance anonymously.
  2. Determining whether the person complained about is related to the project.
  3. Documenting and closing cases brought through GM if the grievance is moved to litigation.

Assessment and Closing Procedure

The employee grievance mechanism will be operated under the joint responsibility of the Contractor and the DSI Regional PIU. All grievances received in the field will be recorded, monitored, and reported to the PIU (Flood Control Projects Officer and Project Coordination Officer) within the scope of the Environmental and Social Monitoring Report (ESMR). Grievances will be integrated into the PIU's central grievance mechanism, and anonymous application will be possible. Personal information will be protected in accordance with the principle of confidentiality and will only be used for the purpose of evaluating and resolving the grievance .

All grievances will be recorded in the Grievance Register with a unique reference number; the subject of the grievance, its date, location, responsible parties, investigation process, decisions taken, and corrective

[5] *https://thedocs.worldbank.org/en/doc/632511583165318586029002202O/original/ESFGPNSEASHinmajorcivilworks.pdf*

actions implemented will be systematically tracked. The DSI local PIU will contact the complainant within two (2) business days at the latest following the registration of the grievance to inform them about the process. Grievances will be investigated within ten (10) business days at the latest; in cases requiring a more comprehensive investigation, the complainant will be provided with updated information about the process and timeline.

Grievances under SEA/SH will be handled separately from other grievances, based on victim protection, confidentiality, and ethical principles, and will be reported to the relevant authorities. Evidence regarding corrective actions taken to resolve the grievance will be collected, and the grievance will be formally closed with a closing form signed by both parties.

Communication Channels for GM

In accordance with the international requirements, a grievance mechanism will be established by DSI in order to receive, resolve and follow the concerns and grievances of the stakeholders including project affected people (PAPs). The grievance mechanism (GM) will be accessible for the stakeholders and respond to all feedbacks (including grievances, grievances, requests, opinions, and suggestions) at the earliest convenience. The responses to the grievances would be satisfactory for both parties and activities would be followed and the complainant would be informed about the outcomes of the corrective activities.

Any grievances that may occur during the project will be addressed at four levels. The first level of GM will be at the project level. Secondly, DSI General Directorate will be responsible for overall management and supervision of the Sub-Project including compliance with SEP requirements as well as managing grievances. As the third level, CİMER will constitute the GM of this project. Lastly, communities and individuals who believe they have been adversely affected by the WB or a WB project may submit their grievances to existing grievance mechanisms at the project level or to the World Bank.

Table 4-5 Grievance Mechanism Contact Information

DSI General Directorate	Address	Mustafa Kemal, 06510 Çankaya/Ankara
	Phone	0312) 454 54 54
	Web	https://www.dsi.gov.tr/Sayfa/Detay/690
DSI Ankara 5th Regional Directorate	Address	Mustafa Kemal Neighborhood, 2151/1. Street, Block A No:24, Çankaya/ANKARA
	Phone	0 312 219 77 00
	E-mail	dsi26@dsi.gov.tr
	Web	https://bolge05.dsi.gov.tr/Sayfa/Detay/992
CIMER	Phone	150
	Web	https://www.cimer.gov.tr/

REFERENCES

- *Disaster and Emergency Management Presidency (AFAD), Türkiye Earthquake Hazard Maps, https://tdth.afad.gov.tr/TDTH/main.xhtml*
- *General Directorate of Meteorology, Official Website, https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=A&m=CORUM*
- *Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks, https://www.tarimorman.gov.tr/DKMP/Menu/26/Korunan-Alanlar*
- *Ministry of Environment, Urbanisation and Climate Change | National Air Quality Monitoring Network, https://sim.csb.gov.tr/Services/AirQuality*
- *Turkish Statistical Institute, https://data.tuik.gov.tr/Search/Search?text=g%C3%B6%C3%A7*

ANNEXES

Annex – 1: Environmental and Social Screening Form

Annex – 2: Legal Framework

Annex – 3: Impact Assessment Methodology

Annex – 4: Social Baseline

Annex – 5: Grievance/Complaint Record Form and Complaint Close Out Form

Annex 5-1: Grievance/Complaint Record Form

Annex 5-2: Grievance/Complaint Close Out Form

Annex – 6: Chance Find Procedure Form

Annex – 7: Stakeholder Meeting Photolog

Annex – 8: Detailed Noise and Vibration Impact Assessment

Annex – 9: Assessment of Air Quality Impacts and Emission Estimates (Construction Phase)

Annex – 10: Ankara Regional Directorate of the Conservation Council for Cultural Heritage

Annex – 11: Çorum Sungurlu District Center Stream Rehabilitation Project Community Level (Vıllage Headman) Questionnaire

ANNEX – 1

ENVIRONMENTAL AND SOCIAL SCREENING FORM

1. Subproject Information:

Sub-Project	Çorum Sungurlu District Center Stream Rehabilitation Project
Sub-Project Location	Corum
Responsible Regional Unit	5th Regional Directorate of the State Hydraulic Works (DSİ)
Estimated Cost	1.226.477.673 Turkish Liras
Start/End Date	-

2. Environmental and Social Screening Survey:

Questions	Answers		Next Steps
	Yes	No	
ESS1			
1. Is it likely that the sub-project has sensitive and unprecedented 'Inappropriate Activities' and significant negative environmental and social impacts that would trigger exclusion?		√	The subproject does not fall under the World Bank Group IFC Exclusion List category specified in Environmental and Social Framework Annex 4 for the Turkey Flood and Drought Management Project and therefore does not have any unprecedented environmental and social impacts.
2. Does the sub-project include the construction or rehabilitation of flood control structures such as reservoirs, control dams, embankments, retaining walls, bridges, and culverts?	√		Within the scope of this Project, which will be implemented under the responsibility of DSİ 5th Regional Directorate within the Kızılırmak River Basin, flood control works are planned on the following watercourses: • Budaközü Stream Flood protection and river training works are planned along a total length of 6,890 m on Budaközü Stream. The designed channel width will range between a minimum of 17 m and a maximum of 25 m, with an average channel height of 3 m (Annex-9). The existing bridge located on the Samsun–Ankara Highway at KM: 4+438.41 will be preserved. In addition, hydraulic calculations conducted for the historical stone bridge at KM: 4+459.25 indicate that the existing bridge cross-sections are sufficient, provided that the required deck surfacing works are carried out. The historical bridge will be placed entirely under protection. A total of eleven (11) bridges have been designed on Budaközü Stream, including six (6) new bridges and five (5) rehabilitated bridges, as detailed below: • 2+939.14 Bridge: A bridge with a total length of 26.86 m and a 1×25 m span will be constructed at KM: 2+939.14 (Annex-10). • 3+471.62 Bridge: A bridge with a total length of 21 m and a 1×20 m span will be constructed at KM: 3+471.62 (Annex-11). • 3+873.45 Bridge: A bridge with a total length of 27.28 m and a 1×12 m span will be constructed at KM: 3+873.45 (Annex-12). • 4+331.20 Bridge: A bridge with a total length of 18.16 m and a 1×15 m span will be constructed at KM: 4+331.20 (Annex-13). • 4+544.97 Bridge: A bridge with a total length of 30 m and a 1×12 m span will be constructed at KM: 4+544.97 (Annex-14).

Questions	Answers		Next Steps
	Yes	No	• 4+943.68 Bridge: A bridge with a total length of 18.22 m and a 1×10 m span will be constructed at KM: 4+943.68 (Annex-15). • 5+160.19 Bridge: A bridge with a total length of 18.00 m and a 1×13 m span will be constructed at KM: 5+160.19 (Annex-16). • 5+365.51 Bridge: A bridge with a total length of 18.00 m and a 1×10 m span will be constructed at KM: 5+365.51 (Annex-17). • 5+620.79 Bridge: A bridge with a total length of 18.25 m and a 1×10 m span will be constructed at KM: 5+620.79 (Annex-18). • 5+812.12 Bridge: A bridge with a total length of 18.03 m and a 1×21 m span will be constructed at KM: 5+812.12 (Annex-19). • 5+952.84 Bridge: A bridge with a total length of 18.20 m and a 1×6 m span will be constructed at KM: 5+952.84 (Annex-20). • Akçay Stream The project alignment for Akçay Stream has been defined in accordance with cadastral boundaries between KM: 0+000.00 and KM: 3+728.048 (end of alignment) (Annex-21). The channel has been designed with a width of 12.00 m and a height of 2.60 m (Annex-22). Between KM: 0+210.43 and KM: 0+662.00, existing flood protection walls are present (channel width: 8.7 m, channel height: 3 m) (Annex-23). In this section, the existing flood protection walls will be preserved, and only a 30 cm thick concrete bottom lining will be applied. Existing safety fences on the flood walls will be removed and replaced with new railings. Existing bridges located at KM: 0+242.27 and KM: 0+642.91 will be preserved. Additionally, a new vehicular bridge will be constructed at KM: 0+814.75, with a bridge length of 13.64 m and a width of 2×13.5 m (Annex-24). A control weir is planned at the source section of Akçay Stream. • Diği Stream The alignment for Diği Stream has been defined in accordance with cadastral boundaries between KM: 0+000.00 and KM: 3+728.048 (Annex-25). The channel has been designed with a width of 12.00 m and a height of 1.80 m. A semi-closed channel system exists between KM: 0+372.51 and KM: 0+422.51 (Annex-26). Due to the presence of an actively used settlement area and to ensure continued operation, a grated passage structure has been designed for this section to facilitate post-construction maintenance (Annex-27). A total of six (6) bridges, including two (2) pedestrian bridges and four (4) vehicular bridges, are planned on Diği Stream:

Questions	Answers		Next Steps
	Yes	No	
			• 0+163 Pedestrian Bridge: A pedestrian bridge with a length of 13.06 m and a 1×5 m span will be constructed (Annex-28). • 0+342.34 Bridge: A bridge with a length of 13.86 m and a 1×9 m span will be constructed (Annex-29). • 0+448 Vehicular Bridge: A vehicular bridge with a length of 14.04 m and a 1×26.5 m span will be constructed (Annex-30). • 0+769.24 Pedestrian Bridge: A pedestrian bridge with a length of 13.06 m and a 1×3 m span will be constructed (Annex-31). • 0+908.71 Vehicular Bridge: A vehicular bridge with a length of 14.3 m and a 1×16 m span will be constructed (Annex-32). • 1+107.37 Vehicular Bridge: A vehicular bridge with a length of 14.63 m and a 1×10 m span will be constructed (Annex-33). As a result of the Project, the life and property safety of approximately 30,995 people directly affected by flooding and 48,158 people indirectly affected within the project area will be protected.
3. If the answer to the second question is "Yes," do these flood control structures meet the treatment requirements of a large dam?		√	The flood control structures to be constructed within the scope of the project will not include dams; only stream/canal rehabilitation and vehicle bridges will be included.
4. Will the construction or renovation work require the opening of new quarries or stone pits?		√	The structures to be built within the scope of the project will mainly consist of concrete walls. In the vicinity of the retaining wall project to be constructed along the Akçay stream, it is planned to establish stone quarries (belonging to the State Hydraulic Works and the Regional Directorate of Highways) from the sand and gravel quarries located nearby, if deemed necessary, after obtaining the necessary research and environmental permits.
ESS2			
5. Does the sub-project involve the use of goods and equipment that involve forced labor, child labor, or other harmful or exploitative forms of labor?		√	Article 18 of the Constitution of the Republic of Turkey states that "No one shall be forced to work. Forced labor is prohibited." Therefore, forced labor is not a practice in our country. Article 50, paragraph 1 of the Constitution of the Republic of Turkey states: "No one shall be employed in work that is unsuitable for their age, gender, and physical capacity." Paragraph 2 of the same article states: "Minors, women, and those with physical and mental disabilities shall be specially protected in terms of working conditions." The Regulation on the Procedures and Principles for the Employment of Child and Young Workers defines child labor and specifies the sectors in which child and young workers can work. These sectors are those requiring light labor and where work in construction is not permitted. Therefore, child labor will not be employed in our project.
6. Does the sub-project involve the provision of labor, including direct, contracted, or primary supplier employees?	√		All phases of the project will be carried out by the contractor firm and its personnel through tendering, and additional labor will be hired if necessary.
7. Do employees require Personal Protective Equipment (PPE) based on the potential risks and hazards associated with their work?	√		The use of appropriate personal protective equipment (PPE), as determined by the workplace risk assessment report, is important and mandatory under our occupational health and safety regulations. Individuals working on our project will use the specified personal protective equipment

Questions	Answers		Next Steps
	Yes	No	
8. Is there a risk that women will receive lower wages than men while working on construction projects?		√	Article 5, Paragraph 4 of the Labor Law No. 4857, titled "Principle of Equal Treatment," states that "lower wages cannot be determined based on gender for the same or equivalent work." In this context, no gender discrimination will be made in the wages paid to employees.
9 Does the project pose any risk or impact on individuals or groups who may be disadvantaged or vulnerable due to their specific circumstances?		√	Throughout all stages of the project, necessary measures will be taken to avoid any risk or negative impact on individuals who may be disadvantaged or vulnerable due to their specific circumstances.
ESS3			
10. Is there a possibility that the project may produce solid or liquid waste that could negatively impact the soil, vegetation, rivers, streams, or groundwater?		√	1- Any perennial shrub formations likely to be present in the existing stream bed will be cleared. 2- As part of the flood control structures project, necessary measures will be taken to address water quality and pollution downstream of the river and stream, and temporary interventions will be made to the stream flow. 3- During the construction phase, measures will be taken to prevent any chemicals, oils, or harmful substances from being spilled onto the soil or reaching water sources or groundwater via surface runoff. 4- Excavation and construction waste will be stored in designated areas in accordance with relevant legislation. Liquid waste, labor-related waste, and waste that may arise from vehicle oil changes, etc., will be classified and disposed of according to relevant legislation. The contractor will make the necessary agreements with relevant companies. All these practices will be carried out in accordance with the National Zero Waste Project, the provisions of the current legislation, and World Bank standards.
11. Does any of the construction work involve the removal of asbestos or other hazardous materials?		√	The project does not involve the removal of asbestos or other hazardous materials.
12. Is there a possibility that the works may cause significant adverse effects on air and/or water quality?		√	The work is unlikely to cause significant negative impacts on air and/or water quality. 1- Gas emissions from vehicles are negligible and may cause temporary air pollution. However, they will not alter existing air pollution levels. 2- Wastewater generated during the works will be integrated into the existing sewage system. 3- If there is no sewage system in the area where the activity site is located, wastewater will be collected in leak-proof septic tanks and removed from the site by municipal sewerage trucks. 4- The project will comply with the provisions of the 'Exhaust Gas Emission Control Regulation', the 'Air Quality Assessment and Management Regulation', and the 'Industrial Air Pollution Control Regulation'.
13. Does the activity rely on existing infrastructure (such as discharge points) that is inadequate to prevent environmental impacts?		√	The sub-project is a flood control and prevention activity and does not rely on existing infrastructure.
ESS4			
14. Is there an increased risk of exposure to infectious diseases (such as COVID-19, HIV/AIDS, malaria) among the population?		√	During the implementation phase of the project, workers will be provided with accommodation, meals, and social activities in a location close to the construction site but away from residential areas and isolated from nearby settlements. The local community will also be informed about this. Therefore, the community will not be at risk of exposure to infectious diseases (such as COVID-19, HIV/AIDS, Malaria).
15. Is there a risk of an increase in traffic accidents?	√		Yes, due to supply and construction vehicles and equipment during the project construction. To avoid increasing the risk of traffic accidents, roads that do not pass through residential

Questions	Answers		Next Steps
	Yes	No	
			areas will be used, and the necessary warning signs will be posted. Irrigation will be carried out at regular intervals to prevent dust formation on stabilized roads. In addition, it is planned to minimize the risk by keeping speeds low and informing personnel about this issue.
16. Is an influx of workers from outside the community expected? Is it anticipated that workers will use community health services? Will they place stress on existing community services (water, electricity, health, recreation, others)?		√	Because the project will employ a small number of workers (around 20), it will not put pressure on existing community services.
17. Is there an increased risk of SEA/SH as a result of project activities?		√	During the project's implementation phase, arrangements will be made to provide accommodation, food, and social activities for workers in a location close to the construction site but away from residential areas, thus isolating them from surrounding settlements. Additionally, residents of neighboring settlements will be informed about SEA/SH issues and the Project's GRM (General Management System) so they can file complaints in case any incidents occur.
18. Will public facilities such as educational, health, and religious institutions be negatively affected by the construction?		√	Since there are no public facilities such as educational, health, and religious institutions in the project area, there will be no impact. The reduction in flood risk following the implementation of the project will contribute to the protection of facilities such as educational, health, and religious institutions.
ESS5			
19. Does the sub-project involve involuntary land acquisition?		√	A Resettlement Plan (RP) will be prepared and implemented before the contractor commences operations on the affected site.
20. Does the sub-project involve the physical and/or economic displacement of people?		√	
21. Was the special land required for the sub-project activity voluntarily donated to the project?		√	
ÇSS6			
22. Does the project involve construction activities in protected areas or biodiversity areas as defined by national laws?		√	The project site is not within the scope of National Parks, Nature Parks, Natural Monuments, Nature Reserves, or Wildlife Development and Conservation Areas. As can be seen in Appendix 3, it is 29.3 km away from Alacahöyük National Park. Construction activities will not have any negative impact on the area. Furthermore, the official letter from the Regional Directorate of the Ministry of Agriculture and Forestry states that there are no archaeological sites or biodiversity areas in the area.
23. Does the sub-project involve activities that have the potential to cause significant loss or degradation of critical habitats, either directly or indirectly, or to have adverse effects on natural habitats?		√	As shown in the map in Annex 3, the project area is located far from critical natural habitats. The official letter from the Regional Directorate of the Ministry of Agriculture and Forestry (Annex ---) states that there are no National Parks, Nature Parks, Natural Monuments, Nature Reserves, or Wildlife Development and Protection Areas in the area. Furthermore, the official letter from the Provincial Directorate of Environment, Urbanization and Climate Change (Annex 6) states that the area is outside the scope of environmental impact assessment and that there are no natural protected areas within the area.
24. Will the project involve the conversion or degradation of non-critical natural habitats?		√	As there are no forests, pastures, agricultural areas, or settlements within the project area, there will be no impact on non-critical natural habitats.

Questions	Answers		Next Steps
	Yes	No	
25. Will this activity require the clearing of trees, including the natural vegetation cover?	√		As the project construction activities will take place within the sea, there will be no vegetation cover or tree removal.
26. Will there be a significant impact on important ecosystems (especially those supporting rare, threatened, or endangered flora and fauna species)?		√	The project will not have a negative impact on important ecosystems.
ESS8			
27. Is the sub-project located within or adjacent to a sensitive area (historically, archaeologically, or culturally significant area) or facility, such as near historical bridges or buildings, sacred trees, or objects of spiritual value to local communities (e.g., monuments, graves, or stones), or will it result in loss of access?		√	In the official letter from the Provincial Directorate of Culture and Tourism (Appendix-6), it is stated that "the registered Pazaşa Bridge (Budaközü) coincides with the project line and the boundaries of the registered bridge protection area, and it is requested that the necessary applications be made with the approved map and relevant technical information and documents. However, there is no action to be taken by our Presidency in the project area and within the boundaries of the registered bridge and site area. Therefore, the necessary permits and institutional opinions will be obtained in order to ensure that the activities to be carried out do not affect the bridge in question.
28. Does the sub-project require demolition, excavation, earthworks, or flooding?	√		Construction activities in the existing streambed may cause a small amount of excavation and soil movement. Measures will be taken to keep this amount as low as possible. Furthermore, the construction of flood control structures will prevent floods that cause loss of life and property.
ESS10			
29. Does the project pose any risk or impact on individuals or groups who may be disadvantaged or vulnerable due to their specific circumstances?	√		The SEP at the project level will be implemented with sufficient consultation with disadvantaged and vulnerable groups.

3. Conclusion

Based on the above analysis, the environmental and social risk category of the Project has been determined as "medium". The "medium" environmental risk rating is given because of the absence of significant adverse environmental impacts, the absence of protected cultural and/or natural heritage sites, the preservation of the historical bridge, and the fact that most of the works will be carried out in areas where existing flood protection works are being conducted. However, forced physical relocation is not expected. Therefore, the social risk level is assessed as "medium". The RP (Reference Plan) will be prepared for the sub-project according to the RF (Reference Plan). To mitigate risks, the following ES&S (Economic, Social, and Cultural) risk management tools will be prepared/adopted and implemented:

a) The potential environmental impact of the construction works to be carried out within the scope of the Project is expected to be low to medium in magnitude, predominantly reversible, short-term, and mostly limited to the project area and its immediate surroundings. Considering these factors, the project is assessed as belonging to the "medium" risk category.

b) The effects of these expropriation activities will be documented in the Project-Based Environmental Plan (RP) to be prepared specifically for the sub-project, and other possible environmental and social impacts and risks will be implemented using the Project-Level Environmental and Social Management Plan (ESMP) template for Sub-Projects with "Low" and "Medium" Environmental & Risk Categories in the Turkish Flood and Drought Management Environmental and Social Management Framework (Annex-2).

ANNEX – 2

LEGAL FRAMEWORK

○ NATIONAL LEGISLATION

The ESMP provides detailed explanations about the legislation concerning environmental protection, pollution prevention, and control, as well as occupational and community health and safety. The table below presents the specific laws and regulations that are relevant to the environmental and social issues of the Project.

Impacts regarding environmental quality will be managed based on the legal framework listed in the Environment, Water, Air, Noise, Soil, and Waste section of Table 3-1. Despite not fully meeting international standards for social impacts and stakeholder engagement, the Turkish Environmental Impact Assessment (EIA) Regulation does include certain legal provisions aimed at addressing various social impacts. Social impacts and risks will be managed based on the Labor and Working Conditions, Land Acquisition, and Stakeholder Engagement sections of Table 0-1.

Table 0-1 National Environmental and Social Legal Framework

Topic	Legal Framework	Date of Official Journal	Issue of Official Journal
Environment	The Environmental Law	August 11, 1983	18132
	By-law on Environmental Impact Assessment (EIA)	July 29, 2022	31907
	By-law on Strategic Environmental Assessment	April 08, 2017	30032
	By-law on Environmental Permit and License	September 10, 2014	29115
	By-law for Starting up and Operating a Workplace and Working Licences	August 10, 2005	25902
	By-law on Environmental Auditing	June 12, 2021	31509
	Regulation on Prevention and Mitigation of Major Industrial Accidents	March 02, 2019	30702
	Regulation on the Transportation of Dangerous Goods by Road	June 18, 2022	31870
Water	By-law on Water Pollution Control	December 31, 2004	25687
	Regulation on Monitoring of Surface Waters and Groundwaters	February 11, 2014	28910
	Regulation on Control of Water Use and Reduction of Water Losses in Irrigation Systems	February 16, 2017	29981
	Urban Wastewater Treatment Regulation	January 08, 2006	26047
Air	By-law on Assessment and Management of Air Quality	June 6, 2008	26898
	Regulation on Control of Industrial Air Pollution	July 03, 2009	27277
	By-law on the Control of Exhaust Emission	March 11, 2017	30004
	Regulation on the Control of Odorous Emissions	July 19, 2013	28712
Noise	Environmental Noise Control Regulation	Nov 30, 2022	32029
Soil	Law on Soil Conservation and Land Use	July 19, 2005	25880
	By-law on the Control of Soil Pollution and Polluted Areas by Point Sources	June 8, 2010	27605
Waste	By-law of Waste Management	April 2, 2015	29314
	Zero Waste Regulation	July 12, 2019	30829
	By-law on the Control of Excavation Materials, Construction, and Demolition Wastes	March 18, 2004	25406
	By-law on the Control of Medical Wastes	January 25, 2017	29959
	By-law on the Control of Packaging Wastes	July 26, 2021	31523
	By-law on the Control of Waste Batteries and Accumulators	August 31, 2004	25569
	By-law on the Control of Waste Oils	December 21, 2019	30985
	By-law on the Control of Vegetative Waste Oils	June 06, 2015	29378
	By-law on the Control of End-of-Life Waste Tires	November 25, 2006	26357
	By-law on the Control of End-of-Life Waste Vehicles	December 30, 2009	27448
	Regulation on Incineration of Wastes	October 16, 2010	27721
	Regulation on Sanitary Landfill of Waste	March 26, 2010	27533
	Mining Waste Regulation	July 15, 2015	29417
	By-law on the Environmental Management of Dredging Materials	January 14, 2020	31008
	Communiqué on Waste Derived Fuel, Additional Fuel, and Alternative Raw Materials	June 20, 2014	29036
	Communiqué on the Transport of Waste on Highways	March 20, 2015	29301
Labor and Working Conditions	Occupational Health and Safety Law	June 30, 2012	28339
	Labor Law (No. 4857)	June 10, 2003	25134
	Law on Trade Unions and Collective Bargaining Agreements	November 7, 2012	28460
	By-law On Duty, Authority, Responsibility and Training of Occupational Safety Experts	December 29, 2012	28512

Topic	Legal Framework	Date of Official Journal	Issue of Official Journal
	By-law on Occupational Health and Safety in Construction Works	October 5, 2013	28786
	First Aid By-law	July 29, 2015	29429
	By-law on Health and Safety Measures in the Use of Work Equipment	April 25, 2013	28628
	By-law on Methods and Essentials of Occupational Health and Safety Training for Workers	May 15, 2013	28648
	By-law On Occupational Health and Safety Risk Assessment	December 29, 2012	28512
	By-law on the Procedures and Principles of Employing Child and Young Workers	April 6, 2004	25425
	By-law on the Conditions of Women Employees Working In Night Shifts	July 24, 2013	28717
	By-law on the Working Conditions of Pregnant or Nursing Women and Nursing Rooms and Child Care Residences	August 16, 2013	28737
	By-law on Work Permits of Foreigners Provided with Temporary Protection	January 15, 2016	29594
	By-law on the Special Procedures and Principles Regarding Works in Shifts Conducted by Workers	April 7, 2004	25426
	Regulation on Personal Protective Equipment	May 1, 2019	30761
	Regulation on Safety Data Sheets on Harmful Substances and Mixtures	December 13, 2014	29204
	Regulation on the Protection of Employees from Noise-Related Risks	July 28, 2013	28721
	Regulation on the Protection of Employees from Vibration-Related Risks	August 22, 2013	28743
	Regulation on Combating Dust	November 05, 2013	28812
	Regulation on Contractors and Sub-contractors	September 27, 2008	27010
Land Acquisition	Expropriation Law	November 8, 1983	18215
	Amendment on Expropriation Law	May 5, 2011	24393
	Expropriation Law	March 27, 2015	2942
	Notification Law	March 19, 2003	7201
	Land Registry Code	January 1, 2002	4721
Stakeholder Engagement	Right of Petition, Right to Information, and Appeal to the Ombudsperson	October 18, 1982	Constitution, Article 74
	Right to Constitutional Complaint	October 18, 1982	Constitution, Article 148
	Law on the Right to Information	October 18, 1982	Constitution, Article 11
	Law on the Right to Information	October 24, 2003	25269
	Participatory Planning Approach (Public Financial Management and Control Law)	December 12, 2003	5018

Occupational Health and Safety

Türkiye has recently implemented a reform aimed at enhancing its national Occupational Health and Safety (OHS) system. This reform involves the adoption of a range of international and regional standards into Türkiye's national-level requirements for preventing occupational risks, as outlined in the International Labor Organization (ILO) Occupational Safety and Health Convention, 1981 (No. 155). Türkiye ratified both this convention and the Occupational Health Services Convention, 1985 (No. 161) in 2005, and has been a party to the Labor Inspection Convention, 1945 (No. 81) since 1951. Additionally, in 2014, Türkiye ratified the Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187).

As part of this reform, Türkiye introduced a standalone Law on OHS (No. 6331) in 2012, which came into effect on June 20, 2012. This law applies to various workplace environments and industries, including both public and private sectors, and covers a wide range of employees, such as full-time and part-time workers, interns, and apprentices. The legislation is comprehensive in nature and generally applicable across all sectors and many industries.

Labor and Working Conditions

Türkiye is a signatory to numerous International Labor Organization (ILO) conventions, encompassing a wide range of topics such as equal treatment of employees, gender equality, child labor, forced labor, occupational health and safety (OHS), the right of association, and minimum wage. The list of the conventions is below.

Table 0-2 International Labor Organization (ILO) conventions

Convention	Date of Convention	Date Türkiye Signed
Fundamental		
Forced Labor Convention	1930	October 30, 1998

Convention	Date of Convention	Date Türkiye Signed
Freedom of Association and Protection of the Right to Organize Convention	1948	July 12, 1993
Right to Organize and Collective Bargaining Convention	1949	January 23, 1952
Equal Remuneration Convention	1951	July 19, 1967
Abolition of Forced Labor Convention	1957	March 29, 1961
Discrimination (Employment and Occupation) Convention	1958	July 19, 1967
Minimum Age Convention	1973	October 20, 1998
Occupational Safety and Health Convention	1981	April 22, 2005
Worst Forms of Child Labor Convention	1999	August 2, 2001
Promotional Framework for Occupational Safety and Health Convention	2006	January 16, 2014
Governance (Priority)		
Labor Inspection Convention	1947	March 5, 1951
Employment Policy Convention	1964	December 13, 1977
Tripartite Consultation (International Labor Standards) Convention	1976	July 12, 1993

The existing Turkish Labor Law (No. 4857) aligns to a significant extent with the requirements of Environmental and Social Standard 2 (ESS2).

In addition, there are supplementary regulations that could potentially be applicable to the project. The Labor Management Procedure (LMP) of TWCEIP can be accessed for details on issues such as annual leave, working hours, overtime, minimum wage, and employment of women and children.

Environmental Impact Assessment, Environmental Permits, Licenses, and Approval Required to Develop and Implement the Project

The aforementioned project has been assessed as being outside the scope of the Environmental Impact Assessment (EIA) Regulation dated July 29, 2022, and numbered 31907, by the Çorum Governorship, Provincial Directorate of Environment, Urbanization and Climate Change, with letter number 10721481. In this context, there is no need for a national-scale environmental impact assessment within the scope of the project.

In addition, the activity are not covered by the national Environmental Permit and License Regulation. Therefore, the Sub-project is also exempt from environmental permits for wastewater, noise, air emissions or deep-sea discharge.

In the Annex-1 of the Regulation on Control of Odor Generating Emissions, the facility activities that generate odor emissions include Food Industry, Animal Farms, Slaughterhouse and storage of animal by-products, activities where animal by-products are processed, fish meal and oil production activities, wastewater treatment plants, tanneries and other facilities. Considering the activities described above, the only activity that may cause odor emissions during the construction and operation phases of the irrigation project is wastewater management. Wastewater generated by the personnel who will work during the construction period of the sub-project will be collected in a septic tank designed to be impermeable at the m site and will be disposed of by vacuum trucks to wastewater treatment plants that have an environmental permit for wastewater discharge. The sub-project will be operated by Regional Directorate of DSİ, and the wastewater is discharged to the existing sewerage system. In case of odor complaints during all phases of the project, measurements will be made within the scope of the relevant legislation.

If the construction activities result in the production of more than 2 tons of construction waste during a single operation, a Waste Transportation and Acceptance Certificate from the relevant Municipality/Governor is required for that specific construction process. This requirement is outlined in the Regulation on the Control of Excavation Materials, Construction, and Demolition Wastes.

If the waste that will be generated as a result of the process is to be used as waste-derived fuel, additional fuel, or alternative raw material, the person, institution, or organization that will use the waste as an alternative raw material must obtain approval from the Ministry of Environment, Urbanization, and Climate Change. This requirement is stated in the Communiqué on Waste Derived Fuel, Additional Fuel, and Alternative Raw Materials.

In accordance with the provisions of the Waste Management Regulation, the wastes generated during the construction and operation of the project must be temporarily stored at the place of generation in compliance with predetermined criteria based on their types. The temporarily stored waste should be classified according to its characteristics, and it must bear labels indicating whether it is hazardous or non-hazardous waste, along with waste code, quantity of stored waste, and

storage date. At this point, the establishment of temporary waste storage areas located in the camp site is essential. Waste producers generating less than a thousand kilograms of hazardous waste per month are exempt from obtaining a temporary storage permit for the areas/containers where they temporarily store their hazardous waste. However, waste producers generating a thousand kilograms or more of hazardous waste per month are required to obtain a temporary storage permit from the provincial directorate for the areas/containers where they temporarily store their hazardous waste.

In the case of involvement in waste transport, the construction project must acquire a Transport License from the appropriate city representative of the Ministry of Environment, Urbanization, and Climate Change. This condition is specified in the Communiqué on the Transport of Waste on Highways.

If hazardous materials are used during the construction process, they must be transported using suitable vehicles with a Vehicle Adequacy Certificate according to the ADR (Agreement on the International Carriage of Dangerous Goods by Road) Regulations and Regulation on the Transportation of Dangerous Goods by Road, especially when utilizing motorways for transport.

According to the provisions of the Waste Management Regulation, registration must be made in the "Integrated Environmental Information System" and the waste will be sent through the MOTAT application; additionally, annual waste declarations will also be made. The construction project must take appropriate measures to prevent and minimize any environmental pollution resulting from the generation, handling, storage, transport, and disposal of hazardous waste.

- **INTERNATIONAL STANDARDS**

International Agreements and Conventions

The formulation of Türkiye's national policy regarding environmental protection, preservation of cultural heritage, and conservation of biological resources has been influenced by various international agreements that Türkiye has signed or ratified. The following are the relevant agreements and conventions in the fields of environment, occupational health and safety (OHS), and international labor that have been ratified by Türkiye:

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- Bern Convention on Protection of Europe's Wildlife and Living Environment
- Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)
- Convention on Long-range Transboundary Air Pollution
- European Convention on the Protection of the Archaeological Heritage
- European Landscape Convention
- International Convention for the Protection of Birds
- Paris Convention on the Protection of the World Cultural and Natural Heritage
- Ramsar Convention on Wetlands of International Importance Especially as Wildfowl Habitat
- Stockholm Convention on Persistent Organic Pollutants
- UN (Rio) Convention on Biological Diversity
- ILO Occupational Safety and Health Convention
- Occupational Health Services Convention
- Labor Inspection Convention
- Promotional Framework for Occupational Safety and Health Convention
- Worst Forms of Child Labor Convention
- Forced Labor Convention
- Freedom of Association and Protection of the Right to Organize Convention
- Right to Organize and Collective Bargaining Convention
- Equal Remuneration Convention
- Abolition of Forced Labor Convention
- Discrimination (Employment and Occupation) Convention
- Minimum Age Convention
- Worst Forms of Child Labor Convention
- Labor Inspection Convention
- Employment Policy Convention

- Tripartite Consultation (International Labor Standards) Convention

World Bank Environmental and Social Standards

The WB is dedicated to supporting Borrowers in developing and implementing projects that prioritize environmental and social sustainability. The WB aims to enhance Borrowers' capacity to assess and manage the environmental and social risks and impacts associated with projects. To achieve this, the Bank has established specific Environmental and Social Standards (ESSs) that aim to prevent, minimize, reduce, or mitigate adverse environmental and social risks and impacts. A summary of the relevant WB ESSs applicable to the project is provided in Table 3-2.

The project's environmental and social risks and impacts were assessed in accordance with ESS1. Furthermore, an evaluation was conducted regarding the project's effects on biodiversity, conservation, and the sustainable management of natural resources (ESS6). During the development of the mitigation plan, pollution prevention and resource efficiency requirements were adhered to (ESS3) to minimize the project's impact on the environment and social structures.

To ensure appropriate labor and working conditions (ESS2) and community health and safety (ESS4) throughout the construction and operation phases, control mechanisms were implemented and outlined in the document. The assessment also addressed potential land acquisition, land use restrictions, and involuntary resettlement (ESS5) within its scope. Stakeholder engagement and information disclosure plans were prepared in line with ESS10.

Table 0-3 World Bank's Environmental and Social Standards

ESS No:	Topic	Scope of the Standards
ESS1	Assessment and Management of Environmental and Social Risks and Impacts	Assessment and Management of Environmental and Social Risks and Impacts sets out responsibilities to assess, manage, and monitor environmental and social risks and impacts associated with each phase of the project, supported by the WB with Investment Project Financing (IPF).
ESS2	Labor and Working Conditions	Labor and Working Conditions, describe the importance of creating employment and income for comprehensive financial development and poverty reduction.
ESS3	Resource Efficiency and Pollution Prevention and Management	Resource Efficiency and Pollution Prevention and Management refers to resource efficiency and pollution prevention and pollution management requirements with a holistic approach to project implementation.
ESS4	Community Health and Safety	Community Health and Safety emphasizes health, safety, and security risks and their impact on communities due to project activities.
ESS5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement require avoiding compulsory resettlement, if not avoided, necessary measures should be taken to reduce negative effects on displaced people.
ESS6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Biodiversity Conservation and Sustainable Management of Living Natural Resources requires the conservation and preservation of natural resources living with biodiversity is essential in ensuring sustainable development.
ESS8	Cultural Heritage	Cultural Heritage requires the maintaining of tangible and intangible connections between the past, present, and future. It outlines specific actions aimed at safeguarding cultural heritage at every stage of a project's life cycle.
ESS10	Stakeholder Engagement and Information Disclosure	Stakeholder Engagement and Information Disclosure emphasize the importance of open and transparent participation between the client and stakeholders, and good international practice is an essential element. It contributes to projects in terms of effective stakeholder engagement, improving environmental and social sustainability, increasing project acceptance, and successful project design.

The project will adhere to the Environment, Health, and Safety (EHS) Guidelines of the WB Group in accordance with the ESSs. Therefore, the applicable requirements outlined in the EHS Guidelines will be implemented. If there are any variations between the Turkish requirements and the levels and measures specified in the EHS Guidelines, the more stringent requirement will take precedence in the project specifications. This includes applying the most rigorous standards for discharge and emission levels.

Türkiye Water Circularity and Efficiency Improvement Project will adhere to the relevant Environment, Health, and Safety (EHS) Guidelines provided by the WB Group. The specific EHS Guidelines applicable to each sub-project type may include, but are not limited to, the following:

- World Bank Group's EHS General Guidelines (2007)
- World Bank Group's EHS Guidelines for Water and Sanitation (2007)
- World Bank Group's EHS Guidelines for Waste Management Facilities (2007)
- World Bank Group's EHS Guidelines for Construction Materials Extraction (2007)
- Introduction to Health Impact Assessment (2009)

- Handbook on Project Migration Problems (2009)
- Environmental and Social Management System Implementation Manual: Construction (2014)
- Environmental and Social Management System Implementation Manual: General (2015)
- Contractor's Environmental and Social Performance Management Good Practice Rating (2017)

To align with the scope of the WB ESF, an Environmental and Social Management Framework (ESMF) has been developed for Türkiye Water Circularity and Efficiency Improvement Project. As the specific locations and technical details of the sub-project will become known during implementation, the ESMF serves to evaluate the overall risks and impacts of the project. It establishes the comprehensive approach for managing environmental and social aspects and addresses the potential environmental and social impacts associated with the Türkiye Water Circularity and Efficiency Improvement Project.

The ESMF adheres to both the requirements of the World Bank ESF and the national legal framework for environmental and social management. It serves as a crucial document that the Ministry of Agriculture and Forestry (MoAF) is committed to complying with, ensuring compliance with National Legislation and the World Bank's ESF. Prior to the initiation of project implementation, the ESMF is shared with and consulted by stakeholders. It serves as the guiding document for the comprehensive environmental and social management approach adopted to identify and mitigate the potential environmental and social impacts of the project.

The ESMF includes various measures and plans aimed at reducing, mitigating, and managing adverse risks and impacts. These measures and plans are to be implemented during the preparation and execution of the sub-project to ensure that environmental and social concerns are effectively addressed at the sub-project level.

Additionally, the ESMF establishes procedures for conducting environmental and social screening, review, approval, and implementation of project activities. It outlines the necessary institutional arrangements, defines responsibilities, and emphasizes the importance of capacity building to ensure successful implementation of the ESMF provisions.

The ESMF also encompasses mechanisms for public consultation and disclosure of project documents. It provides a summary of stakeholder engagement.

World Bank Safeguard Policies Regarding OP 7.50 & 7.60

With the implementation of the ESF, several environmental and social safeguard policies of the World Bank were eliminated, but certain policies remain in effect. One such policy is the OP 7.50 - Projects on International Water. This policy outlines the types of waterways and projects to which it applies, as well as the requirements and conditions for financing projects on international waterways. In the case of Türkiye, the MoAF is responsible for ensuring that the sub-project financed is situated exclusively on national water. The Sub-Project, as it is located in the Middle Ceyhan Basin which is not a watershed having international water, will not trigger the OP.

Another policy that remains in force is the OP 7.60, which outlines the procedure for projects in disputed areas. The World Bank will provide funding for projects in disputed areas only if there is no objection from the other claimant, or if exceptional circumstances justify financing despite objections. Projects in these areas can have implications for the relationship between the Bank, the borrower, and the claimants. Therefore, the Bank has established a policy that identifies exceptional circumstances for financing such projects. If the Bank decides to finance a project, the project documents should explicitly state that the Bank does not take a position on the legal or other status of the disputed territories and does not seek to influence the final determination of the claims of the parties involved. In the case of the Sub-Project, it will not trigger the OP.

Major Gaps between the Turkish EIA Regulation and World Bank's Policy

The Turkish EIA procedures generally align with the WB's ESSs, with a few exceptions. The main areas where differences exist are in project categorization, the scope of environmental and social assessment, and public consultation. If there are discrepancies between Turkish legislation and the ESSs, more stringent requirements will be applied during project implementation.

Unlike the Turkish EIA Regulation, which categorizes projects into Annex I and Annex II projects, the World Bank does not have predefined thresholds or lists for project classification. Instead, project screening for environmental and social risk classification is conducted on a case-by-case basis, taking into consideration the specific project's circumstances and potential impacts.

Project categorization is an important aspect of the World Bank's ESF. Projects, including those involving Financial Institutions (FIs), are classified into four categories: High Risk, Substantial Risk, Moderate Risk, or Low Risk. This classification considers various factors such as the type, location, sensitivity, and scale of the project, as well as the potential environmental and social risks and impacts.

The required Environmental and Social (E&S) assessment for the project, as per ESS1, varies depending on the potential risks and impacts involved. It involves a comprehensive evaluation of all relevant direct, indirect, and cumulative E&S risks and impacts throughout the project's life cycle, in accordance with ESSs 2-10.

When comparing the suggested framework for an Environmental and Social Impact Assessment (ESIA) provided by the World Bank with the general structure of a Turkish EIA, several significant distinctions can be observed and listed below.

- The Turkish EIA lacks an executive summary and information about the legal and institutional framework, which may not meet the requirements of the WB. The technical level of information provided in the non-technical summary of the Turkish EIA may not align with WB requirements.
- The integration of social impact assessment in the Turkish EIA is incomplete, leading to the absence of a proper social baseline, identification, and assessment of project-induced social impacts, including impacts on disadvantaged or vulnerable groups and gender-related issues.
- The Turkish EIA has limited requirements for addressing risks and impacts related to community health and safety, occupational health and safety, and labor and working conditions.
- There are limited or no requirements in the Turkish EIA for assessing cumulative impacts in relation to other projects.
- The Turkish EIA places limited emphasis on the associated facility of the project.

However, it should be noted that the project-specific format for the Turkish EIA may demand additional details under certain sections compared to the general format. Therefore, a thorough examination of individual Turkish EIAs is essential to identify any disparities with the requirements of the WB.

The disparities between the WB Environmental Policy and the National Legislation are outlined in Table 0-4.

Table 0-4 Comparison between the World Bank ESSs and National Legislation

WB Environmental and Social Standards (ESS)	Gaps	ESF Documents/study to fill the Gaps
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	The major gaps between national EIA practice and ESS1 relevant to this Subproject are: - Social impact assessment is not fully integrated into the Turkish EIA process, resulting in limited social baseline data and assessment of potential construction-phase impacts on nearby communities, vulnerable groups, and occupational groups. - Absence of an executive summary and limited coverage of legal and institutional framework in project assessment by the local authorities (e.g. Provincial Directorate of Environment, Urbanization and Climate Change) compared to WB requirements. - Limited consideration of associated facilities such as licensed quarry operations, material transportation routes, and concrete batching plants.	This Subproject has been classified as moderate risk under the Türkiye Flood and Drought Management Project ESMF. Accordingly: - This Subproject-specific ESMP has been prepared in line with ESS1, covering environmental and social baseline conditions, impact identification, mitigation, monitoring, institutional responsibilities, stakeholder engagement, and grievance mechanisms. - Impacts of associated facilities (licensed quarry site, transportation corridor, and concrete batching plants) have been included within the Area of Influence. - Cumulative impacts with existing coastal infrastructure and the fishing shelter at Arhavi have been qualitatively assessed. - Stand-alone management plans (e.g., Air Quality Management Plan, Waste Management Plan, OHS Plan, Traffic Management Plan, Dredging Management Plan) are not annexed to this ESMP. Instead: The preparation and implementation of these sub-management plans shall be the responsibility of the Contractor prior to commencement of construction, in accordance with this ESMP, national legislation, and the World Bank EHS Guidelines, and shall be subject to review and approval by DSİ PIU.
ESS2: Labor and Working Conditions	In general, Turkish national laws and regulations regarding labor and working conditions satisfy ESS2 requirements. The workers' Grievance Mechanism (GM) is the main gap between national legislative	A project-level Labor Management Procedure (LMP) has been prepared under the parent project framework. For this Subproject:

WB Environmental and Social Standards (ESS)	Gaps	ESF Documents/study to fill the Gaps
	requirements and ESS2. Per the Turkish national legislation on labor and working conditions, there is no specific requirement related to GM that allow workers to communicate their complaints to the employer.	- The Contractor shall prepare a site-specific Labor Management Plan (including workers' grievance mechanism, code of conduct, OHS procedures, and worker accommodation arrangements if any) prior to mobilization. - DSİ PIU will supervise compliance with ESS2 and LMP implementation.
ESS3: Resource Efficiency and Pollution Prevention and Management	- PIFs do not provide detailed management frameworks for emissions, waste, wastewater, and resource use. - No structured monitoring and mitigation system is defined.	- Resource use (water), air emissions, wastewater generation, and waste management are addressed in this ESMP. - Additional management plans: Air Quality Control, Waste Management, and Wastewater Management Plans shall be prepared by the Contractor prior to construction. - These plans will comply with Turkish regulations and WBG EHS Guidelines and be reviewed by DSİ PIU.
ESS4: Community Health and Safety	Limited project-level management of construction traffic risks, marine safety risks, labor influx, SEA/SH prevention, and public access control.	- This ESMP defines mitigation measures for traffic safety, marine navigation safety, noise, dust, and site access control. - Additionally, The Contractor shall prepare and implement a Traffic Management Plan and a Community Health and Safety Plan prior to construction - DSİ PIU will monitor implementation.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Turkish legislation differs from ESS5 in replacement cost valuation, livelihood restoration, and stakeholder consultation.	This Subproject does not require land acquisition, physical displacement, or economic displacement, as all construction activities will be carried out on state-owned coastal areas located seaward of the coastal boundary line. - No Land Acquisition Plan or Resettlement Plan is required. - This will be re-confirmed prior to construction commencement.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Local EIA does not provide detailed habitat-specific management and monitoring.	- Site-specific marine ecological baseline and impact assessment are included in this ESMP. - Given the degraded and sediment-dominated nature of the outlets: - A separate Biodiversity Management Plan is not required for this Subproject.
ESS10: Stakeholder Engagement and Information Disclosure	Effective and transparent stakeholder engagement is the main gap in terms of ESS10 requirements. Within this scope, a Stakeholder Engagement Plan (SEP) is required to identify the different stakeholders (project-affected parties and other involved parties (OIPs) including disadvantaged or vulnerable). Stakeholder engagement should be a continuous process.	Project specific SEP is prepared and included in ESF documents. The SEP will be implemented at the sub-project level as per ESS10 guidelines and include the setting up of public GM.

ANNEX-3

IMPACT ASSESSMENT METHODOLOGY

1. IMPACT IDENTIFICATION FRAMEWORK

Potential impacts are identified using a multi-source and multi-stage approach, combining:

- Baseline field observations
- Design and construction method review
- Stakeholder consultations
- Spatial analysis (GIS overlays)
- Regulatory and technical standards
- Good International Industry Practice (GIIP)

Impacts are categorized as:

- **Environmental impacts:** air quality, noise, water quality, soil disturbance, vegetation removal, waste generation, biodiversity effects, sediment mobilization, coastal ecosystem interactions
- **Social impacts:** community health and safety, worker safety, temporary accessibility restrictions, agricultural land use, potential livelihood effects, vulnerable groups, traffic conditions
- **Cumulative and Indirect impacts** especially relevant for sediment dynamics along the watershed, community mobility along riverbanks, and coastal water quality during outfall construction

Where relevant, indirect and induced impacts are examined consistent with ESS1 practices.

2. IMPACT ASSESSMENT METHODOLOGY

2.1. Event Magnitude

The characterization of the event magnitude used in this study is presented in Table 0-5 [6].

Table 0-5 Event Magnitude Characterization

Parameter		Rank	Definition
Scale	Low	1	Limited impacts in the Area of Influence (AoI) (< 1000 m from the source)
	Intermediate	2	Impacts that are also felt outside the Area of Influence (1000 m to 5000 m from the source)
	High	3	Impacts that are also felt at the thousands of meters and above (5000 m or more away from the source)
Type	Direct	1	Direct interaction between project activities and the receptor
	Indirect	2	Later effects rather than at the time of operation.
	Cumulative	3	Impacts arising from follow-up or additional activities related to the project, such as increased urbanization, traffic, or industrial development spurred by the project's implementation.
Frequency	Once or twice	1	Occasional impacts or appearing only in specific circumstances
	Occasional	2	Occasional impacts or appearing only in specific circumstances
	Continuous	3	Impacts occurring frequently or continuously
Duration	Short	1	Impacts that will last up to 1 month during construction
	Medium	2	Impacts that will last up to 6 (six) months
	Long	3	Impacts that will continue even though the construction works of the project have been completed but are expected to end overtime or will be permanent.
Intensity	Low	1	An event that may occur but is unlikely to be realized
	Moderate	2	Events likely to occur at some point during the project
	High	3	Events that inevitably occur during operations

Source: *AECOM, BP, Shallow Water Absheron Peninsula (SWAP) Exploration Drilling Project, Environmental and Socio-Economic Impact Assessment Report, Draft Final, June 2021*

The ratings given in Table 0-5 were summed up to obtain an overall event magnitude ranking. Table 0-6 also shows the score ranges for the magnitude rankings.

[6] *For the assessments under the "Event Magnitude", "Receptor Sensitivity" and "Environmental and Socio-Economic Impact Significance" sub-headings, the "Environmental and Socio-Economic Impact Assessment Report" dated June 2021 prepared by BP for the "Shallow Water Absheron Peninsula (SWAP) Exploration Drilling Project" was used as a source.*

Table 0-6 Event Magnitude Ranking

Low	<6
Medium	6-10
High	>10

2.2. Receptor Sensitivity

Receptor sensitivity is determined by taking into account environmental or social (biological, ecological, habitat, human or physical) receptors. The values given for receptor sensitivities are given in Table 0-7, Table 0-8, and Table 0-9.

Table 0-7 Biological Receptor Sensitivity Classification

Parameter		Rank	Definition
Protected Areas or Species	Within the AoI	3	There is an internationally threatened species or protected area within the AoI
	Without the AoI	2	The nearest internationally threatened species or protected area is located between 1 and 5 km from the project component, including the boundary of the impact area
	None	1	There are no internationally threatened species or protected areas closer than 5 km to any of the project components
Resistance Capability	Low	3	Having little or no capacity to absorb or adapt to change. Species and/or population with the potential for significant character change and/or loss of ecological functionality.
	Moderate	2	Species and/or population with a moderate capacity to absorb or adapt to change. Leads to potential temporary but sustainable impact that does not significantly change the character or lead to a significant loss of ecological functionality.
	High	1	The species and/or population have a high capacity to absorb or adapt to change and are potentially unaffected or marginally affected.

Source: *AECOM, BP, Shallow Water Absheron Peninsula (SWAP) Exploration Drilling Project, Environmental and Socio-Economic Impact Assessment Report, Draft Final, June 2021*

Table 0-8 Human Receptor Sensitivity Classification

Parameter		Rank	Definition
Human Presence	Close	3	There are living areas or sensitive receptors (e.g. school, religious sites, community gathering areas etc.) within the AoI
	Middle	2	The distance of house or sensitive receptor of the nearest settlement to any of the project components is between 1 km and 5 km.
	Far	1	The distance of house or sensitive receptor of the nearest settlement to any of the project components is more than 5 km
Resistance Capability	Most Vulnerable	3	Most vulnerable groups
	Vulnerable	2	People are vulnerable to change or disturbance (e.g., there are people who will be affected even if environmental conditions are below accepted standards)
	Least Vulnerable	1	Minimal sensitivity of people to change or disturbance (e.g. projected project impacts below national limits, no abandonment of habitats due to the project)

Source: *AECOM, BP, Shallow Water Absheron Peninsula (SWAP) Exploration Drilling Project, Environmental and Socio-Economic Impact Assessment Report, Draft Final, June 2021*

Table 0-9 Physical Receptor Sensitivity Classification

Parameter		Rank	Definition
Presence	Close	3	Presence of a cultural asset of national or international value within the AoI
	Middle	2	The distance of the nearest cultural site to any of the project components is between 1 km and 5 km
	Far	1	The distance of the nearest cultural site to any of the project components is more than 5 km
Resistance Capability	Low	3	The physical integrity of the project component cannot be maintained under its continuous existence
	Moderate	2	Undergoes a moderate but sustainable change that stabilizes under the continuous presence of the Project component, preserving its physical integrity
	High	1	Cultural structure or receptor is resistant, not affected in any way by the Project

Source: *AECOM, BP, Shallow Water Absheron Peninsula (SWAP) Exploration Drilling Project, Environmental and Socio-Economic Impact Assessment Report, Draft Final, June 2021*

The ratings given in Table 0-7, Table 0-8, and Table 0-9 were summed and a receptor-specific sensitivity classification was obtained. Table 0-10 also shows the score ranges for the receptor sensitivity rankings.

Table 0-10 Receptor Sensitive Ranking

Low	<3
Medium	3-4
High	>4

2.3. Environmental and Socio-Economic Impact Significance

The magnitude of the effect and receptor sensitivity are compared and ranked as Negligible, Minor, Moderate or Major as shown in Table 0-11. An impact classified as "Major" is considered significant and requires additional mitigation. Impacts of "negligible", "minor" or moderate significance are considered to have been mitigated to the extent practicable and necessary and therefore do not require further mitigation.

Table 0-11 Impact Significance

Impacts		**Receptor Sensitivity**		
		Low	**Medium**	**High**
Event Magnitude	**Low**	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	High	Moderate	Major	Major

Source: *AECOM, BP, Shallow Water Absheron Peninsula (SWAP) Exploration Drilling Project, Environmental and Socio-Economic Impact Assessment Report, Draft Final, June 2021*

Given the scope of the projects, most impacts are expected to fall within the Minor or Moderate significance range, but the framework ensures that higher-risk activities (e.g., excavation near water bodies, works near settlements, sediment management) receive proper attention.

ANNEX-4

SOCIAL BASELİNE

The population of the area, including the project impact zone, their education levels and school enrollment status, the healthcare facilities in the area, the economic conditions of the region are presented below.

1. Methodology

River rehabilitation (channel improvement) projects may result in both positive and negative socio-economic impacts. While such projects generate benefits such as reducing flood risk, enhancing the safety of life and property in residential areas, and improving environmental conditions, permanent or temporary adverse impacts on various groups, communities, and businesses located around the project alignment may also be expected during the construction phase.

In order to identify the socio-economic characteristics of settlements located near the project alignment and to assess the potential socio-economic impacts of the project, particularly on these settlements, a methodology based on data collection from various sources was applied. The data sources used in the study are presented below:

- Indicators from the Turkish Statistical Institute (TurkStat) and the Address-Based Population Registration System (ABPRS),
- Institutional activity reports,
- Official information obtained from stakeholder institutions and organizations,
- Interviews conducted with mukhtars.

To determine the social baseline, fieldwork was conducted on January 6, 2026, in Sungurlu district of Çorum province. As part of the fieldwork, the village heads of 11 settlements within the project's impact area were identified as the target stakeholder group, and the aim was to collect data on the social, economic, and administrative characteristics of these settlements at the local level.

In this context, one-on-one interviews were conducted with 11 out of 13 mukhtars, and the interviews were held face to face at the Sungurlu Municipality building. Structured mukhtar questionnaires were administered with each participating mukhtar, and perceptions, expectations, and potential social impacts related to the Project were discussed during the interviews. Contact could not be established with the remaining two mukhtars due to the timing and scheduling of the field visit.

During the interviews, it was determined that the village heads had a general understanding of the project, but lacked detailed information regarding its exact and up-to-date route. Therefore, during the field work, the participating village heads were shown the latest and approved Cadastral Site/Zoning Map (KMZ) of the project and provided with detailed information about the project route. This information helped the village heads to share their assessments of the project's impacts in a more concrete and accurate manner.

Sampling Approach

A purposive sampling method was used in the data collection process, and village heads representing the settlements in the project's impact area were selected as the primary source of information. Village heads were considered key stakeholders representing the local population and possessing knowledge of the project's impacts.

The initial lack of detailed knowledge among mukhtars regarding the project route led to perception-based assessments during the early stages of the interviews, which constituted a limitation of the field study. This limitation was partially addressed through the sharing of the updated KMZ during the interviews.

Despite this limitation, the data obtained are considered to reflect the general social characteristics of the project area of influence and the key views at the local level. The detailed questionnaire and interview guide are provided in Annex-11.

2. *Area of Influence (AoI)*

The project in question is located in the Sungurlu district center of Çorum Province, which has the highest population within the province, and lies along the Samsun highway connecting Ankara to the Black Sea. The areas considered for the proposed flood protection and stream rehabilitation works include Budaközü Stream, Diği Stream, and Akçay Stream.

Budaközü Stream flows from the eastern part of the district center toward the west. Diği Stream originates from the northeastern part of the Sungurlu district center and discharges into Budaközü Stream within the urban area. Akçay Stream flows from the northern part of the Sungurlu district center and also discharges into Budaközü Stream.

In accordance with the World Bank Environmental and Social Standards, the Area of Influence (AoI) has been defined by taking into account spatial proximity, ecosystem services, and socio-economic interactions.

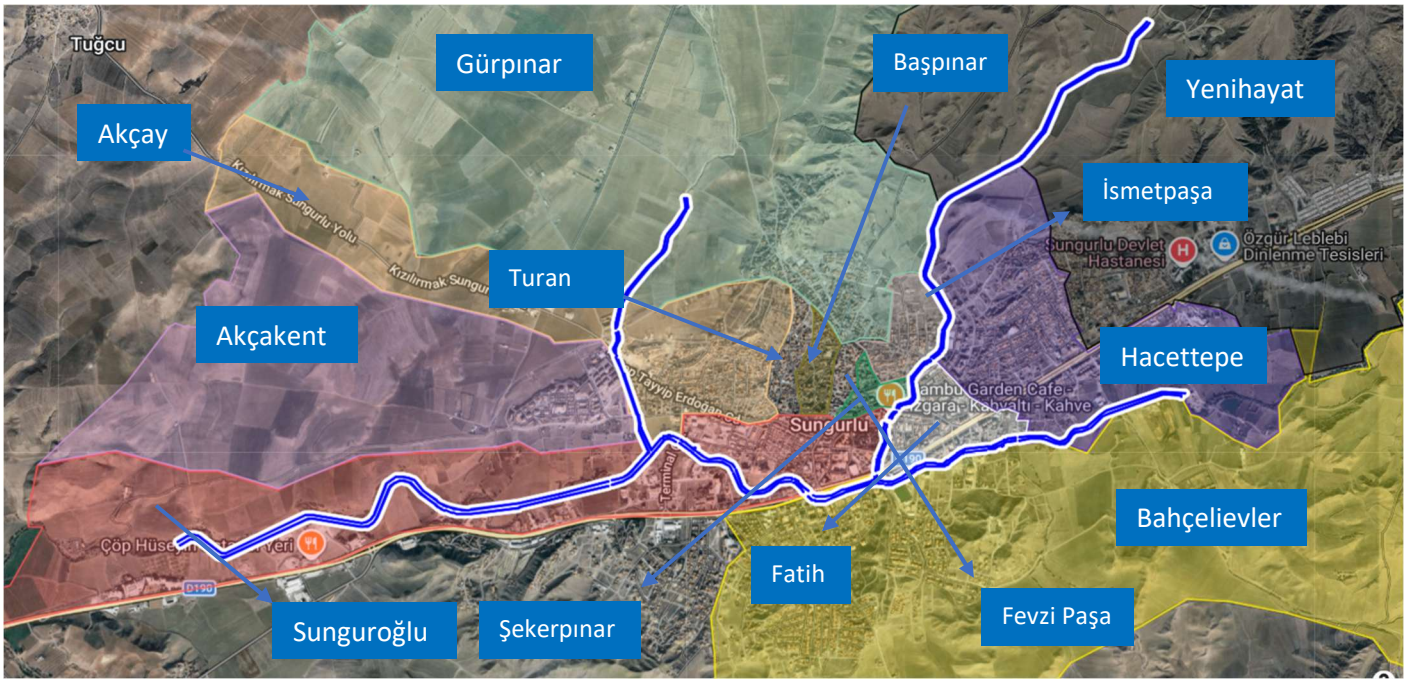

Figure 0-1 Settlements Surrounding the Project Route

3. *Population*

In 2024, the total population of Çorum was recorded as 521,335, of which 259,061 were men and 262,274 were women.

Table 0-12 Population of Çorum Province by Year

Years	Male Population	Female Population	Total Population
2014	261.187	266.033	527.220
2015	259.993	265.187	525.180
2016	261.606	266.257	527.863
2017	261.605	266.817	528.422
2018	265.678	270.805	536.483
2019	263.354	267.510	530.864
2020	262.590	267.536	530.126
2021	261.366	264.916	526.282
2022	260.355	263.775	524.130
2023	261.950	266.401	528.351
2024	259.061	262.274	521.335

Source: *TURKSTAT, 2024*

The observed decline in the total population after 2020 can be associated with socio-economic dynamics such as the COVID-19 pandemic, migration from rural areas to cities or metropolitan areas, and the outflow of young people to other provinces for education and employment purposes. This trend may particularly lead to a decrease in the working-age population and an increase in the proportion of the elderly population. Although Çorum Province is not under high population growth pressure, it is anticipated that social vulnerabilities may increase due to population aging and migration trends.

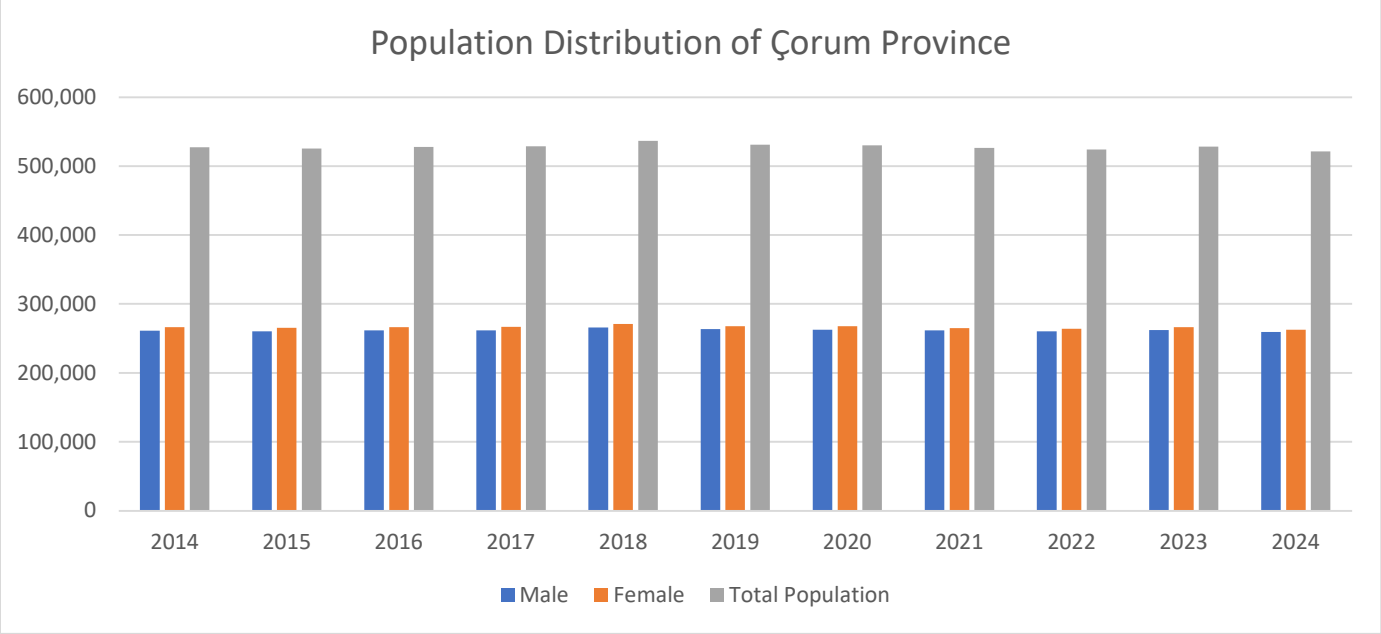

Figure 0-2 Yearly Population of Çorum Province (2014–2024)
Kaynak: *TÜRKSTAT, 2024*

"When examining the population data for the 2014–2024 period, it is observed that the population of Sungurlu District has generally followed a fluctuating trend, while showing a limited long-term increase. The district's population was 48,844 in 2014, declined to 47,890 in 2018, and reached 51,975 by 2024. This increase can be particularly associated with the strengthening of the district's service, industrial, transportation, and regional center functions in recent years.

Table 0-13 Yearly Population of Sungurlu District(2014-2024)

Years	Male Population	Female Population	Total Population
2024	25.670	26.305	51.975
2023	24.832	25.382	50.214
2022	24.354	24.857	49.211
2021	24.011	24.543	48.554
2020	24.192	24.890	49.082
2019	23.784	24.374	48.158
2018	23.746	24.144	47.890
2017	24.328	23.700	48.028
2016	24.759	23.537	48.296
2015	25.001	24.085	49.086
2014	25.322	23.522	48.844

Kaynak: *TÜRKSTAT, 2024*

The population changes of the settlements within the Area of Influence (AoI) between 2014 and 2024 are presented in the table below.

Table 0-14 Population Change in the Area of Influence (2014–2024)

District	Settlement	Years										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	Akçakent	1.376	1.326	1.315	1.255	1.199	1.519	1.530	1.502	1.475	1.471	1.442
	Akçay	913	890	888	861	851	1.911	1.788	1.697	1.641	1.596	1.612
	Bahçelievler	4.403	4.282	4.221	4.260	4.223	4.751	4.813	4.695	4.839	4.867	5.022
	Başpınar	4.822	4.788	4.649	4.754	4.687	846	817	798	774	769	749
	Fatih	1.742	1.772	1.813	1.773	1.752	5.900	6.082	6.062	6.002	5.944	6.116
	Gürpınar	-	-	1.623	1.569	1.512	1.137	1.117	1.039	1.008	982	982
	Hacettepe	5.619	5.592	5.452	5.511	5.739	3.783	3.814	3.793	3.787	3.813	3.920
	İsmetpaşa	1.393	1.385	1.354	1.264	1.238	802	799	786	767	737	787
	Sunguroğlu	4.095	4.015	2.235	2.133	2.023	4.138	4.119	3.983	3.926	3.861	3.938
	Şekerpınar	-	-	-	865	872	1.862	1.880	852	1.853	1.823	1.857
	Yenihayat	-	-	-	3.919	3.851	1.233	1.329	1.443	1.403	1.053	1.040
	Turan	595	579	558	538	525	505	488	494	471	453	465
	Fevzi Paşa	635	623	632	713	889	932	591	626	651	989	1009
TOTAL		**25.593**	**25.252**	**24.740**	**29.415**	**29.361**	**29.319**	**29.167**	**28.770**	**28.597**	**28.358**	**28.939**

Source: *TÜRKSTAT, 2024*

Within the scope of field studies conducted in the Sungurlu district center, interviews held with neighborhood headmen were used to examine population change dynamics over the past five years; the findings reveal spatial and demographic differences closely linked to the district's socio-economic development process.

Within the scope of interviews conducted with neighborhood headmen, population change trends in the neighborhoods of the Sungurlu district center over the past five years were assessed. The findings indicate that, while Sungurlu is a district undergoing development particularly driven by investments in the Organized Industrial Zone and the defense industry, demographic trends vary across neighborhoods.

The headmen of Gürpınar, Akçakent, Fevzipaşa, and Akçay neighborhoods stated that no significant increase or decrease in neighborhood population has been observed over the past five years. It was noted that population levels in these neighborhoods have remained relatively stable, with the existing settled population structure largely preserved.

In contrast, the headmen of Bahçelievler, Sunguroğlu, Turan, Fatih, and Yenihayat neighborhoods reported that in-migration to the district center has increased due to Sungurlu's development driven by organized industrial and defense industry investments, which has been reflected as population growth in their neighborhoods. These neighborhoods were reported to have become increasingly preferred due to the availability of new residential areas and their relative proximity to transportation facilities and employment centers.

Overall, the interviews with neighborhood headmen indicate that population changes in the Sungurlu district center are directly linked to the district's industry-oriented development process, with population growth concentrated primarily in neighborhoods that have high development potential and contain new residential areas.

4. Education in the Region

When examining the educational status of the population aged 15 and over in Sungurlu District, it is observed that secondary education and higher levels of education are predominant, although a notable proportion of the population has only primary education or lower.

In Sungurlu, the proportion of the population who are illiterate is 8%, while 6% can read and write but have not completed any formal schooling. These groups represent segments that can be considered educationally vulnerable and may face limitations in accessing information, understanding written announcements, and participating in official

processes. The proportion of individuals with a master's degree is 1%, while those with a doctoral degree are negligible.

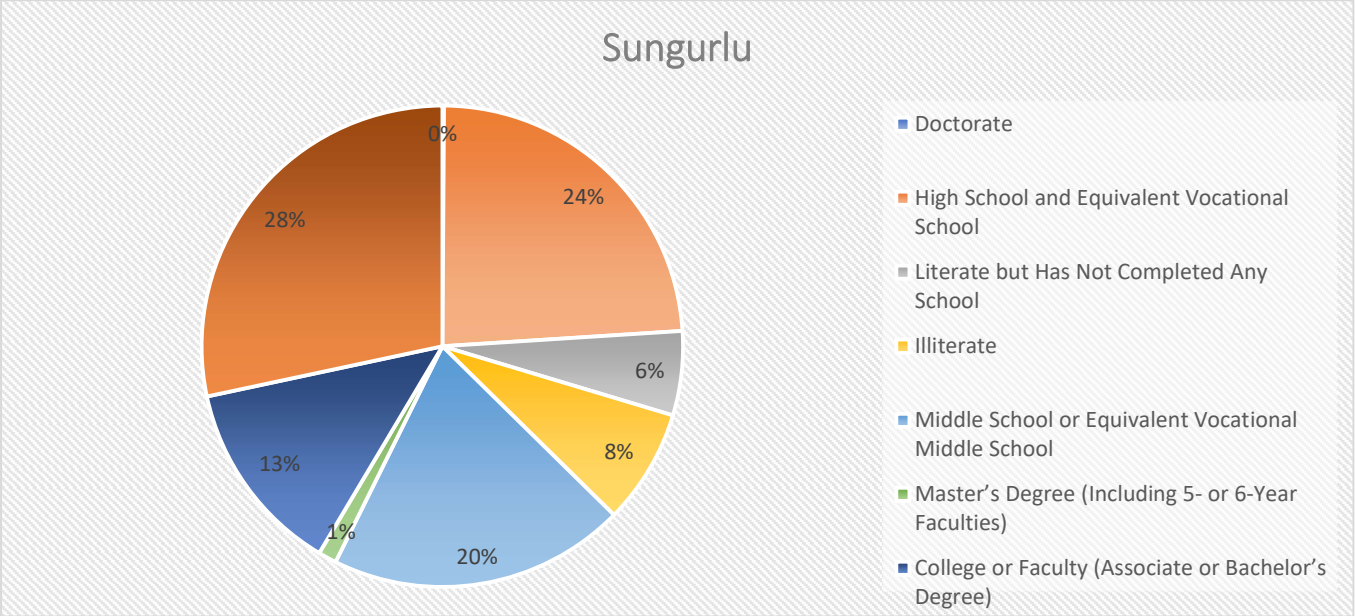

Figure 0-3 Educational Attainment of the Population Aged 15 and Over in Sungurlu District

Source: *TurkStat, 2024*

As of the 2025-2026 academic year, there are a total of 484 state schools in Çorum province, with 88,164 students receiving education.[7] In addition to official secondary education institutions, Hitit University provides higher education services in the province. Hitit University has 11 faculties, with over 18,000 students and 1,502 faculty members.[8]

The schools and other educational institutions located along the project route and its immediate surroundings constitute a significant component of the region's educational infrastructure. In this context, 541 teachers work in 64 schools in Sungurlu district, and 6,893 students receive education.[9] These data show that the educational infrastructure is widespread and functional at the provincial and district levels, and that the presence of educational institutions along the project route is important in terms of sensitive receptors that need to be considered.

Primary schools are present in the settlements within the project's area of influence. The neighborhoods of Bahçelievler, Fevzi Paşa, Turan, and İsmetpaşa are exceptions. The nearest primary school to İsmetpaşa Neighborhood is approximately 50 meters away, to Turan Neighborhood 290 meters, to Fevzi Paşa Neighborhood 190 meters, and to Bahçelievler Neighborhood approximately 3 kilometers away.

[7] https://corum.meb.gov.tr/
[8] https://aday.hitit.edu.tr/RakamlarlaHitu.aspx
[9] https://sungurlu.meb.gov.tr/

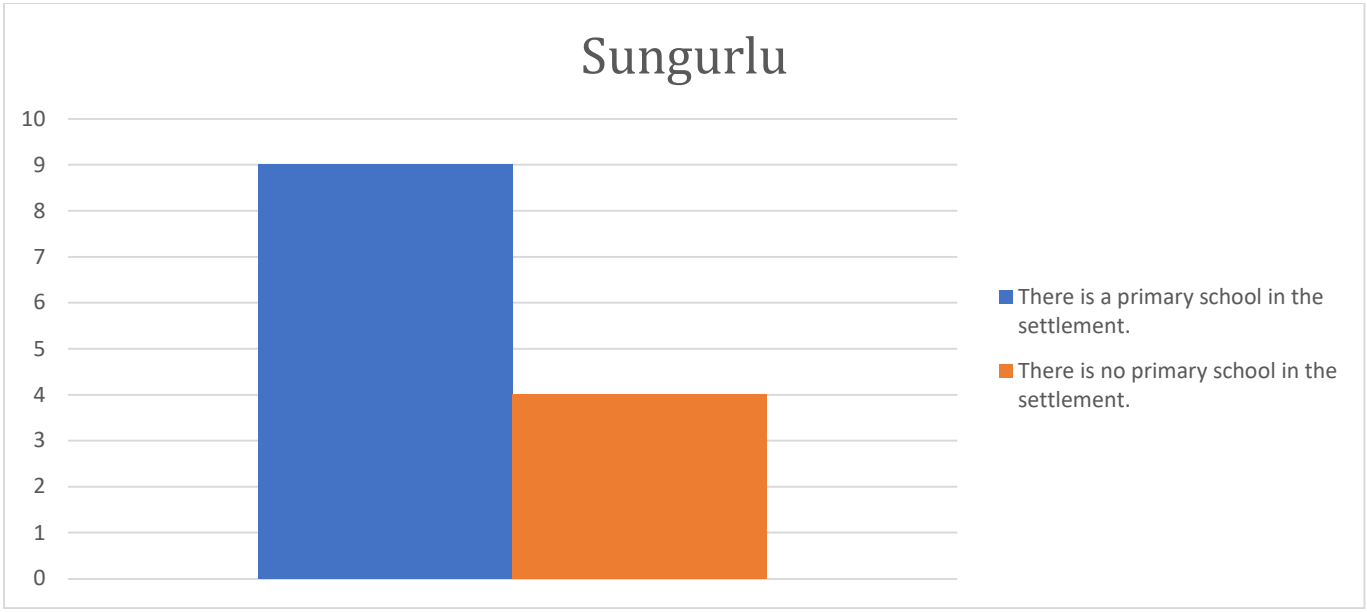

Figure 0-4 Availability of Primary School Facilities in the Settlements
Source: Settlement-Level Survey,2026

The availability of secondary schools in the settlements within the project's area of influence is shown in the graph (Figure 0-5). The nearest secondary school to Başpınar Neighborhood is approximately 210 meters away, to Turan Neighborhood 500 meters, and to Fevzi Pasa Neighborhood approximately 1 kilometer. In all other settlements, secondary schools are located within the settlement boundaries

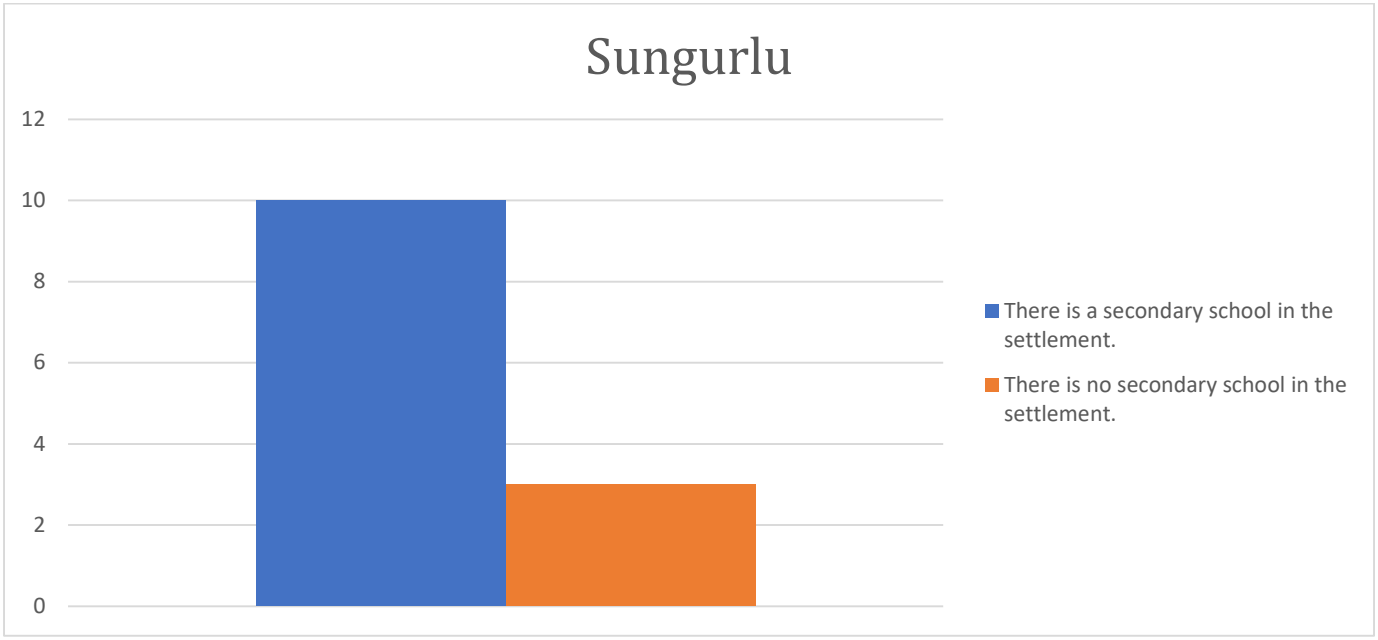

Figure 0-5 Availability of Secondary School Facilities in the Settlements
Source: Settlement-Level Survey,2026

There are high schools in three settlements within the project's area of influence: Sunguroğlu, Akçakent, and Yenihayat neighborhoods. The nearest high school to Başpınar Neighborhood is approximately 200 meters away, and to Fatih Neighborhood approximately 300 meters away. The distance to the nearest high school for Hacettepe, Gürpınar, Turan, İsmetpaşa, Bahçelievler, and Şekerpınar neighborhoods is approximately 1 kilometer. The nearest high school to Fevzipaşa Neighborhood is 750 meters away, and to Akçay Neighborhood approximately 4 kilometers.

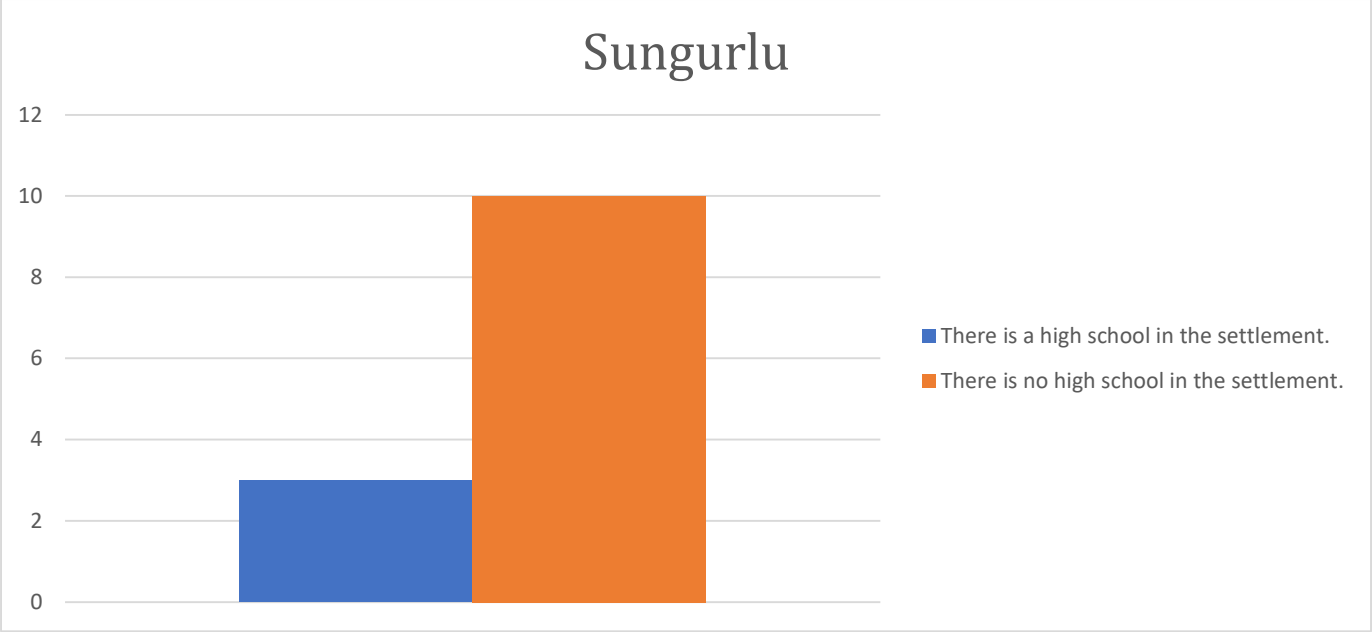

Figure 0-6 Availability of High School Facilities in Settlements
Source: Settlement-Level Survey,2026

Approximately 22 schools are located within the neighborhoods directly affected by the Project (Figure 0-7). These schools include educational facilities at the primary, secondary, high school, and vocational school levels. Within Sungurlu District, higher education institutions are located in Sunguroğlu and Yenihayat neighborhoods. The distance of Hitit University Sungurlu Vocational School (Yenihayat Neighborhood) to the project alignment is approximately 1 km.

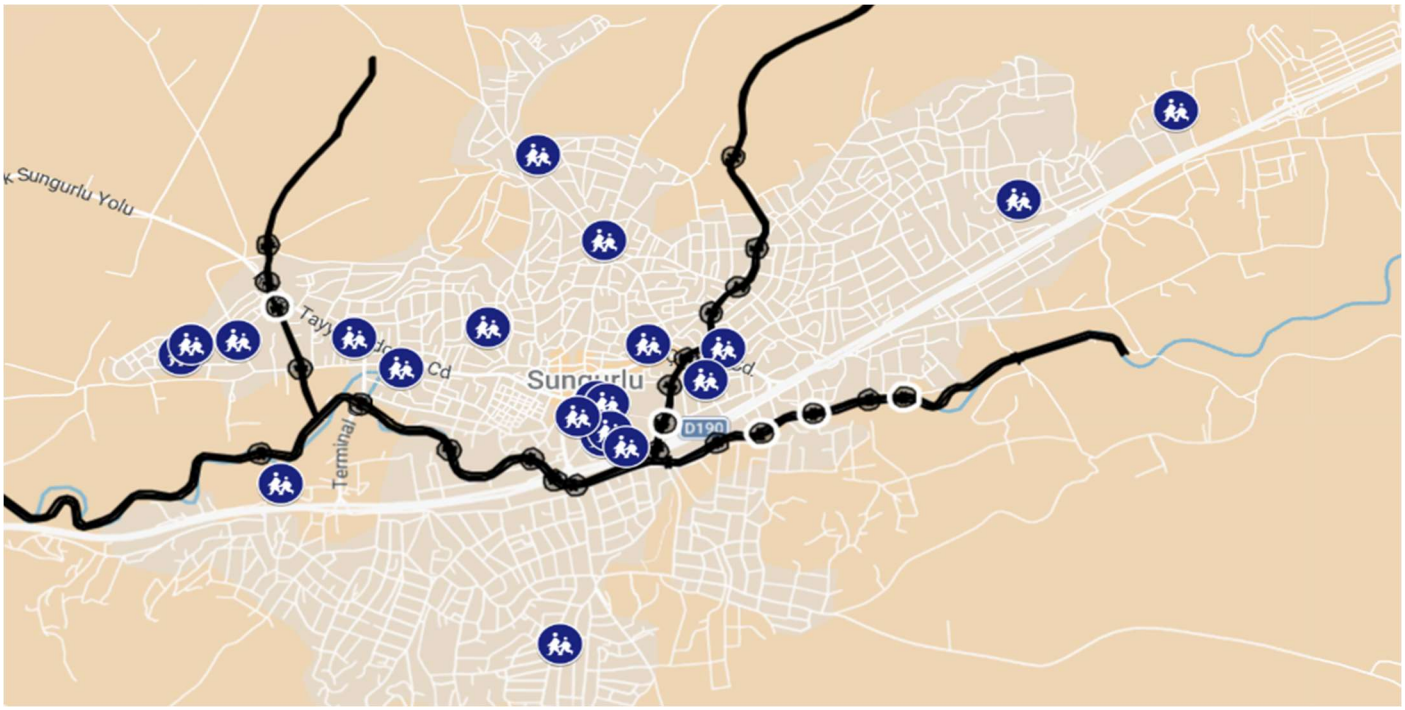

Figure 0-7 Schools Located in Neighborhoods within the Direct Impact Area of the Project

The closest educational facility to the project route is Fatih Primary School, located in Fatih Neighborhood, at an approximate distance of 20 m from the project area. This is followed by Bölükbaşı Primary School (102 m) in

Sunguroğlu Neighborhood. Other educational facilities located closest to the project route include Yavuz Selim Primary School (120 m), Haydar Öztaş Anatolian High School (125 m) in Sunguroğlu Neighborhood, Sungurlu Imam Hatip Secondary School (157 m), Sungurlu Anatolian High School (245 m), and Sunguroğlu Primary School (290 m). Most of the schools located within the impact area are less than 1 km from the project route.

Table 0-15 Schools Located Closest to the Project Route

Name of School	Location of School	Approximate Distance
Bölükbaşı Primary School	Sunguroğlu	102 m
Fevzi Çakmak Primary and Secondary School	Akçay	224 m
TOKİ Necip Fazıl Secondary School	Akçakent	387 m
TOKİ Mehmet Akif Primary School	Akçakent	194 m
Sungurlu TOKİ Anatolian Technical High School	Akçakent	425 m
Sunguroğlu Primary School	Sunguroğlu	290 m
Sungurlu Anatolian High School	Sunguroğlu	245 m
Hürriyet Secondary School	Akçay	493 m
Memiş Bekmezci Secondary School	Gürpınar	790 m
Sungurlu Science High School	Akçay	180 m
Sungurlu Imam Hatip Secondary School	Sunguroğlu	157 m
Şehit Mahmut Peşmen Secondary School	Yenihayat	673 m
Fatih Primary School	Fatih	20 m
Mehmetçik Primary School	Bahçelievler	700 m
İsmetpaşa Primary School	Şekerpınar	167 m
Memiş Meryem Bekmezci Primary School	Gürpınar	618 m
TOKİ Necip Fazıl Secondary School	Akçakent	385 m
Sungurlu Commercial Vocational High School	Sunguroğlu	190 m
Haydar Öztaş Anatolian High School	Sunguroğlu	125 m
Yavuz Selim Primary School	Fatih	120 m
Hitit University Sungurlu Vocational School	Sunguroğlu	336 m

The presence of many schools less than 1 km from the route can be considered as a factor that may create sensitivity in terms of students and educational activities during the construction phase.

The presence of many schools less than 1 km from the route can be considered as a factor that may create sensitivity in terms of students and educational activities during the construction phase.

5. Religiously and Socially Sensitive Areas

Along the project alignment, there are places of worship, such as mosques and small prayer areas, which are frequently visited by the local community(Figure 0-8). The nearest place of worship to the project route is Merve Mescidi, located approximately 40 m away, followed by Ümit Mosque at a distance of 140 m. Both are situated within the Fatih Neighborhood. The local population largely performs their daily prayers and special religious activities at these sites. Especially on Fridays and during religious holidays, these areas may experience high levels of use. Therefore, during project planning and construction activities, it is of great importance to ensure continued access to these places of worship. Any potential restrictions or access limitations arising during construction should be managed with careful consideration of community sensitivities.

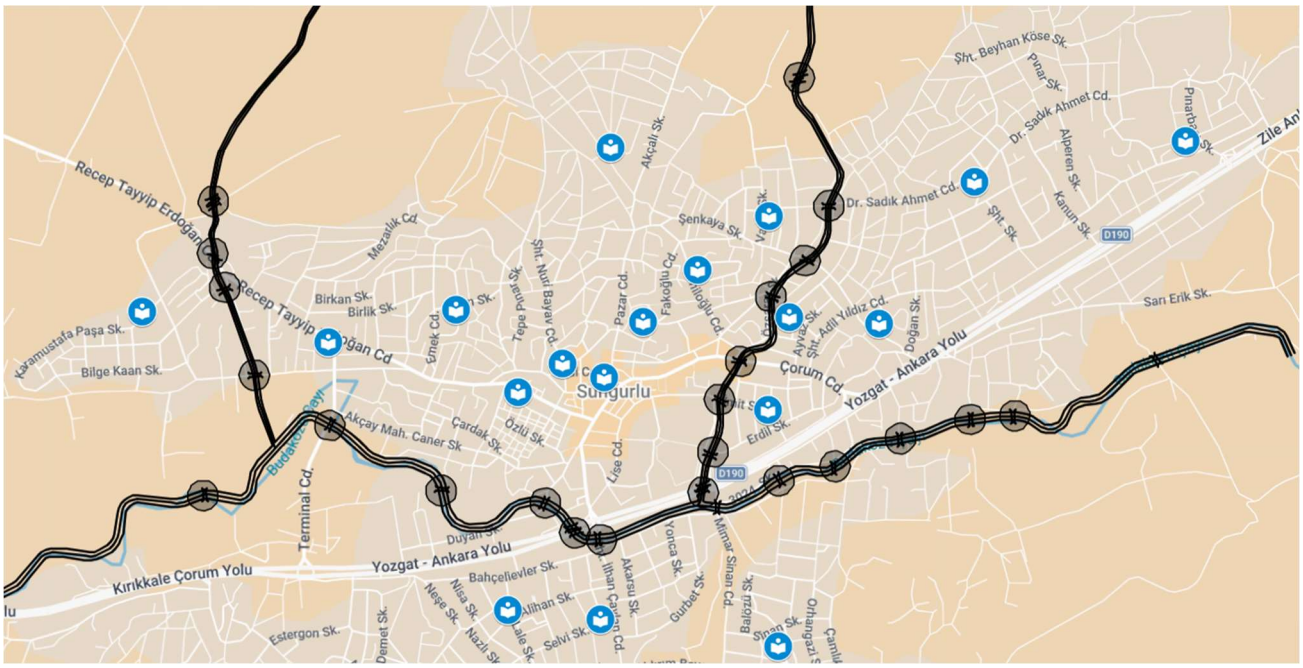

Figure 0-8 Places of worship in the area

6. Public Health in the Region

Among the settlements within the project's area of influence, there is only one hospital. In Sungurlu Neighborhood, which is within the area of influence, there are four healthcare centers. Their distances from the project route are presented in Table 0-16.

Table 0-16 Hospital/Family Health Center in Project Area

Hospital/Family Health Center	District	Approximate Distance to Project Route
Sungurlu State Hospital	Sungurlu/Yenihayat	1.50 km
Family Health Center No. 1	Sungurlu/Fatih	260 m
Family Health Center No. 2	Sungurlu/Bahçelievler	475 m
Family Health Center No. 3	Sungurlu/Fevzi Paşa	420 m
Sungurbey Family Health Center	Sungurlu/Sunguroğlu	150 m

Source: https://corumism.saglik.gov.tr/?_Dil=1

The hospital is a primary healthcare facility with a capacity of 120 beds that serves the health needs of the district center and surrounding settlements, providing both primary and secondary healthcare services. The distance between the project route and the hospital is approximately 1.50 km.

Figure 0-9 Hospital/Family Health Center in Project Area

7. Sources of Livelihood in the Region

Information on the main sources of livelihood of households permanently residing in the settlements was obtained from the muhtars. The collected data indicate that, in the majority of settlements, wage/salaried employment emerges as the primary source of livelihood. In particular, in the neighborhoods of İsmetpaşa, Sunguroğlu, Bahçelievler, Şekerpınar, Akçakent, Fatih, and Akçay, wage/salaried work is the main source of income.

Table 0-17 Sources of Livelihood in the Settlements

District	Settlement	Primary Source of Livelihood	1st Secondary Source of Livelihood	2nd Secondary Source of Livelihood	3rd Secondary Source of Livelihood
Sungurlu	Turan	Business and self-employment income	Pension Income	Daily/Seasonal Labor	Wage/Salaried Employment
	Fevzi Paşa	Wage/Salaried Employment	Business and self-employment income	Pension Income	Agriculture (Crop Production)
	Gürpınar	Agriculture (Crop Production)	Pension Income	Wage/Salaried Employment	Daily/Seasonal Labor
	İsmetpaşa	Wage/Salaried Employment	Pension Income	No response received	No response received
	Hacettepe	No response received	No response received	No response received	No response received
	Sunguroğlu	Wage/Salaried Employment	Pension Income	Business and Self-Employment Income	Agriculture (Crop Production)
	Bahçelievler	Wage/Salaried Employment	Pension Income	Agriculture (Crop Production)	Daily/Seasonal Worker
	Şekerpınar	Wage/Salaried Employment	Agriculture (Crop Production)	Pension Income	–
	Akçakent	Wage/Salaried Employment	Agriculture (Crop Production)	Pension Income	Livestock Farming (Animal Production)

District	Settlement	Primary Source of Livelihood	1st Secondary Source of Livelihood	2nd Secondary Source of Livelihood	3rd Secondary Source of Livelihood
	Başpınar	No response received	No response received	No response received	No response received
	Fatih	Wage/Salaried Employment	Pension Income	No response received	No response received
	Yenihayat	Business and Self-Employment Income	Wage/Salaried Employment	Agriculture (Crop Production)	No response received
	Akçay	Wage/Salaried Employment	Pension Income	Business and Self-Employment Income	Agriculture (Crop Production)

Source: Settlement-Level Survey,2026

Within the settlements located in the project's area of influence, field studies assessed agricultural production activities and main crop patterns, which are predominantly wheat, barley, and other cereals. Additionally, in Bahçelievler neighborhood, agricultural production is diversified with sugar beet cultivation.

According to household and muhtar interviews conducted in the settlements within the project area, seasonal agricultural labor is present only in Bahçelievler settlement. No evidence of seasonal labor was found in other settlements.

On average, approximately 50 seasonal agricultural workers come to Bahçelievler each year, with the majority reportedly coming from Şanlıurfa province and other parts of the Southeastern Anatolia Region. The presence of seasonal workers in the settlement spans from May to November, which coincides with intensive agricultural activities such as sugar beet planting, maintenance, and harvesting.

In the settlements, piped water is primarily used to meet household drinking and domestic water needs. In addition, this water source is also utilized for agricultural and livestock activities. Moreover, due to the climatic and geographical characteristics of the region, rainwater is used as a supplementary source of water for agricultural production.

8. Livestock activities in the settlement

As a result of field studies conducted in the settlements within the project's area of influence, it was determined that cattle and small ruminant farming, poultry farming, and beekeeping activities are present only in a limited number of settlements. According to information obtained from the village headmen, no livestock or beekeeping activities exist in the settlements of İsmetpaşa, Bahçelievler, Şekerpınar, Fatih, and Yenihayat, while in Akçakent, only one household practices small ruminant farming.

Table 0-18 Distribution of Livestock Activities by Settlement

Settlements	Number of Households Owning Cattle	Total Number of Cattle	Households Selling Cattle	Households Owning Small Ruminants	Total Number of Small Ruminants	Households Selling Small Ruminants	Households Owning Poultry	Total Number of Poultry	Households Selling Poultry	Households Practicing Beekeeping	Total Number of Beehives	Households Selling Beehives
Gürpınar	4	50	0	6	200	6	30	300	unknown	4	30	unknown
Sunguroğlu	5	150	5	0	0	0	0	0	0	0	0	0
Akçay	2	unknown	2	2	unknown	2	20	unknown	unknown	0	0	0

Source: Settlement-Level Survey,2026

The distribution of livestock activities in the region varies depending on local natural conditions, land use patterns, household preferences, and the availability of other livelihood sources. However, when evaluated within a general framework, it is understood that livestock activities do not constitute a dominant sector in the regional economy.

In the interviews conducted with neighborhood headmen, assessments were obtained regarding the types of training that should be provided to the local population in order to develop livelihoods and support economic activities. Accordingly, the headmen of Gürpınar, Yenihayat, and Akçakent neighborhoods stated that training aimed at increasing agricultural productivity would contribute to improving household income levels.

The headmen of Bahçelievler and Yenihayat neighborhoods emphasized that there are women in their neighborhoods who are willing to participate in the labor force, and noted that organizing vocational training courses and skills development programs for women is necessary in order to diversify livelihoods and increase women's participation in economic life. Specifically for Yenihayat Neighborhood, it was stated that expanding employment opportunities for women in the textile sector would be appropriate.

The headman of Akçay Neighborhood stated that training on shepherding and milking techniques could be beneficial for households currently engaged in, or intending to engage in, livestock activities in the area.

9. Vulnerability, Social Inclusion and Equity

Based on the data obtained from community-level interviews conducted with neighborhood/village headmen (muhtars), there are vulnerable individuals living in the settlements affected by the Project. The vulnerable population in these settlements is presented in

The temporary closure of roads near the project sites may lead to temporary disruptions and inconvenience in access to emergency or essential healthcare services, particularly for elderly persons, persons with disabilities, and individuals who are homebound due to chronic illnesses.

In 2024, the total population of the 13 settlements within the project's area of influence is 28,939. The total number of vulnerable individuals identified by the village headmen is 4,258. There are no school-aged children unable to attend school.

Vulnerable groups include female-headed households, elderly persons, persons with disabilities, unemployed individuals, widowed/divorced persons, persons without social security coverage, and illiterate adults. In addition, a small number of refugees and non-Turkish speakers are also present.

Table 0-19 Vulnerability of Project Settlements

Vulnerability Category	Male	Female	Total
Female-headed households	N/A	1155	1155
Elderly persons in need of care and social assistance	181	206	387
Persons with intellectual disabilities	39	35	74
Persons with physical disabilities	46	38	84
Unemployed persons	395	365	760
Widowed / divorced persons	136	243	379
Homebound persons due to chronic illness	25	29	54
Refugee	38	41	79
Non-Turkish speaker	2	3	5
Illiterate adults	184	383	567
Persons without social security coverage	384	330	714
Total	**1430**	**2828**	**4258**

Source: Settlement-Level Survey,2026

ANNEX – 5

GRIEVANCE/COMPLAINT RECORD FORM AND GRIEVANCE/COMPLAINT CLOSE OUT FORM

Annex 5-1 : Grievance/Complaint Record Form

Reference No	
Full Name	
Please mark how you wish to be contacted (mail, telephone, e-mail).	
Province/District/ Location	
Date	
Category of the Grievance	
1. On abandonment (public)	
2. On assets/properties impacted by the project	
3. On infrastructure	
4. On decrease or complete loss of sources of income	
5. On environmental issues (ex. pollution)	
6. On employment	
7. On traffic, transportation and other risks	
9-Other (Please specify):	
Description of the Grievance What did happen? When did it happen? Where did it happen? What is the result of the problem?	
What would you like to see happen to resolve the problem?	
Although giving name and address is not compulsory, it should be kept in mind that during the feedback process regarding the grievance some problems may occur due to lack of information.	

Signature: **Date:**

Annex 5-2: Grievance/Complaint Close Out Form

Grievance closeout number:		
Define immediate action required:		
Define long term action required (if necessary):		
Compensation Required?	[ ] YES	[ ] NO
CONTROL OF THE REMEDIATE ACTION AND THE DECISION		
Stages of the Remediate Action		Deadline and Responsible Institutions
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

COMPENSATION AND FINAL STAGES

This part will be filled and signed by the complainant after s/he receives the compensation fees and/or his/her complaint has been remediated.

Notes:

[Name-Surname and Signature]

Date: ___ / ___ / _____

Of the Complainant:

Representative of the Responsible Institution/Company
[Title-Name-Surname and Signature]

ANNEX – 6

CHANCE FIND PROCEDURE 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***			
Site manager and E&S manager contacted ☐ Yes ☐ No *Saha Müdürü ve Çevre müdürü ile irtibata geçildi Evet Hayır*			
CHANCE FIND DETAILS ***RASLANTISAL 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 suyoluna 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*		
Site manager and E&S manager contacted Saha Müdürü ve Çevre müdürü ile irtibata geçildi	☐ Yes Evet	☐ No 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: *Bitiriş 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 *İnşaat müdürü ile irtibata geçildi*	☐ Yes *Evet*	☐ No *Hayır*

ANNEX – 7

STAKEHOLDER MEETING PHOTOLOG

	Meeting with Neighborhood Muhtars – Sungurlu Municipality

ANNEX – 8

DETAILED NOISE AND VIBRATION IMPACT ASSESSMENT

During the construction phase, temporary noise and minor ground-borne vibration are expected to be generated by the operation of construction machinery and equipment, including excavators, concrete works, trucks, and construction-related vehicle movements along the project corridors.

Unlike natural stream environments, the project area within the Çorum Sungurlu District Center Stream Rehabilitation Project is predominantly located in an urban setting where residential buildings, commercial units, public facilities, and local roads are situated in close proximity to the construction zones. In addition, field observations indicate that surface water flow within the Budaközü, Akçay, and Diği stream channels is limited or absent for most of the year. Therefore, background noise levels in the project area are mainly influenced by urban activities, road traffic, and daily human activities rather than natural hydraulic noise.

Noise and vibration impacts are expected to be localized and temporary, occurring only during active construction periods and confined to working hours in accordance with applicable regulations. Given the proximity of sensitive receptors such as residences, schools, and workplaces, construction activities will be carefully managed to minimize nuisance. The types and estimated numbers of machinery and equipment to be used during construction are presented in Table 0-20.

Table 0-20 Number of Machineries Estimated to be used during Construction Activities

Machinery-Equipment	Number	Expected Noise Level (dBA)
Trucks	5	94
Excavator	3	109
Concrete Mixer	5	105
Concrete Pump	1	109
Crane	1	105

Following the noise propagation calculations, the resulting overall noise levels were evaluated based on the distance to the nearest sensitive receptors and in reference to the applicable national legislation and international standards, as summarized in Table 0-21.

Table 0-21 Legislative Framework for Noise

Legislative Framework		
Environmental Noise Control Regulation (Official Gazette No. 32029 Dated 30.11.2022)		
Type of Operation		Limit Value (dBA)
Infrastructure Works		65- (All sources together)**
Noise Standards - WBG EHS Guidelines: (Environmental Noise Management)		
Type of Operation	Lday * (One Hour LAeq (dBA)) (07:00-22:00)	Lnight * (One Hour LAeq (dBA)) (22:00-07:00)
Limit Value not to be exceeded by the noise from construction site activities at the sensitive receptor (Industrial and/or Commercial areas)	70	70

**Noise impacts should not exceed the levels presented in the Table above, or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site*

*** According to the Environmental Noise Control Regulation, the daytime limit value for industrial facilities and transportation resources is determined as 65 dBA, 60 dBA for the evening, and 55 dBA for the night.*

The distribution of the total predicted noise levels (dBA) at different octave band frequencies (500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz) and at varying distances from the source is presented in Table 0-22.

Table 0-22 Total Expected Noise Level at "r" Distance

r (m)	L_{PT} (dB)	Aatm (dBA) (f:500)	DF (dB) (f=500 Hz)	L (dBA) (f:500 Hz)	Aatm (dB) (f:1000 Hz)	DF (dB) (f:1000 Hz)	L (dBA) (f:1000 Hz)	Aatm (dB) (f:2000 Hz)	DF (dB) (f:2000 Hz)	L (dBA) (f:2000 Hz)	Aatm (dB) (f:4000 Hz)	DF (dB) (Hz)	L (dBA) (f:4000 Hz)	L_T (dBA)
1	109,20	0,00	-3,2	106,00	0,00	0	109,20	0,00	1,2	110,40	0,02	1	110,18	115,27
5	95,22	0,00	-3,2	92,02	0,01	0	95,22	0,02	1,2	96,40	0,09	1	96,13	101,27
10	89,20	0,00	-3,2	86,00	0,01	0	89,19	0,05	1,2	90,36	0,19	1	90,02	95,21

r (m)	L_{PT} (dB)	Aatm (dBA) (f:500)	DF (dB) (f=500 Hz)	L (dBA) (f:500 Hz)	Aatm (dB) (f:1000 Hz)	DF (dB) (f:1000 Hz)	L (dBA) (f:1000 Hz)	Aatm (dB) (f:2000 Hz)	DF (dB) (f:2000 Hz)	L (dBA) (f:2000 Hz)	Aatm (dB) (f:4000 Hz)	DF (dB) (Hz)	L (dBA) (f:4000 Hz)	L_T (dBA)
20	83,18	0,01	-3,2	79,98	0,02	0	83,16	0,09	1,2	84,29	0,37	1	83,81	89,11
30	79,66	0,01	-3,2	76,45	0,03	0	79,62	0,14	1,2	80,72	0,56	1	80,10	85,52
40	77,16	0,01	-3,2	73,95	0,05	0	77,11	0,19	1,2	78,18	0,74	1	77,42	82,95
50	75,22	0,01	-3,2	72,01	0,06	0	75,16	0,23	1,2	76,19	0,93	1	75,30	80,94
60	73,64	0,02	-3,2	70,42	0,07	0	73,57	0,28	1,2	74,56	1,11	1	73,53	79,29
70	72,30	0,02	-3,2	69,08	0,08	0	72,22	0,32	1,2	73,18	1,30	1	72,00	77,88
80	71,14	0,02	-3,2	67,92	0,09	0	71,05	0,37	1,2	71,97	1,48	1	70,66	76,66
90	70,12	0,03	-3,2	66,89	0,10	0	70,01	0,42	1,2	70,90	1,67	1	69,45	75,57
100	69,20	0,03	-3,2	65,97	0,12	0	69,09	0,46	1,2	69,94	1,85	1	68,35	74,59
125	67,26	0,04	-3,2	64,03	0,14	0	67,12	0,58	1,2	67,89	2,31	1	65,95	72,49
150	65,68	0,04	-3,2	62,44	0,17	0	65,51	0,69	1,2	66,19	2,78	1	63,90	70,76
200	63,18	0,06	-3,2	59,92	0,23	0	62,95	0,93	1,2	63,46	3,70	1	60,48	67,99
250	61,24	0,07	-3,2	57,97	0,29	0	60,95	1,16	1,2	61,29	4,63	1	57,62	65,79
300	59,66	0,09	-3,2	56,37	0,35	0	59,31	1,39	1,2	59,47	5,55	1	55,11	63,97
350	58,32	0,10	-3,2	55,02	0,40	0	57,92	1,62	1,2	57,90	6,48	1	52,85	62,42
400	57,16	0,12	-3,2	53,84	0,46	0	56,70	1,85	1,2	56,51	7,40	1	50,76	61,06
500	55,22	0,14	-3,2	51,88	0,58	0	54,64	2,31	1,2	54,11	9,25	1	46,97	58,77
600	53,64	0,17	-3,2	50,27	0,69	0	52,94	2,78	1,2	52,06	11,10	1	43,54	56,87
700	52,30	0,20	-3,2	48,90	0,81	0	51,49	3,24	1,2	50,26	12,95	1	40,35	55,26
800	51,14	0,23	-3,2	47,71	0,93	0	50,21	3,70	1,2	48,64	14,80	1	37,34	53,85
900	50,12	0,26	-3,2	46,66	1,04	0	49,08	4,16	1,2	47,15	16,65	1	34,47	52,60
1000	49,20	0,29	-3,2	45,71	1,16	0	48,05	4,63	1,2	45,78	18,50	1	31,70	51,47
1500	45,68	0,43	-3,2	42,05	1,73	0	43,95	6,94	1,2	39,94	27,75	1	18,93	47,06

Based on the assessment conducted under a conservative scenario in which all vehicles and equipment operate simultaneously at the same location, the maximum predicted noise levels are expected to fall below both national regulatory limits and World Bank Group EHS guideline values at a distance of approximately 150–200 m from the source. As no construction activities are planned during evening or night-time periods, the assessment has been undertaken with reference to daytime limit values only.

Considering the existing background noise levels associated primarily with urban traffic, commercial activities, and daily human use within the Sungurlu district center, the incremental contribution of construction-related noise is not expected to result in a substantial long-term change in the prevailing acoustic environment at nearby receptors. However, due to the proximity of residential buildings and public facilities, short-term increases in noise levels may be perceptible during active construction periods.

With respect to vibration, construction activities will mainly involve excavation, concrete placement, installation of retaining walls, and the operation of excavators, cranes, and trucks. No blasting, pile driving, or other high-vibration activities are foreseen within the scope of the Project. Accordingly, vibration levels are expected to remain low and well below thresholds associated with structural damage or significant nuisance to nearby buildings and receptors.

Overall, noise and vibration impacts associated with the Çorum Sungurlu District Center Stream Rehabilitation Project are assessed to be temporary, localized, and of low to moderate significance. These impacts can be effectively managed through the implementation of standard good construction practices, appropriate work scheduling, and equipment maintenance.

Given that a significant portion of the project is located within a densely built urban environment, sensitive receptors such as residences, schools, and workplaces are present within close distances to certain construction sections. During periods of active construction, particularly along narrow channel corridors and bridge locations, temporary disturbance may occur due to elevated noise levels and increased construction-related traffic.

Therefore, site-specific mitigation measures will be implemented in areas where sensitive receptors are located in close proximity to construction works, in order to ensure that noise and vibration levels remain as low as reasonably practicable and in compliance with applicable national regulations and the World Bank Group EHS Guidelines.

ANNEX – 9

ASSESSMENT OF AIR QUALITY IMPACTS AND EMISSION ESTIMATES (CONSTRUCTION PHASE)

Construction activities under the Sungurlu District Budaközü, Akçay and Diği Streams Flood Control Project are expected to result in temporary and localized impacts on ambient air quality, primarily within the urban sections of the project corridor. Due to the fact that the project is largely located within the Sungurlu town center, potential air quality impacts are mainly associated with short-term construction activities rather than continuous industrial emission sources.

The main sources of air emissions during the construction phase are anticipated to include:

- Exhaust emissions from construction machinery and haulage trucks,
- Dust generation arising from riverbed excavation, channel shaping, concrete lining, and stone placement works, and
- Dust emissions generated during the transportation of excavation material and construction supplies along urban roads and local access routes within Sungurlu district.

Within the scope of the Subproject, significant quantities of concrete and stone material will be used for riverbed regulation, channel lining, and associated structural works along the project corridor. Construction activities will require the operation of excavators, trucks, concrete mixers, and auxiliary equipment throughout the defined channel sections. The potential dust emission quantities expected to be generated as a result of these activities have been calculated based on standard emission factors and are presented in Table 0-23.

Table 0-23 Predicted Mass Flow Rates for Dust Emissions

Process	Emission Factors			Period (h)	Distance (km)	Sungurlu
	Uncontrolled	Controlled	Unit			
Excavation	0,025	0,0125	kg/t	5600	0	0,848
Loading	0,01	0,005	kg/t	5600	0	0,339
Unloading	0,01	0,005	kg/t	5600	0	0,339
Transportation (total round-trip distance)*	0,7	0,35	kg/km-vehicle	5600	0,4	1,086
TOTAL						2,613

According to the dust emission calculations carried out within the scope of the Subproject, controlled dust emission rates remain below the regulatory threshold values defined under applicable national legislation.

For the Sungurlu construction areas, dust emissions are primarily associated with riverbed excavation, handling and placement of construction materials, and short-distance material transportation within the urban environment. Based on the calculations, the total controlled dust emission rate for the Sungurlu construction site is estimated to be approximately 0.780 kg/h, which is below the 1 kg/h threshold specified in the Regulation on the Control of Industrial Air Pollution. Accordingly, detailed atmospheric dispersion modeling is not required.

Although the project area is located within an urban setting, construction activities will be linear, short-term, and spatially limited to active work fronts. In addition, dust generation will be effectively reduced through the implementation of standard mitigation measures such as surface wetting, controlled material handling, and vehicle speed limitations. Therefore, the incremental impact of construction-related dust on ambient air quality is expected to be localized, temporary, and of low magnitude.

The mine area included in the emission calculations represents a material supply source for the Project and is not part of the construction corridor. The controlled dust emission rate for the mine area is estimated at approximately 0.625 kg/h, which is also below the regulatory modeling threshold. This facility operates under a valid Environmental Permit and License and is subject to routine monitoring by the relevant authorities in accordance with the Regulation on the Control of Industrial Air Pollution and the Regulation on Environmental Permits and Licenses. Therefore, emissions from the material supply area are regulated independently and are not considered direct project-induced impacts within the scope of this ESMP.

In summary:

- The controlled dust emission rate at the Sungurlu construction site is estimated at 0.780 kg/h,
- The controlled dust emission rate at the material supply (mine) area is estimated at 0.625 kg/h,
- Both values remain below the national regulatory threshold of 1 kg/h, indicating low-magnitude, temporary,

and localized impacts, and

- Emissions from the material supply area are managed under separate regulatory frameworks and do not constitute project-specific impacts.

ANNEX – 10

Ankara Regional Directorate of the Conservation Council for Cultural Heritage

T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
Kültür Varlıkları ve Müzeler Genel Müdürlüğü
Ankara Kültür Varlıklarını Koruma Bölge Kurulu Müdürlüğü

Sayı : E-53970621-169.09.01-5848242

Konu : Türkiye Taşkın ve Kuraklık Yönetimi Projesi Kurum Görüşleri Talebi(19.09.66-67)

DAĞITIM YERLERİNE

İlgi : Çorum Valiliği (Kültür İşleri Şube Müdürlüğü (Çorum İl Kültür))'nin 17.10.2024 tarihli ve E-81580930-169.09.01-5823509 sayılı yazısı.

Çorum İli, Sungurlu İlçesinde, Devlet Su İşleri Genel Müdürlüğüne bağlı 5. Bölge Müdürlüğünce yürütülecek olan "Çorum Sungurlu İlçe Merkezi Dereleri Islahı" işine ait, Tarama Formlarının Dünya Bankasına gönderilebilmesi için Kurum görüşünün talep edildiği ilgi yazı ve ekleri incelenmiştir.

Müdürlüğümüz arşivinde yapılan incelemelerde proje sahası içerisinde Gayrimenkul Eski Eserler ve Anıtlar Yüksek Kurulunun 09.04.1960 gün ve 1331 sayılı kararı ile tescilli Pazaşa Köprüsünün (Budaközü) yer aldığı tespit edilmiş olup, tescilli köprü ve korunma alanına ilişkin sınırlar yazımız ekinde iletilmektedir. Tescilli taşınmaz ve korunma alanında yapılacak çalışmalar için konunun Ankara Koruma Kurulu gündeminde değerlendirilmesi gerektiğinden proje hattı ile tescilli köprü koruma alanı sınırlarının çakıştırılarak onaylı paftalarının, ilgili teknik bilgi ve belgeleri ile birlikte Müdürlüğümüze iletilmesi gerekmektedir. Bununla birlikte tescilli köprü ve korunma alanı sınırları dışında kalan proje sahasında Müdürlüğümüzce yapılacak bir işlem bulunmamaktadır.

Ancak söz konusu alanlarda, yapılacak her türlü fiziki ve inşai müdahale sırasındataşınır veya taşınmaz kültür varlığı bulunması durumunda çalışmaların derhal durdurularak, 2863 sayılıyasanın 4. Maddesi gereğince ilgili makamlara haber verilmesi gerekmektedir.

Bilgi ve gereğini arz ederim.

Mustafa KAYMAK
Koruma Bölge Kurulu Müdürü

Ek: Harita (1 Sayfa)

Dağıtım:

Çorum İl Kültür ve Turizm Müdürlüğüne

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 0018C2D2-969F-4485-A5C3-423EAC4C7C06 Doğrulama Adresi: https://www.turkiye.gov.tr/ktb-ebys

ANNEX – 11

ÇORUM Sungurlu District Center Stream Rehabilitation Project
COMMUNITY LEVEL (VILLAGE HEADMAN) QUESTIONNAIRE

This survey has been prepared to gather the opinions and assessments of village heads for the Environmental and Social Management Plan (ESMP) to be developed within the scope of the Çorum Sungurlu District Center Stream Rehabilitation Project. The survey will assess land use, local livelihoods, flood risk, environmental and social impacts, public perception of the project, expectations, and potential concerns within the project area and its sphere of influence. The local knowledge and observations of village heads are crucial for accurately identifying the social impacts of the project and developing necessary preventive/mitigating measures.
This study is being conducted in accordance with the World Bank's Environmental and Social Framework (ESF) and relevant Environmental and Social Standards. The information shared during the survey will be kept confidential and will only be analyzed and reported within the scope of the project.

A. INFORMATION SOURCE

The settlement area;			
A1. Village/neighborhood		**A2.** Province-District	
Respondent's;			
A3. First name-Last name		**A4.** Occupation	
A5. Occupation		**A6.** Phone	
A7. Gender		**A8.** Is there a female member?	1 ( ) Yes 2 () No
Interviewer;			
A9. Name		**A10.** Date	

A11. Are you aware of the Çorum Sungurlu District Center Stream Rehabilitation Project planned by the DSİ?
1 ( ) Yes/We have heard about it from 2 ( ) No/We have not heard about it

A12. If yes, through which channels have you been informed about the project so far?
1 ( ) Yes 2 ( ) No

A13. Do you think the works within the scope of the project (stream rehabilitation, bridge, flood protection structures) directly affect your neighborhood/village?
1 ( ) Yes 2( ) No 3( ) Partially

A14. Where and how would you like to obtain information about the project?

B. POPULATION

B1. Please provide information about the total population residing in the settlement (village/neighborhood).

Type of residence	a. Number of households	b. Total number of people *(including children)*
B1.1. Permanent residents (living in the village year-round)		
B1.2. Seasonal residents (living in the village during certain seasons)		

B2. Age distribution **<u>of the permanent resident population</u>**

Age range	Number of people

1. Population aged 0-6	
2. Population aged 7-18	
3. Population aged 19-35	
4. Population aged 36-65	
5. Population aged 65 and over	
6. TOTAL *(Should be equal to the number of permanent residents)*	

B3. Has there been any change in the population of the settlement (village/town, etc.) in the last 5 years (excluding the impact of COVID-19)?

1 ( ) Increased 2 ( ) Decreased 3 ( ) Remained the same

B3.1. What do you think is the reason for this?

B4. Are there any individuals in your settlement with the following sensitivities? If so, please specify the number of individuals.

Sensitivity Type	a. Female	b. Male
1. Female head of household		-
2. Elderly person requiring care and social assistance		
3. Mentally disabled		
4. Physically disabled		
5. Unemployed		
6. Widowed/divorced		
7. Housebound due to chronic illness		
8. School-age children unable to attend school		
9. Adults who cannot read or write		
10. Refugee		
11. Those who do not speak Turkish		
12. Those without social security		

C. SOURCES OF LIVELIHOOD

C1. What are the sources of livelihood in the settlement (village/neighborhood)? (Mark X in order of priority)

Sources	Primary	Supplementary 1	Supplementary 2	Supplementary 3
1. Agriculture (plant production)				
2. Livestock farming (animal production)				
3. Pension				
4. Paid, salaried work				
5. Daily wage, seasonal work				
6. Workplace and freelance income				
7. Beekeeping				
8. Forestry				
9. Social support provided by institutions (disability allowance, widow-orphan allowance, municipal and district governorate assistance, etc.)				
10. Student grants				
11. Rental income				
12. Financial income such as interest				
13. Income earned by lending machinery and equipment such as tractors to villagers and neighbors, and by subcontracting				
14. Fishing				

Sources	Primary	Supplementary 1	Supplementary 2	Supplementary 3
15. Income earned from the sale of products produced at home				
16. Other				

C2. What is the approximate number of animals in the settlement (village/neighborhood)? (If livestock farming is practiced)

Animal type	Number of households owning animals	Total number of animals in the village	Number of households selling animals
a. Cattle			
b. Small livestock			
c. Poultry			
d. Beehive			

C3. What agricultural products are produced in the settlement (village/neighborhood) and in what quantities? (Please specify in kilograms) (If agricultural activity is present)

Products	Quantity produced (in kilograms) *(1 ton = 1000 kilograms)*
1. Wheat	
2. Barley	
3. Rice	
4. Corn	
5. Chickpeas	
6. Lentils	
7. Beans	
8. Barley	
9. Oats	
10. Sunflower	
11. Sugar beet	
12. Melon	
13. Other	
14. Other	
15. Other	

C4. Have the following problems occurred in your neighborhood/village in recent years? (You may select more than one)

1 ( ) River flooding
2 ( ) Closure of the river mouth
3 ( ) Coastal erosion
4 ( ) Damage to agricultural land
5 ( ) Flooding of residential areas
6 ( ) Did not occur

C4.1. If it did occur, to what extent do you think these problems affected neighborhood/village life?

1 ( ) Had a very negative impact
2 ( ) It had a partial impact
3 ( ) Did not affect

C5. When you think about the last 5 years, what changes have you seen in your neighborhood's main and secondary sources of income? (multiple answers)

1. ( )The number of households engaged in agriculture and livestock farming has increased.
2. ( )Agriculture decreased, livestock farming increased.
3. ( )Livestock farming decreased, agriculture increased.
4. ( )There has been a shift from land-based income sources (such as agriculture and livestock farming) to sectors such as industry, trade, and tourism; labor has increased.
5. ( )Some people have abandoned land-based and labor-based livelihoods due to the increase in the number of retirees.
6. ( )Other …..

C6. Do seasonal workers come to your neighborhood to work?

1 ( ) Yes 2 ( ) No

C6.1. If yes, please complete the following table.

Questions	Answers
a. Which provinces are they from?	
b. Which months are they staying?	
c. What kind of work do they do?	
d. How many people come to your village on average each year?	
e. What is the percentage of women?	
f. What is the percentage of children under 16?	

C7. Where do seasonal workers stay?

…….

D. AFFECTED LANDS *(DRAFT PROJECT PLAN IS SHOWN)*

D1. Pro Do you assess whether there is public land within the project site and work areas (including the shoreline) and what is the status of use of these areas?

1 ( ) It is entirely public land with no current use.
2 ( ) It is public land but is used by the public for agriculture, livestock, access roads, etc.
3 ( ) Private property/titled lands may be affected.
4 ( ) I don't know.

D2. Could temporary or permanent restrictions occur on access to neighborhood/village roads, agricultural lands, or pastures due to construction activities?

1 ( ) Yes, main transportation or agricultural access roads may be affected.
2 ( ) Yes, temporary restrictions (due to construction/service roads) may occur.
3 ( ) No, access will not be affected.

D3. Does the village/neighborhood community use the stream and its surroundings in the project area for the following purposes? *(Multiple options may be selected)*

1 ( ) Agricultural irrigation
2 ( ) Animal watering/grazing
3 ( ) Garden/field use
4 ( ) Other: ……

5 ( ) No use

D4. Is there a risk that the transportation and service roads for materials to be used during the construction process may negatively impact surrounding agricultural lands (wheat, barley, beet, sunflower, etc.) due to dust, noise, or traffic?

1 ( ) Yes, agricultural lands along the roadside may be affected.
2 ( ) No, the transportation routes are far from agricultural areas.
3 ( ) I don't know.

E. WATER SOURCES AND USE

E1. What water sources are used in your neighborhood, and what is the condition of these water sources?

Water Resources	a. Water Usage Area Agriculture (1) Irrigation (2) Livestock (3) Domestic Use (4)	b. Sufficient (1) Neither sufficient nor insufficient (2) Insufficient (3)
1. Tap Water		
2. Rainwater		
3. Groundwater (Well Water)		
4. Reservoir Water		
5. Lake Water		
6. Stream/River Water		
7. Water Pipeline		

E2. What measures and awareness campaigns are being implemented in your neighborhood to protect water resources and ensure their sustainable use? (You may select multiple options.)

1. ( ) Awareness campaigns for water conservation
2.( ) Rainwater harvesting
3.( ) Regular monitoring of water resources
4.( ) No measures are being taken / No information is being provided
5. ( ) Other .....

F. SOLID WASTE AND RECYCLING

F1. Is there a regular garbage collection service in your neighborhood/village?

1. ( ) Yes, once a day 2. ( ) Yes, once a week 3. ( ) No, not regularly

F2. How are agricultural and animal waste managed?

1. ( ) Composting is done 2. ( ) It is recycled 3.( ) Thrown away

G. SOIL MANAGEMENT AND EROSION

J1. How common are problems such as landslides or coastal erosion along riverbanks or seashores in your neighborhood/village?

1.( ) Very common 2.( ) Somewhat common 3.( ) Not common at all

J1.1. What measures have been taken so far to address this problem?

1.( ) Terracing 2.( ) Afforestation 3.( ) No measures have been taken

J2. Are there any agricultural methods applied to preserve or improve soil quality? If so, please explain.

H. CULTURAL HERITAGE

H1. Are there any protected and natural areas (nature parks, forests, caves) in your neighborhood/village? If so, indicate their location and distance.

I. SERVICES

I1. Indicate which of the following services are available in your settlement.

Services	a. Available	b. No	c. If not, the nearest location where the service is available

Hospital			
Health Center			
Elementary School			
Middle school			
High School			

J. PROJECT

J1. Are there any experienced individuals in your village/neighborhood who have previously worked in construction?

1. ( ) Yes 2. ( ) No 3 ( ) Don't know

J2. Are there people in your village/neighborhood with the following qualifications?

1 ( ) General construction worker (laborer, mason, etc.)
2 ( ) Maintenance and repair worker
3 ( ) Road maintenance
4 ( ) Security guard
5 ( ) Occupational safety specialist
6 ( ) Search and rescue worker
7 ( ) Heavy vehicle operator
8 ( ) Driver
9 ( ) Computer-literate office worker
10 ( )Metalworker and welder
11 ( )Other……

J3. Do you have any suggestions for developing income sources in your village/neighborhood?

J4. What types of training should be provided to the public to improve economic activities in the settlement? (Select up to three options.)

Which of the following trainings are needed? (Check the box)	Target Groups		
	Women	Men	Young people
1. Training on increasing agricultural productivity			
2. Irrigation techniques to conserve water resources			
3. Training to encourage the cultivation of new and more productive crops (such as aromatic plant cultivation)			
4. Conscious fertilizer use			
5. Shepherding training			
6. Valley/stream restoration, erosion prevention work			
7. Afforestation and landscaping			
8. Milking techniques			
9. Shearing/clipping wool			
10. Wool spinning and weaving			
11. Basic animal health and nutrition topics			
12. Training on accessing agricultural support and grants			
13. Viticulture/fruit growing training			
14. Greenhouse farming			
15. Vegetable growing			
16. Fishing			
17. Other (specify)			
18. Other (specify).....			

J5. What positive and negative TEMPORARY AND PERMANENT effects do you expect the project to have on your village/neighborhood?

Effects	Positive	Negative	Temporary	Permanent	I don't think it will have an effect
1. Impact on population					
2. Impact on workers employed in construction					
3. Impact on employment/livelihoods					
4. Impact on agricultural activities					
5. Impact on the economic level of the village/neighborhood					
6. Impact on Infrastructure and Roads					
7. Impact on housing and settlement					
8. Impact on cultural heritage assets					
9. Impact on social life					

10. Impact on flood and storm protection					

J6. What are your questions, comments, or additional views regarding the project?
