# REPUBLIC OF TÜRKİYE
# MINISTRY OF AGRICULTURE AND FORESTRY

## DIRECTORATE GENERAL OF FORESTRY

# TÜRKİYE CLIMATE RESILIENT FORESTS PROJECT - P179345 (IDOP)

## ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

APRIL 13, 2023

# TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

## LIST OF ABBREVIATIONS AND ACRONMYS

| | | |
|---|---|---|
| AFAD | : | Disaster and Emergency Management Presidency [Afet ve Acil Durum Yönetim Başkanlığı] |
| AoI | : | Area of Influence |
| BMP | : | Biodiversity Management Plan |
| Borrower | : | Directorate General of Forestry [Orman Genel Müdürlüğü] on behalf of Turkish Government |
| BP | : | Bank Policy |
| BSL | : | Biosafety Level |
| CE | : | Citizen Strategy |
| CHS | : | Community Health and Safety |
| CİMER | : | Presidency's Communication Center [Cumhurbaşkanlığı İletişim Merkezi] |
| CO2 | : | Carbon dioxide |
| CoC | : | Code of Conduct |
| E&S | : | Environmental and Social |
| ECC | : | External Communications Committee |
| ESCP | : | Environmental and Social Commitment Plan |
| EHSGs | : | Environmental, Health and Safety Guidelines of the World Bank Group |
| ESA | : | Environmental and Social Assessment |
| ESF | : | Environmental and Social Framework of the World Bank |
| ESIA | : | Environmental and Social Impact Assessment |
| ESMF | : | Environmental and Social Management Framework |
| ESMP | : | Environmental and Social Management Plan |
| ESSs | : | Environmental and Social Standards of the Environmental and Social Framework of the World Bank |
| GBV | : | Gender Based Violence |
| GD | : | General Directorate |
| GDP | : | Gross Domestic Product |
| GHG | : | Greenhouse Gas |
| GIIP | : | Good International Industry Practice |
| GM | : | Grievance Mechanism |
| GRS | : | Grievance Redress Service |
| IA | : | Implementing Agency |
| IBRD | : | International Bank for Reconstruction and Development |
| IDOP *(also used as Project or Proposed Project)* | : | Türkiye Climate Resilient Forests Project [Türkiye İklime Dayanıklı Ormancılık Projesi] |
| ICS | : | Incident Command System |
| IFC | : | International Finance Cooperation |
| IFM | : | Integrated Fire Management |
| LMP | : | Labor Management Procedures |
| M&E | : | Monitoring and Evaluation |
| NGOs | : | Non-Governmental Organizations |
| OGM | : | Directorate General of Forestry [Orman Genel Müdürlüğü] |

| | | |
|---|---|---|
| OHS | : | Occupational Health and Safety |
| OIPs | : | Other Interested Parties |
| OP | : | Operational Policy |
| PAPs | : | Project Affected Parties |
| PIU | : | Project Implementation Unit |
| PMP | : | Pest Management Plan |
| POM | : | Project Operations Manual |
| PPE | : | Personal Protective Equipment |
| Proposed Project *(also used as IDOP or Project)* | : | Türkiye Climate Resilient Forests Project [Türkiye İklime Dayanıklı Ormancılık Projesi] |
| Proposed Project *(also used as IDOP or Project)* | : | Türkiye Climate Resilient Forests Project [Türkiye İklime Dayanıklı Ormancılık Projesi] |
| PSC | : | Project Steering Committee |
| RMZ | : | Riperian Management Zone |
| S&S | : | Screening and scoping |
| SC | : | Subcomponent |
| SEA/SH | : | Sexual Exploitation and Abuse / Sexual Harassment |
| SEP | : | Stakeholder Engagement Plan |
| TMP | : | Traffic Management Plan |
| ToR | : | Terms of Reference |
| TurkStat | : | Turkish Statistical Institute |
| TWG | : | Technical Working Group |
| WB | : | World Bank |
| WGM | : | Workers' Grievance Mechanism |
| WHO | : | World Health Organization |

## DEFINITION OF KEY TERMS

**Air pollution** refers to the release of air pollutants (often associated with the combustion of fossil fuels), such as nitrogen oxides, sulfur dioxide, carbon monoxide, particulate matter, as well as other contaminants including greenhouse gases.

**Associated Facilities** refer to facilities or activities that are not funded as part of the project and are: (a) directly and significantly related to the project; and (b) carried out, or planned to be carried out, contemporaneously with the project; and (c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist. For facilities or activities to be Associated Facilities, they must meet all three criteria.

**Biodiversity** is the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.

**Borrower** refers to the recipient of Investment Project Financing (IPF) and any other entity involved in the implementation of a project financed by IPF. For this document it will refer to OGM.

**Core functions** of a project constitute those production and/or service processes essential for a specific project activity without which the project cannot continue.

**Critical habitat** is defined as areas with high biodiversity importance or value, including: (a) habitat of significant importance to Critically Endangered or Endangered species, as listed on the International Union for the Conservation of Nature (IUCN) Red List of threatened species or equivalent national approaches; (b) habitat of significant importance to endemic or restricted-range species; (c) habitat supporting globally or nationally significant concentrations of migratory or congregatory species; (d) highly threatened or unique system; and (e) ecological functions or characteristics that are needed to maintaining the viability of the biodiversity values described above in (a) to (d).

**Cultural heritage** is defined as resources with which people identify as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions.

**Direct impact** refers to an impact which is caused by the project and occurs contemporaneously in the location of the project.

**Ecosystem services** are the benefits that people derive from ecosystems. Ecosystem services are organized into four types: (i) provisioning services, which are the products people obtain from ecosystems and which may include food, freshwater, timbers, fibers, medicinal plants; (ii) regulating services, which are the benefits people obtain from the regulation of ecosystem processes and which may include surface water purification, carbon storage and sequestration, climate regulation, protection from natural hazards; (iii) cultural services, which are the nonmaterial benefits people obtain from ecosystems and which may include natural areas that are sacred sites and areas of importance for recreations and aesthetic enjoyment; and (iv) supporting services, which are the natural processes that maintain the other services and which may include soil formation, nutrient cycling and primary production.

**Environmental, Health, and Safety Guidelines (EHSGs)** are technical reference documents with general and industry-specific statements of Good International Industry Practice. The EHSGs contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable cost.

**Emergency event** refers to an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons, including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning.

**Environmental and Social Assessment (ESA)** a generic term that describes the process of analysis and planning used by the Borrower to ensure the environmental and social impacts and risks of a project are identified, avoided, minimized, reduced, or mitigated in accordance with the Environmental and Social Standards (ESSs) of World Bank (WB) and the Environmental, Health and Safety Guidelines (EHSGs) of the World Bank Group (WBG).

**Environmental and Social Assessment Instruments (ESA Instruments)** are the tools and methods used by the Borrower to carry out the ESA and to document the results of such an assessment, including the mitigation measures to be implemented and where applicable national regulatory requirements, The type(s) of ESA instruments that will be utilized in a project depends on the nature and scale of the project as agreed with the World Bank (WB). Some of the ESA instruments that can be used in a Project are: Environmental and Social Impact Assessment (ESIA), Environmental and Social Audit, Hazard or Risk Assessment, Cumulative Impact Assessment, Social and Conflict Analysis, Environmental and Social Management Plan (ESMP), Environmental and Social Management Framework (ESMF), Regional ESIA, Sectoral ESIA, Strategic Environmental and Social Assessment (SESA), Resettlement Plan, Livelihood Restoration Plan, Biodiversity Action Plan, Cultural Heritage Management Plan, etc.

In this document "ESA instruments" refers to ESMF, Labor Management Procedures (LMP), Stakeholder Engagement Plan (SEP), ESMP and ESMP Checklist—and the constructor counterparts of these instruments—without excluding the any other relevant methods and tools that can be utilized within the context of the Project/subprojects.

**Environmental and Social Commitment Plan (ESCP)** refers to a summary document setting out the material measures and actions that are required for the project to achieve compliance with the Environmental and Social Standards over a specified timeframe in a manner satisfactory to the Bank. The ESCP forms part of the Legal Agreement.

**Good International Industry Practice (GIIP)** is defined as the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the project employs the most appropriate technologies in the project-specific circumstances.

**Habitat** is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment. Habitats vary in their sensitivity to impacts and in the various values society attributes to them.

**Historical pollution** is defined as pollution from past activities affecting land and water resources for which no party has assumed or been assigned responsibility to address and carry out the required remediation.

**Indirect impact** is defined as an impact which is caused by the project and is later in time or farther removed in distance than a direct impact, but is still reasonably foreseeable, and will not include induced impacts.

**Intangible cultural heritage** includes practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

**Legal Agreement.** The legal agreement entered into between the Bank and the Borrower to provide Bank financing for the Borrower's investment project.

**Livelihood** refers to the full range of means that individuals, families, and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource-based livelihoods, petty trade, and bartering.

**Migrant workers** are defined as workers who have migrated from one country to another or from one part of the country to another for purposes of employment.

**Mitigation hierarchy** is defined as a systematic and phased approach to addressing the risks and impacts of a project.

**Movable cultural heritage** refers to such objects as: historic or rare books and manuscripts; paintings, drawings, sculptures, statuettes and carvings; modern or historic religious items; historic costumes, jewelry and textiles; fragments of monuments or historic buildings; archaeological material; and natural history collections such as shells, flora, or minerals.

**Natural habitats** are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

**Pollution** refers to both hazardous and non-hazardous chemical pollutants in the solid, liquid, or gaseous phases, and includes other components such as thermal discharge to water, emissions of short- and long-lived climate pollutants, nuisance odors, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts including light.

**Primary suppliers** are those suppliers who, on an ongoing basis, provide directly to the project goods or materials essential for the core functions of the project. Core functions of a project constitute those production and/or service processes essential for a specific project activity without which the project cannot continue.

**Procurement documents** refer to all Procurement Documents issued by the Borrower. It includes: General Procurement Notice, Specific Procurement Notice, Expression of Interest, Request for Expressions of Interest, prequalification document, initial selection document, request for bids document, request for proposal documents, forms of contracts and any addenda.

**Project Worker** refers to: (a) people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project (direct workers); (b) people employed or engaged through third parties to perform work related to core functions of the project, regardless of the location (contracted workers); (c) people employed or engaged by the Borrower's primary suppliers (primary supply workers); and (d) people employed or engaged in providing community labor (community workers). This includes full-time, part-time, temporary, seasonal and migrant workers.

**Tangible cultural heritage** refers to movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings and may be above or below land or under the water.

**Universal access** refers to unimpeded access for people of all ages and abilities in different situations and under various circumstances.

**Wildfire** refers to "any unplanned and uncontrolled wildland fire which may require suppression response, or other action according to agency policy"[1].



[1] FAO, 2010. Wildland Fire Management Terminology

# EXECUTIVE SUMMARY

Türkiye, which is a large, upper middle-income country with a record of strong economic growth, recently struggles with the impacts of climate change such as floods, wildfires, storms, and landslides that occur frequently and result in localized losses[2]. In addition, 2021 brought both the most severe *wildfires* in Türkiye's south and west regions recorded in history as well as catastrophic flooding in the north region. Increased incidence of wildfires and decreased rainfall for hydropower may further contribute to greenhouse gas (GHG) emissions in the future, undermining Türkiye's commitment to reach net zero emissions in 2053[3]. As climate change progresses, these disasters will likely worsen and have a growing economic impact. As such, comprehensive management of climate and disaster risks is essential for Türkiye to continue to grow and to reach high-income status.

Therefore, as stated in the **Project Development Objective (PDO)** of Türkiye Climate Resilient Forests Project (hereinafter will be referred as Proposed Project, Project or IDOP—as abbreviated in Turkish), IDOP is proposed *to strengthen institutional capacity for integrated fire management and to increase the resilience of forests and people to wildfires in targeted areas of Türkiye, and to respond promptly and effectively in the event of an Eligible Crisis or Emergency*. The key results expected by IDOP are:

- Improved institutional capacity for Integrated Fire Management (IFM),
- Forest area with increased wildfire and forest resilience in targeted areas, and
- People provided with increased protection against wildfires.

IDOP is planned to be funded by the World Bank (WB) and implemented by Directorate General of Forestry (OGM) on behalf of Government of Türkiye.

**Purpose of the Environmental and Social Framework**

In August 2016, the WB adopted a set of environment and social policies called the Environmental and Social Framework (ESF) which have been applied to all projects supported by the WB through Investment Project Financing as of October 1, 2018, aiming to ensure that the people and the environment are protected from the potential adverse impacts of the project which in turn will improve the development outcomes of the project and promote sustainable development. Therefore, this Environmental and Social Framework (ESMF) and its complementary documents—Labor Management Procedures (LMP) and Stakeholder Engagement Plan (SEP)—are prepared for IDOP.

This ESMF was prepared in line with the Environmental and Social Standard (ESS) 1 *Assessment and Management of Environmental and Social Risks and Impact* of the ESF and aims to (i) to identify, evaluate, and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs, (ii) to adopt a mitigation hierarchy approach, (iii) to adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project., (iv) to utilize national environmental and social

[2] World Bank, 2022. Türkiye Adaptation and Resilience Assessment: A Whole-of-Economy Approach to Climate and Disaster Risks. Washington, DC.

[3] World Bank Group, 2022. Türkiye Country Climate and Development Report. Washington, DC.

institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of projects, whenever appropriate, and (v) to promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

In relation to the above objectives, the purpose of this ESMF is to (i) set out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts, (ii) contain measures and plans to reduce, mitigate, and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, (iii) provide information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts, and (iv) include adequate information on the area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used.

**Project Components.** The project will be implemented through four components:

- Component 1. Strengthening Institutions and Society for Wildfire and Forest Resilience
    - Subcomponent 1.1. Strengthening the institutional framework for Integrated Fire Management (IFM) through "Review & Analysis".
    - Subcomponent 1.2. Increasing "Readiness" for IFM through technology and capacity building.
- Component 2. Investments in Climate Resilient Forests in Targeted Areas
    - Subcomponent 2.1. Scaling-up wildfire "Risk Reduction".
    - Subcomponent 2.2. Strengthening operational systems for "Response".
    - Subcomponent 2.3. Resilient "Recovery" of landscapes and livelihoods affected by wildfires.
- Component 3. Project Management, Monitoring and Evaluation
- Component 4. Contingent Emergency Response Component (CERC)

**Project location.** The project will be implemented in the Regional Directorates of Forestry in Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin, and Muğla as priority targeted areas.

**Environmental and social standards relevant to the project and national regulatory framework.** All Environmental and Social Standards (ESSs) (including ESS1 "Assessment and Management of Environmental and Social Risks and Impacts", ESS2 "Labor and Working Conditions", ESS3 "Resource Efficiency and Pollution Prevention and Management", ESS4 "Community Health and Safety", ESS6 "Biodiversity Conservation and Sustainable Management of Living Natural Resources", ESS8 "Cultural Heritage; and ESS10 Stakeholder Engagement and Information Disclosure"), but ESS5 "Land Acquisition, Restrictions on Land Use and Involuntary Resettlement", ESS7 "Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities" and ESS9 "Financial Intermediaries" are relevant to the project: any Project activity (if exists, considering together with its associated facilities) that will lead to temporary or permanent economic/physical displacement and/or loss of livelihood at construction or operation phase will not be financed; the country doesn't have any recognized indigenous or traditional underserved local communities and the project is not going to apply financial intermediary bodies. Furthermore, the proposed project doesn't trigger (a) the WB Operational Policy 7.60 on Disputed Territories as it will be not implemented in such areas; as

well as (b) OP 7.50 on International Waterways as the proposed activities will not generate any impacts on water quality or water quantity on such waterways.

**Overall environmental and social risks and impacts.** The environmental risk is assessed as Moderate at this stage. The project is expected to generate positive impacts by increasing disaster and climate risk resilience of Türkiye's forests. However, during the implementation phase, especially under Components 2.1 and 2.3, there will be environmental risks from activities of rehabilitation and/or opening new forest roads, fuel and forest fire management infrastructure, fuel load management approaches (including community-based) such as silvicultural interventions, grazing, prescribed burning, etc., creating buffer zones with forest fire-resistant species between forest areas, settlements and agricultural areas, protecting or creating natural openings in forests, rehabilitation and/or establishment of new nurseries, restoration of areas burned by wildfire and other restoration projects, which will be implemented across the country. The potential adverse environmental risks and impacts include emissions of dust and vehicle exhausts impacting air quality; noise and vibration causing disturbances; generation of waste; OHS-related risks due to unsafe practices; and influence on ecosystems and habitats. Those risks will have limited footprints and can be effectively avoided, minimized, or mitigated subject to the establishment of a proper Environmental and Social (E&S) management system within the project. Eventually, these interventions will have a highly positive environmental effect on the project area. However, their design and implementation will require careful consideration of risks related to the identification of areas to be restored/intervened. The impacts related to the Project are expected to be temporary, reversible and manageable through the application of the national laws as well as the use of the Environmental, Health and Safety Guidelines (EHSGs) of the World Bank Group and Good International Industrial Practices (GIIP). Overall, the proposed types of civil works are well known. These risks and impacts are not expected to produce significant or irreversible adverse effects on human health and/or the environment, - they will be minor to moderate, site-specific and temporary. It is also expected that the project will not result in significant adverse cumulative or transboundary impacts.

Social risk is rated Moderate. Some project activities could pose community health and safety risks. If the livelihood improvement activities under Component 2 are not well targeted there may also be a risk of unequal access to project benefits for vulnerable groups. Labor risk is low as the activities will be carried out by civil servants, and technical consultants who will be hired in accordance with Bank procurement procedures. At this point, the project is unlikely to require land acquisition or access restrictions on private lands as most activities will take place on public lands. This will be confirmed during Preparation.

**Institutional Arrangement for Implementation.** A Project Implementation Unit (PIU) was established under the Department of Forest Management and Planning of OGM, which will be responsible for day-to-day management and implementation of the Proposed Project, including the responsibility for financial management, procurement, disbursements, environmental and social (E&S) risk management, monitoring, evaluation, and reporting of Project activities. Although, the existing PIU has qualified staff responsible for management of core project management functions, to support management of ESHS risks and impacts of the Project, PIU will include one Environmental Specialist with significant Occupational Health and Safety (OHS) experience and one Social Specialist to ensure efficient and effective implementation of the E&S issues of the Proposed Project and The social specialist and the environmental specialist will lead the ESF team together.

**ESMF implementation budget.** An estimated budget including contingencies for the implementation of ESMF is presented in below table.

| Budget Categories | Estimated Cost |
|---|---|
| 1. Establishment of E&S team | |
| *One (1) Senior Environmental Specialist* | *US$ 216,000* |
| *One (1) Senior Social Specialist* | *US$ 216,000* |
| *One (1) OHS Specialist* | *US$ 216,000* |
| **Subtotal** | **US$ 648,000** |
| 2. Specific Technical Support | US$ 100,000 |
| 3. Training and Capacity Building | US$ 250,000 |
| 4. Information dissemination | US$ 100,000 |
| 5. Grievance mechanism | US$ 300,000 |
| 6. Visibility Materials and Outreach Package | US$1,500,000 |
| **Total ESMF Implementation Budget** | **US$ 2,898,000** |

# INTRODUCTION

Türkiye, which is a large, upper middle-income country with a record of strong economic growth, recently struggles with the impacts of climate change which are felt via higher food prices and reduced agricultural productivity[4]. In addition, other impacts of climate change such as floods, wildfires, storms, and landslides occur frequently and result in localized losses[5]. Climate models predict worsening of already observed trends, including increasing anomalies in precipitation patterns with increased incidence of extreme rain and flooding on the one hand as well as protracted drought, extreme heat, and wildfires on the other[6]. In addition, 2021 brought both the most severe *wildfires* in Türkiye's south and west regions recorded in history as well as catastrophic flooding in the north region. Increased incidence of wildfires and decreased rainfall for hydropower may further contribute to greenhouse gas (GHG) emissions in the future, undermining Türkiye's commitment to reach net zero emissions in 2053[7]. As climate change progresses, these disasters will likely worsen and have a growing economic impact. As such, comprehensive management of climate and disaster risks is essential for Türkiye to continue to grow and to reach high-income status.

Therefore, as stated in the **Project Development Objective (PDO)** of Türkiye Climate Resilient Forests Project (hereinafter will be referred as Proposed Project or IDOP—as abbreviated in Turkish), IDOP is proposed *to strengthen institutional capacity for integrated fire management and to increase the resilience of forests and people to wildfires in targeted areas of Türkiye, and to respond promptly and effectively in the event of an Eligible Crisis or Emergency*. The key results expected by IDOP are:

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IDOP is planned to be funded by the World Bank (WB) and implemented by Directorate General of Forestry (OGM) on behalf of Government of Türkiye.

**Purpose of the Environmental and Social Management Framework**

In August 2016, the WB adopted a set of environment and social policies called the Environmental and Social Framework (ESF) which have been applied to all projects supported by the WB through Investment Project Financing as of October 1, 2018, aiming to ensure that the people and the environment are protected from the potential adverse impacts of the project which in turn will improve the development outcomes of the project and promote sustainable development. ESF comprises a "vision for sustainable development", "the WB environmental and social policy for investment project financing", and "the Environmental and Social Standards (ESSs)" which set out the mandatory requirements that the Borrowing governments will address

[4] Dellal I. and Unuvar I., 2019. Effect of Climate Change on Food Supply of Turkey. J. Environ. Prot. Ecol. 20. 292-700.

[5] World Bank, 2022. Türkiye Adaptation and Resilience Assessment: A Whole-of-Economy Approach to Climate and Disaster Risks. Washington, DC.

[6] Republic of Türkiye. Ministry of Environment and Urbanization, 2018. Seventh National Communication to the UNFCCC.

[7] World Bank Group, 2022. Türkiye Country Climate and Development Report. Washington, DC.

in order to receive WB support for their investment projects[8]. Therefore, in line with the requirements of ESSs this Environmental and Social Framework (ESMF) and its complementary documents—Labor Management Procedures (LMP) and Stakeholder Engagement Plan (SEP)—are prepared for IDOP. All these documents will be integrated into the Project Operation Manual (POM) and will serve as a basis for the implementation of IDOP.

This ESMF was prepared in line with the Environmental and Social Standard (ESS) 1 *Assessment and Management of Environmental and Social Risks and Impact* of the ESF which sets out the Borrower's responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with each stage of a project supported by the WB through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs) and has the following objectives:

- To identify, evaluate, and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs.
- To adopt a mitigation hierarchy approach to:
    a) Anticipate and avoid risks and impacts,
    b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels,
    c) Once risks and impacts have been minimized or reduced, mitigate, and
    d) Where significant residual impacts remain, compensate for, or offset them, where technically and financially feasible.
- To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project.
- To utilize national environmental and social institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of projects, whenever appropriate.
- To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

According to ESS1, the environmental and social assessment of the environmental and social risks and impacts of the project throughout the project life cycle can be carried out by a combination (or elements) of methods and tools, including environmental and social impact assessment (ESIA), environmental audit, hazard or risk assessment, social and conflict analysis, environmental and social management plan (ESMP), environmental and social management framework (ESMF), regional or sectoral EIA, and strategic environmental and social assessment (SESA).

In agreement with the WB, since IDOP consists of a series of subprojects, and the risks and impacts of these subprojects cannot be determined until their details including the exact locations have been identified, ESMF is chosen as the appropriate method to assess the environmental and social risks and impacts of IDOP. In line with the above objectives, this ESMF will,

[8] https://www.worldbank.org/en/projects-operations/environmental-and-social-policies

- set out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts,
- contain measures and plans to reduce, mitigate, and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures,
- provide information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts, and
- include adequate information on the area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used.

# 1. OVERVIEW OF IDOP

Türkiye can benefit from strengthening its preparedness against the increasing risk of wildfires under climate change through a comprehensive wildfire management approach for shaping climate resilient forest landscapes.[9] Wildfire risk in Türkiye is driven by similar pressures as elsewhere including land use changes, demographic change, fuel build-up and is influenced by climate change. These underlying drivers need to be addressed as firefighting alone cannot solve the problem of extreme wildfires, as confirmed in 2021 in Türkiye. To understand and address the complex and multiple issues that combine to create extreme wildfire hazards, a systematic approach is needed that can be readily applied with ongoing use for continuous improvement. "Integrated Fire Management" (IFM) has evolved as countries work to cope with wildfires and is a holistic approach to addressing forest fire issues that considers biological, environmental, cultural, social, and economic interactions.[10] IFM considers five elements (the **5Rs**) that are aligned with the Sendai Framework for Disaster Risk Reduction 2015-2030[11], used in dealing with disasters and their management: (i) "**Review and Analysis**" of wildfire issues and identification of options for positive change; (ii) "**Risk Reduction**" to prevent wildfires by focusing resources on the underlying causes; (iii) "**Readiness**" to be prepared for fighting wildfires; (iv) "**Response**" to ensure appropriate responses for unwanted or damaging wildfires; and (v) "**Recovery**" to restore community welfare, infrastructure and fire-damaged landscapes. IFM and the 5Rs provide a flexible framework that can enable the constraints that affect forest fire management in Türkiye to be addressed systematically. This Project therefore is expected to deliver a model for IFM in targeted areas of Türkiye—Regional Directorates of Forestry of Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin, and Muğla[12]—based on international best practices that can be replicated in other areas of the Türkiye. It has four components as described in the following paragraphs.

**Component 1: Strengthening institutions and society for wildfire and forest resilience.** The objective of this component is to apply "Review and Analysis" and "Readiness" to make society, institutions, and forests better prepared for likely more frequent and severe wildfires that are exacerbated by climate change through review of policy and regulations, institutional strengthening and coordination, training and capacity building, and research and technology development. It has two subcomponents.

> **Subcomponent 1.1. Strengthening the institutional framework for IFM through "Review and Analysis".** This subcomponent aims to strengthen the institutional framework and knowledge base for IFM and establish strategies for appropriate responses to large wildfires at both national and local level. Activities under this subcomponent will include the following:

[9] Wunder, S. et al. 2021. Resilient landscapes to prevent catastrophic forest fires: Socioeconomic insights towards a new paradigm. Forest Policy and Economics 128 (2021).

[10] FAO, 2019. FAO Strategy on Forest Fire Management. Rome.

[11] https://www.undrr.org/implementing-sendai-framework/what-sendai-framework

[12] These Regional Directorates of Forestry covers provinces of Adana, Antalya, Aydın, Balıkesir, Çanakkale, Edirne, Gaziantep, Hatay, İzmir, Kahramanmaraş, Kilis, Manisa, Mersin, Muğla and Osmaniye.

(i) reviewing institutional frameworks (policies, legislation, and regulations) on wildfires and related sectors, and submitting relevant revision to the competent authorities,
(ii) preparation of an IFM National Strategy for Türkiye and updating OGM's National Forestry Program to include forest and wildfire resilience considerations,
(iii) updating of local IFM Management Plans for priority Forest Operational Directorates (FODs) in targeted areas,
(iv) reviewing and strengthening the Incident Command System (ICS) approach for Türkiye based on international best practices,
(v) strengthening the capacity for fire investigation and cause attribution,
(vi) carrying out studies to increase knowledge on different aspects of forest and wildfire resilience including climate change risks and impacts on forest carbon stocks, incorporating biodiversity and ecosystem services in forest management planning and developing a climate change adaptation strategy for forests, among others.

**Subcomponent 1.2. Increasing "Readiness" for IFM through technology and capacity building.** This subcomponent aims to strengthen the "Readiness" for addressing extreme wildfires through improved technologies, awareness of and capacity for key elements of IFM within OGM and other stakeholders in Türkiye. Activities under this subcomponent will include the following:

(i) development of a digital decision support system based on the state of the art technologies, including to enhance the forest fire danger rating and forest fire detection systems for improved wildfire prediction and resource allocation for effective response,
(ii) design and delivery of training programs on IFM and ICS, for OGM and other concerned agencies, local authorities, forest villagers and other stakeholders as appropriate,
(iii) strengthen OGM's search and rescue teams and voluntary brigade system to become adequately skilled and equipped based on international best practices and relevant successful experiences,
(iv) prepare and roll out a national public awareness and communication campaign on wildfires and climate change taking into account the role of the public in the activities during and after forest fires, including carrying out educational activities for the younger population through forestry educational schools.

**Component 2: Investments in climate resilient forests in targeted areas.** This component will support investments in climate resilient forests aimed at reducing risk, enhancing response capacity, and restoring landscapes affected by wildfires in targeted areas using a balanced approach between prevention and suppression. These investments will also improve forest and community resilience to future wildfires under the increasing risks of climate change. The targeted areas of the project will be the areas of highest priority in Türkiye based on OGM's wildfire risk assessment process.[13] Investment packages for each of the "5Rs" will be customized

[13] OGM's Department of Combating Forest Fires uses a wildfire risk assessment process that considers and combines data sets on topography, vegetation and fuels, rainfall and forest fire danger rating from the DG of Meteorology (DMI).

to targeted areas according to their needs and implemented through IFM plans to be developed under the Project, allowing for future scalability and replicability. OGM's Headquarters based in Ankara will have overall management supervision of this Component, though implementation will be carried out by the Regional Directorates located in each of the targeted areas. OGM has initially identified the Regional Directorates of Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin and Muğla as priority targeted areas. All of these Regional Directorates have forests located along the coastlines of the Mediterranean, Aegean, and Marmara regions and are identified as "very high risk" in the Forest Fire Risk Map of Türkiye. It has three subcomponents.

**Subcomponent 2.1. Scaling-up wildfire "Risk Reduction".** This subcomponent will support investments aimed at reducing wildfire risk in targeted areas through managing the fuel load that feeds wildfires and developing options for reducing the spread of forest fire ignitions. Activities under this subcomponent will include the following:

(i) supporting the maintenance of the forest road network to ensure accessibility during the fire season,
(ii) silvicultural interventions to increase wildfire and forest resilience in existing forests, such as: firebreaks and boundary lines in selected areas to address the edges of roads and transition points of electrical communication lines; fuel load management interventions (e.g., thinning, grazing); creating buffer zones with forest fire resistant species between forest areas, settlements and agricultural areas; protecting or creating natural openings in forests,
(iii) training and awareness raising for local communities and stakeholders for risk reduction activities such as burning of agricultural residues by farmers, campfire management in recreation areas, etc., including a dedicated training program for women on Occupational Health and Safety issues in wildfire management.

**Subcomponent 2.2. Strengthening operational systems for "Response".** This subcomponent will support selected investments (building on existing capacities) aimed at strengthening the ability to respond to, suppress and contain large wildfires before spreading out of control. Activities under this subcomponent will include the following:

(i) reducing the detection time for forest fires by modernizing surveillance and detection approaches through unmanned watchtowers,
(ii) reducing first response time by enhancing communications and dispatching systems through the replacement of old equipment and the establishment of a Digital Radio Communication System,
(iii) upgrading and increasing the location of vehicles and machinery to strengthen forest fire suppression capacity.

**Subcomponent 2.3. Resilient "Recovery" of landscapes and livelihoods affected by wildfires.** This subcomponent will support investments aimed at the recovery and restoration of landscapes and livelihoods affected by wildfires. Landscape restoration activities will be implemented in fire-affected areas contributing to enhanced carbon sequestration. Forest villages and other communities will be provided economic opportunities through training, forest-based livelihoods and employment that contribute to sustainable local development. Special attention will be paid to the lessons learned from the ongoing Türkiye Resilient Landscape Integration Project (TULIP) including for

dedicated support for women-owned businesses or associations. Activities under this subcomponent will include the following:

(i) establishment of a dedicated laboratory to carry out research and development and act as a gene bank for the identification and production of climate and fire-resilient tree species,
(ii) restoration of areas burned by wildfire using appropriate techniques to increase resilience climate change and other stressors (e.g., pests), as well as to increase biodiversity and ecosystem services post-fire (e.g., flood protection, soil erosion, etc.),
(iii) supporting livelihood and employment opportunities for forest villages through a menu of investments to incentivize sustainable management of natural resources in line with IFM plans.
Grants and matching grants will be given for the following subprojects: housing improvement (roof cover, sheathing, electrical interior installation, floor heating); technical beekeeping (30 hives per household); forestry mechanization (tractor, chainsaw and protective suit, logging winch, stacker loader, logging machine); solar photovoltaic systems; animal production; plant production; silkworm breeding; micro-credit for women; supporting cooperatives for evaluation of regional products, providing inputs needed in production and improving marketing opportunities (packing facility, cold storage, milk collection center).

**Component 3: Project management, monitoring and evaluation.** This component will support incremental operating costs and other eligible expenses to ensure effective and efficient project implementation. Activities under this component will include:

(i) project management support for OGM's Project Implementation Unit (PIU), including strengthening technical, fiduciary, environment and social capacities,
(ii) support for compliance with environmental and social risk management, including grievance redress, gender aspects, and citizen engagement,
(iii) maintenance of a project communication and visibility plan,
(iv) monitoring and evaluation,
(v) operational expenses related to the project.

**Component 4: Contingent Emergency Response Component (CERC)** This component is included in accordance with OP/BP 10.00 (Investment Project Financing), paragraphs 12 and 13, for contingent emergency response through the provision of immediate response to an Eligible Crisis or Emergency, as needed. It will allow the Government of Türkiye to respond promptly and effectively to an eligible emergency or crisis, that is a natural or human-made disaster or crisis that has caused or is likely to imminently cause a major adverse economic and/or social impact by requesting a rapid reallocation of project funds. The Project Operations Manual will specify the procedures for activating the CERC.

## 1.1. ORGANIZATIONAL RESPONSIBILITIES AND STRUCTURE OF OGM

The implementing agency of the proposed Project will be the Directorate General of Forestry (OGM) which is an affiliated institution [14] of Ministry of Agriculture and Forestry. It was established in 1839 and has adopted a mission which is "to protect forest and forest resources, to develop forest and forest resources with a close understanding of nature, to manage forest and forest resources in a way that will provide sustainable and multifaceted benefits to the society within the ecosystem integrity".

According to the Article 334 of the Presidential Decree No. 4 on the Organization of the Affiliated, Relevant, Related Institutions and Organizations of Ministries and Other Institutions and Organizations[15], the duties of the OGM are:

a) *To manage forest resources in ecosystem integrity, together with plant and animal existence taking into account their ecological, economic and socio-cultural benefits, to plan them in a participatory and multi-purpose manner, to protect them against unlawful interventions, natural disasters, fires; to combat various pests of forest resources or to have them combatted; to carry out and develop forestry quarantine services; to increase forest areas and services related to forests; to develop and rehabilitate forests; to provide silvicultural maintenance and rejuvenation.*
b) *To carry out the works and transactions related to the ownership of forests, cadastre, permission and easement works.*
c) *To operate forests according to technical, socio-cultural, ecological and economic necessities by ensuring the continuity of forest products and services, to carry out the work and operations of production, transportation, and storage of forest products or to have them carried out, to market these products in the country and abroad.*
d) *To ensure the reservation, protection and operation of the recreation areas, urban forests, forest parks, research forests, arboretum fields, in-forest biodiversity protection areas, model forest and conservation forest areas.*
e) *To carry out afforestation, erosion control, forest-related pasture improvement, combating desertification, flood and avalanche control studies, and to make and implement integrated watershed projects in all kinds of land within or outside the forest borders.*
f) *To produce seeds and saplings of plant species belonging to forest trees, shrubs and flora or to have them produced, to carry out vaccination activities, to establish, operate permanent or temporary nurseries and to close them when necessary.*
g) *To support real and legal persons to carry out private afforestation, reconstruction-revival, erosion control works and to establish, operate and market nurseries.*
h) *In order to ensure maximum benefit from the products and services offered by forest ecosystems; establish and operate revolving fund enterprises and other necessary units, and close them when necessary; buy or rent all kinds of materials, plots, land, buildings, facilities, installations, and barter when necessary; carry out their maintenance and repairs*

[14] Affiliated institutions are the institutions with separate or annexed budgets or special budgets within the general budget, established by a special law under the ministry in order to carry out the main services and duties of the ministry. Law no. 3046 (abolished)

[15] Entered into force with the Official Gazette No. 30479 published on 15/7/2018. Date of access: 28 January 2023.

*or to have them carried out; provide the machines and service vehicles required by the services make their maintenance and revisions or have them made; carry out all kinds of infrastructure works in forests; make survey projects of the roads necessary for forestry activities, carry out their maintenance and repair works or have them carried out.*

*i) To carry out all kinds of pre-service and in-service training required by the service or to have them carried out, to establish and operate institutes, directorates, research units, training centers and social facilities that will operate at local, national and global levels regarding the services falling within the scope of the General Directorate.*

*j) To carry out all kinds of research and development, inventory, printing, publishing and promotion works and projects related to its services or to have them carried out and to market their results in the country and abroad.*

*k) To carry out studies to expand the use of forest products and services, to work in close cooperation with the private sector, non-governmental organizations and universities that produce, process, market, import and export all kinds of forest products, to provide consultancy in the country and abroad, to implement projects, to carry out all kinds of activities to raise public awareness about forests and forestry.*

*l) In order to spread forestry activities to large masses and to raise public awareness about the prevention of forest fires; provide transfer assistance to forest youth and sports clubs, not exceeding two thousandths of the revolving fund budget at the beginning of the year it belongs to.*

*m) In order to ensure forest integrity; expropriate immovables owned by real and legal persons, and take over or when necessary exchange the immovables owned by public institutions and organizations for the transfer of immovables to the forest regime; support the villagers living in and adjacent to the state forests with in-kind and cash aid resources, improve forest-public relations and take all kinds of measures in this regard.*

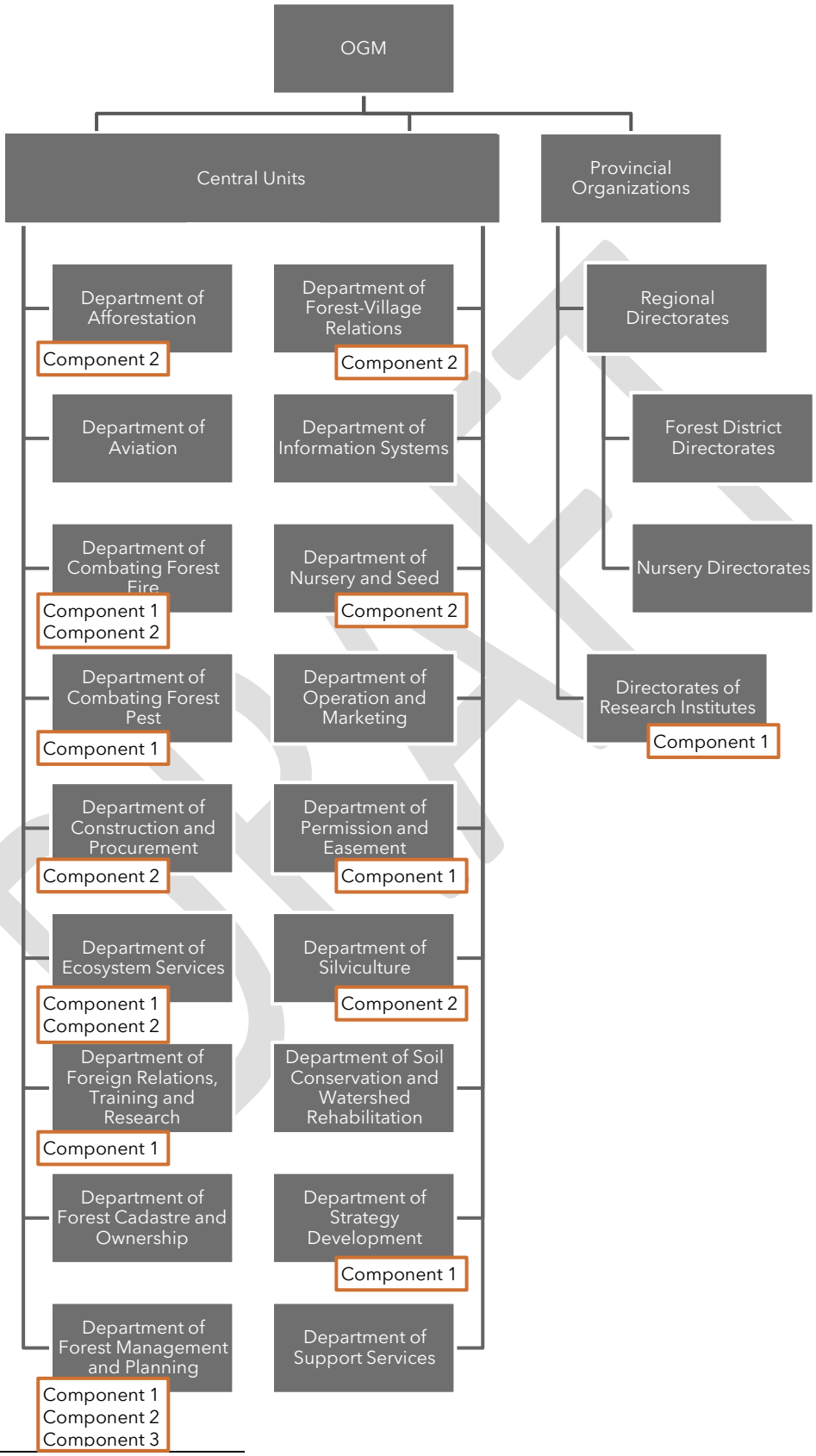
*n) To determine the technical and administrative principles, to establish laboratories related to the study subjects or to have them established, to make job descriptions and unit time analyzes or to have them made and to determine the unit prices in the fields of duty.*

*o) To determine the principles to be followed by other public institutions and organizations regarding the duties, services and activities of the General Directorate, and to ensure coordination.*

OGM has 24 central units, 30 regional directorates, 246 forest district directorates, 28 nursery directorates and 12 research institutes[16] as shown in the organogram (Figure 1).

[16] https://www.ogm.gov.tr/tr

Figure 1. Organogram of OGM[17] and the implementing units of the components




[17] Administrative units are not included in the organogram. The administrative units under the Central Unit are Department of Personnel, Directorate of Internal Auditing Unit, Directorate of Press and Public Relations, Inspection Board, Office of Legal Counsellor and Office of the Private Secretary.

## 1.2. GENERAL IMPLEMENTATION STRUCTURE OF IDOP

The Borrower of the World Bank Group International Bank for Reconstruction and Development (IBRD) Loan will be the Republic of Türkiye, represented through the Ministry of Treasury and Finance. OGM will be the sole Implementing Agency (IA) of the Proposed Project.

The Department of Forest Management and Planning has been designated as the Project Implementation Unit (PIU), with the Head of Department acting as the Project Coordinator. The OGM PIU will be responsible for day-to-day management and implementation of the Project, including the responsibility for financial management, procurement, disbursements, environmental and social risk management, monitoring, evaluation, and reporting of Project activities. The existing PIU has qualified staff responsible for management of core project management functions, and additional individual consultants will be hired by OGM to support specific core functions as needed, including fiduciary and environmental and social (E&S) to ensure efficient and effective project implementation (see Section 6 for the details of the E&S team of the Project). Within OGM, project implementation progress will be supervised by the Deputy Director who will act as Project Director.

Twelve departments of and one directorate of Research Institute of OGM are expected to be mainly involved in the implementation of project activities (See Figure 1). OGM has formed a Technical Working Group (TWG) to ensure coordination among all participating Departments and Research Institute in the design and implementation of project activities, and subgroups are formed for each of the subprojects when relevant. The TWG is coordinated by the PIU Coordinator who the TWG reports to. The TWG will work closely with the project Monitoring & Evaluation (M&E) specialist to establish the overall M&E strategy of the project and for coordinating its monitoring, including measurement approaches and strategies for data capture, reporting and evaluation.

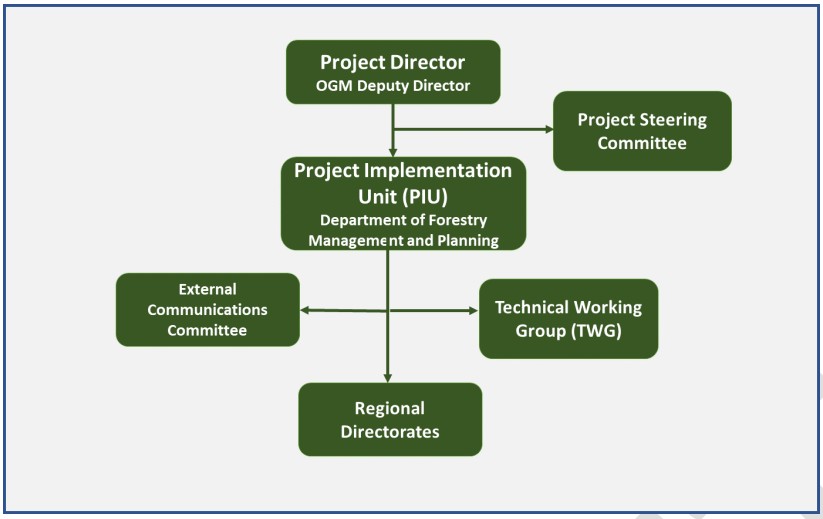
The project will be implemented in the nine OGM Regional Directorates of Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin, and Muğla, which have the highest vulnerability to wildfires in the country and will benefit from increased protection against wildfires. OGM Regional Directorates will be directly involved in execution of project activities but will not have any fiduciary responsibilities and will be guided by the PIU E&S experts for compliance with the ESMF and Environmental and Social Commitment Plan (ESCP).

A Project Steering Committee (PSC) has also been established within OGM composed of higher-level officials that will monitor project performance and provide guidance and support for problem resolution as needed. The detailed functions of the PSC will be specified in the POM.

The External Communications Committee (ECC) will be responsible for the external communication and visibility strategy of the project as well as for the operation of the project Grievance Mechanism. It will be composed of both OGM staff and external consultants. The ECC will be developing and managing the website and social media accounts for the promotion of the project, preparing news and feature stories on the project website to increase its visibility, organizing opening and closing meetings, promotional programs in social media organizations, preparing brochures, booklets and videos for the promotion of the project.

The proposed implementation arrangement is given in Figure 2.

Figure 2. Implementation Arrangements




*Note: Please see Section 6 for the details of the E&S team of the Project.*

OGM will implement the project based on a Project Operations Manual (POM) satisfactory to the World Bank. The POM will include: (i) detailed description of all project activities and prospective timetable and targets; (ii) detailed implementation arrangements and responsibilities (i.e., composition of and roles and responsibilities of PSC, PIU, TWGs, Departments etc.); (iii) detailed policies and procedures guiding the selection, implementation, and management of subprojects; (iv) guidelines and arrangements for environmental and social requirements; (v) arrangements and procedures for disbursements and financial management; (vi) applicable procurement rules and plans; (vii) Anti-Corruption guidelines; (viii) coordination mechanisms among relevant parties; and (ix) requirements and procedures for Project monitoring, evaluation, reporting, and communication. The implementation arrangements outlined in the POM will adopt an adaptative management approach to allow for flexibility and changes should the needs arise during implementation.

The PIU and ORKOY Department of OGM will develop a Grant Manual, satisfactory to the World Bank, detailing the implementation arrangements for activities aimed at supporting livelihood and employment opportunities for forest villages through grants and/or matching grants. The preparation of the Grants Manual will be a disbursement condition and will detail: (i) guidelines and criteria for the selection of beneficiaries; (ii) guidelines and criteria for the selection of supported investments to ensure alignment with the PDO; (iii) implementation mechanisms, including cost sharing requirements for the different types of activities, grant application templates and instructions, grant agreement template, grant provision mechanisms, monitoring, evaluation, and reporting; (iv) mechanisms for the execution of payments, accounting, documentation, internal controls and other financial management arrangements; (v) E&S requirements, as per the project Environmental and Social Assessment (ESA) instruments and applicable Environmental and Social Standards (ESSs); and (vi) procurement implementation arrangements.

# 2. BASELINE INFORMATION

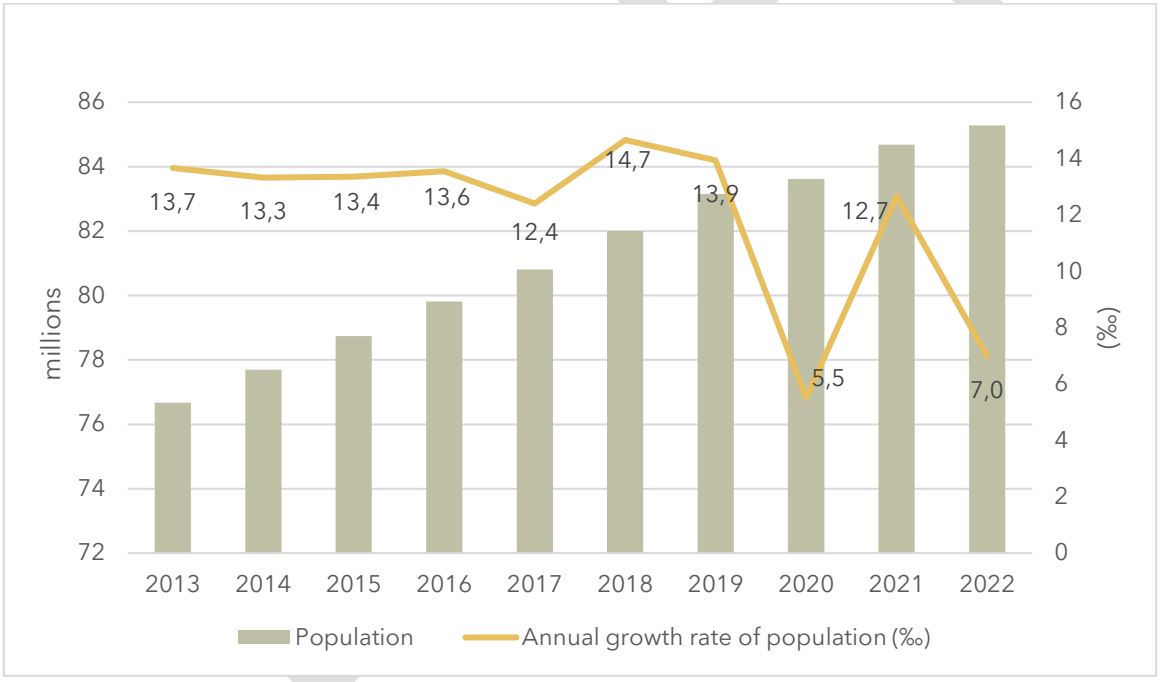
In this section, the general information about Türkiye regarding the population, economy, climate change, water, land cover and biodiversity, and the available component-based information will be presented.

## 2.1. GENERAL INFORMATION ABOUT TÜRKIYE

**Population**

Türkiye is the 18th most populous country in the world in 2021 with a population of 84,680,273[18]. Its population and annual growth rate of population between 2013 and 2022 is given in Figure 3. Although the population of Türkiye has increased continuously, the annual growth rate of population has begun to decrease after 2018, having two remarkable figures in 2020 (5.5‰) and in 2022 (7.0‰). While the decrease in 2020 might be associated with the COVID-19 pandemic, economic and social factors might be the leading factors for the decrease in 2022.

Figure 3. Total population and annual growth rate of population between 2013 and 2022.

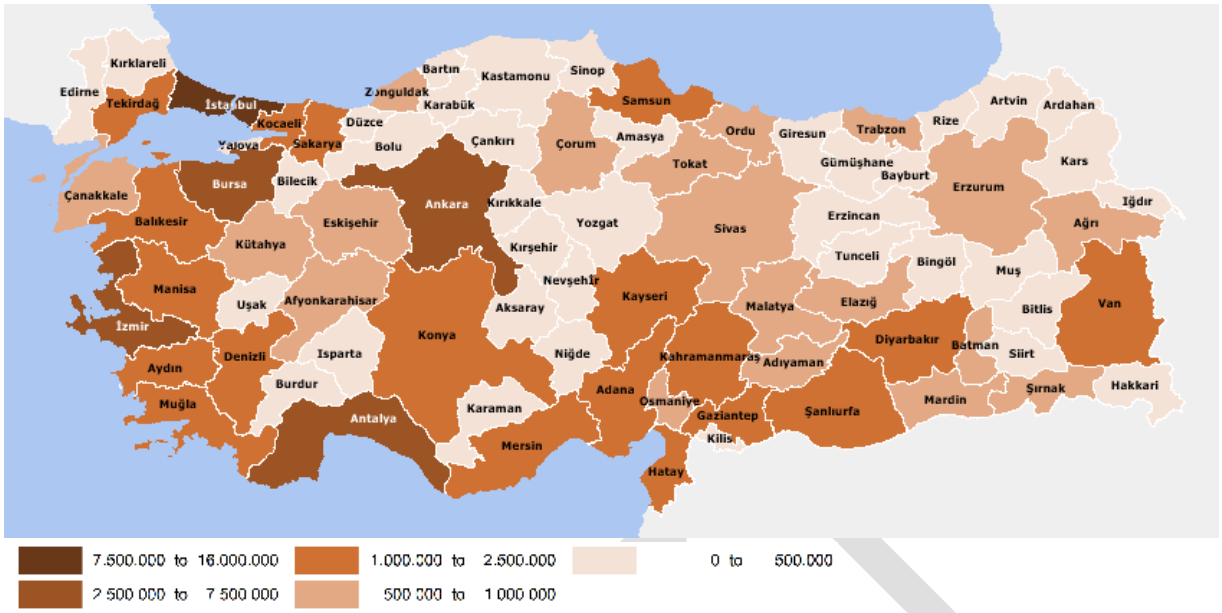



*Source: Turkish Statistical Institute (TurkStat), Address Based Population Registration System, 2022*

Türkiye has 81 provinces (first administrative level) and the distribution of the population by provinces is presented in Figure 4. The most populous province–hosting 18.7 percent of Türkiye's population–is İstanbul, followed by Ankara (6.8 percent) and İzmir (5.2 percent) and the less populous three provinces are Ardahan (0.1 percent), Tunceli (0.1 percent) and Bayburt (0.1 percent).

[18] While the order is calculated according to the data presented in https://data.worldbank.org/indicator/SP.POP.TOTL, the population figure is obtained from TurkStat, Address Based Population Registration System, 2021.

Figure 4. Distribution of population by provinces, 2022.

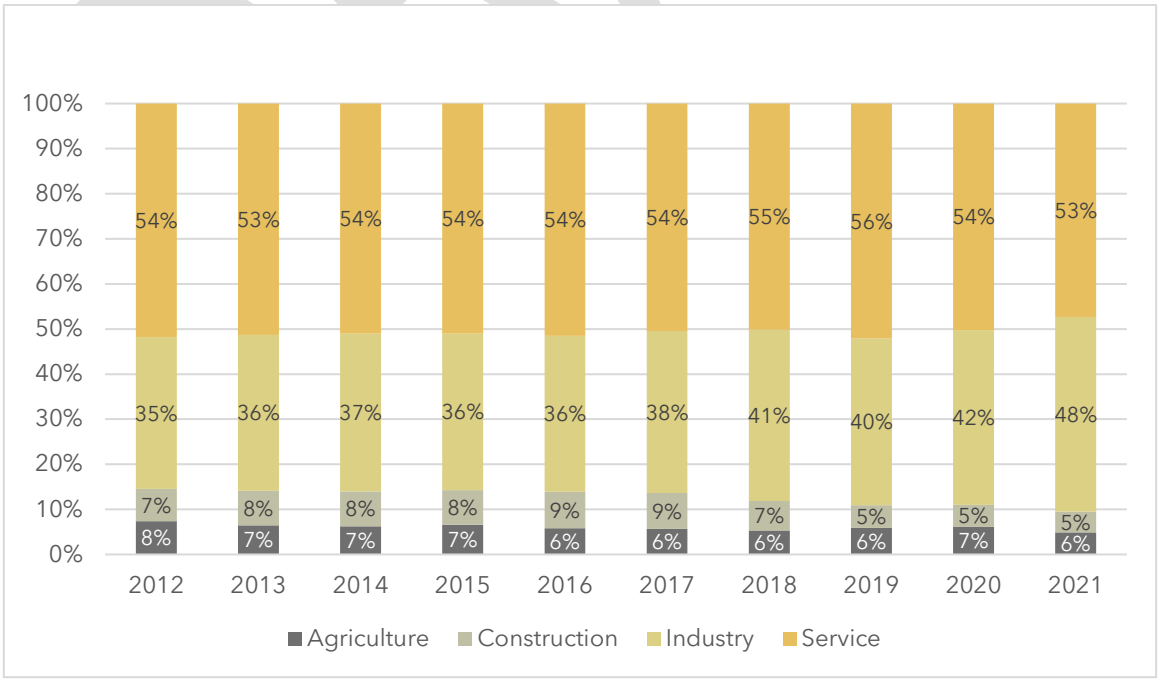



*Source: TurkStat, Address Based Population Registration System, 2022*

### Gross Domestic Product (GDP)

Although there are minor changes between the years, the service sector, which has the largest share in 2021 with 53 percent, is followed by the industry sector with 48 percent, the agriculture sector with 6 percent and the construction sector with 5 percent, respectively (Figure 5). While the contribution of the agricultural sector to employment is 18 percent, its contribution to GDP is 7 percent.

Figure 5. Sectoral Distribution of GDP, 2012-2021.



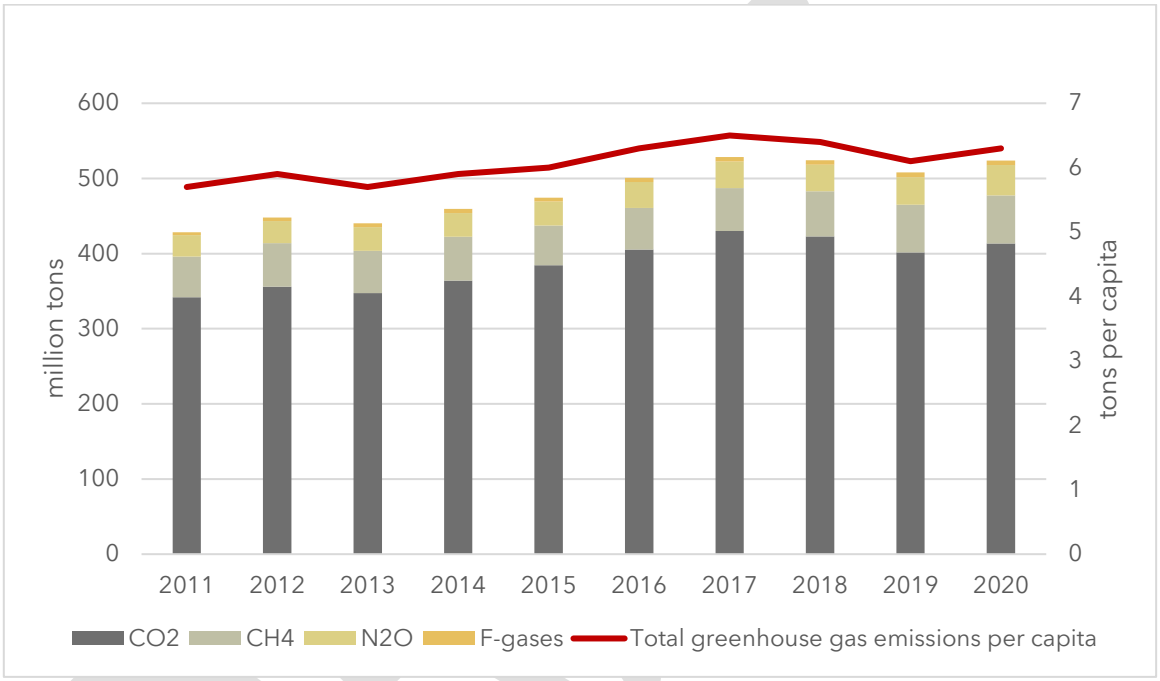

*Source: TurkStat, GDP Statistics, 2012-2021*

## Climate Change

*Greenhouse Gas (GHG) emissions*

The change in the GHG emissions of Türkiye, which is the most important cause of climate change, between 2011 and 2020 is shown in Figure 6. With small fluctuations over time, the total GHG emissions equivalent to CO2 increased from 428.5 million tons in 2011 to 523.9 in 2020, and the GHG emission per capita, increased from 5.7 tons in 2011 to 6.3 in 2020[19].

Figure 6. Total and per capita GHG emissions (CO2 equivalent), between 2011 and 2020.




*Note: The emissions and removals from forestry and other land use are not included.*

*Source: TurkStat, GHG Emission Statistics, 2011-2020*

While energy sector has the largest share in greenhouse gas emissions with 70 percent in 2020, it is followed by agricultural sector, industrial processes and product use sector, and waste sector with 14 percent, 13 percent, and 3 percent respectively.[20]

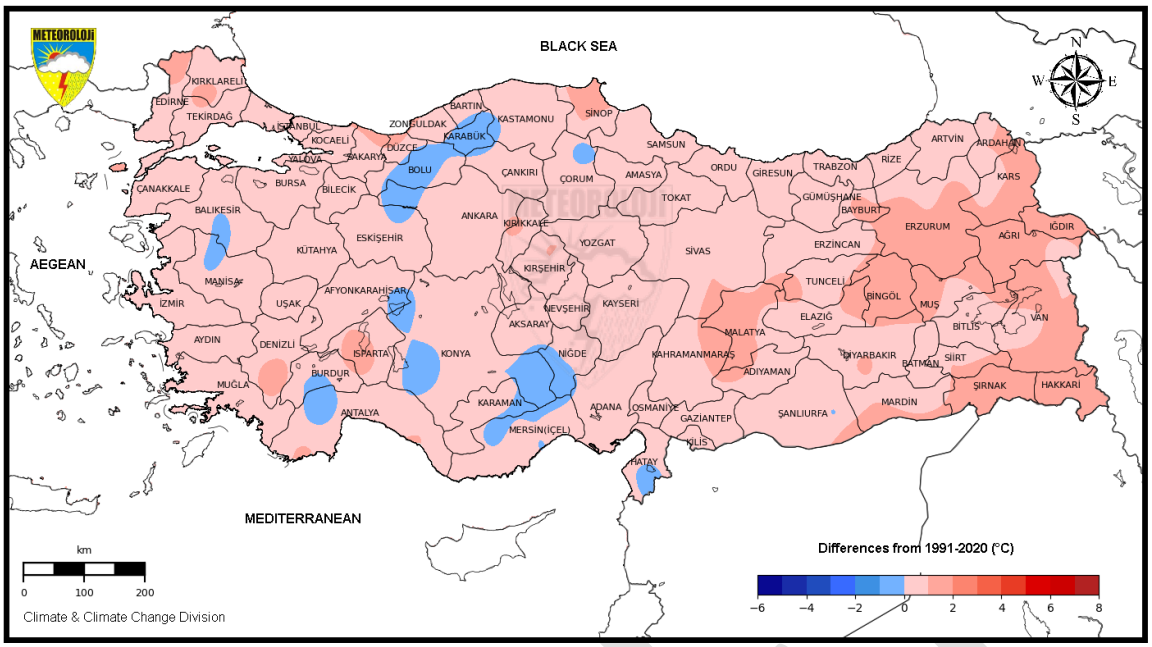
*Temperature*

In 2022, Türkiye's average temperature was 14.5°C and 0.6°C above the 1991-2020 average which was 13.9°C. Especially since 2007—except for 2011—positive anomalies have been observed in annual average temperatures with 2010 being the warmest year with 15.5°C between 1971 and 2022, and 2022 was the seventh hottest year with 14.5°C. The difference between the temperatures of 2022 and the average of 1991-2020 across Türkiye is shown in Figure 7.

[19] TurkStat, Greenhouse Gas Emission Statistics, 2011-2020

[20] TurkStat, Greenhouse Gas Emission Statistics, 2011-2020

Figure 7. The difference of Türkiye's average temperature in 2022 from the 1991-2020 average.

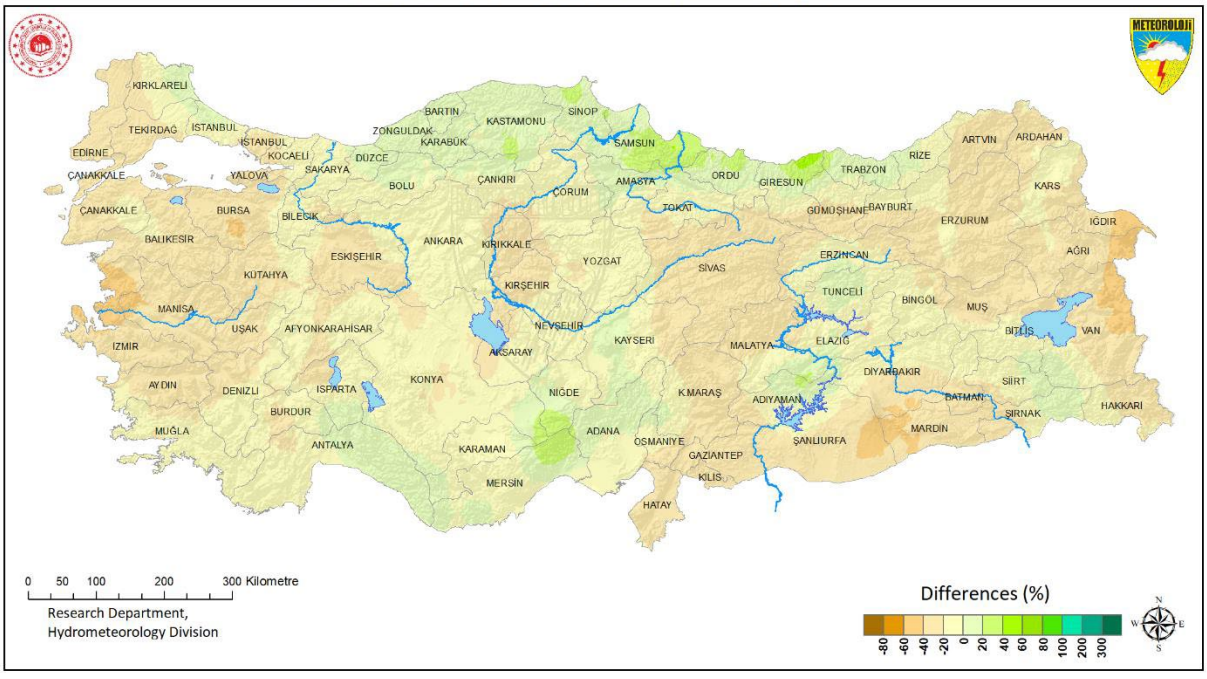



*Source: The State of the Türkiye's Climate in 2022, Turkish State Meteorological Service. 2023. (pg. 4)*

*Precipitation*

Turkey's average areal precipitation was recorded as 503.8 mm in 2022, which is 12% less than the normal for the 1991-2020 period (573.4 mm). The difference between the annual precipitation in 2022 and the average of 1991-2020 across Türkiye is shown in Figure 8.

Figure 8: Mean areal precipitation anomaly in Türkiye, 2022.

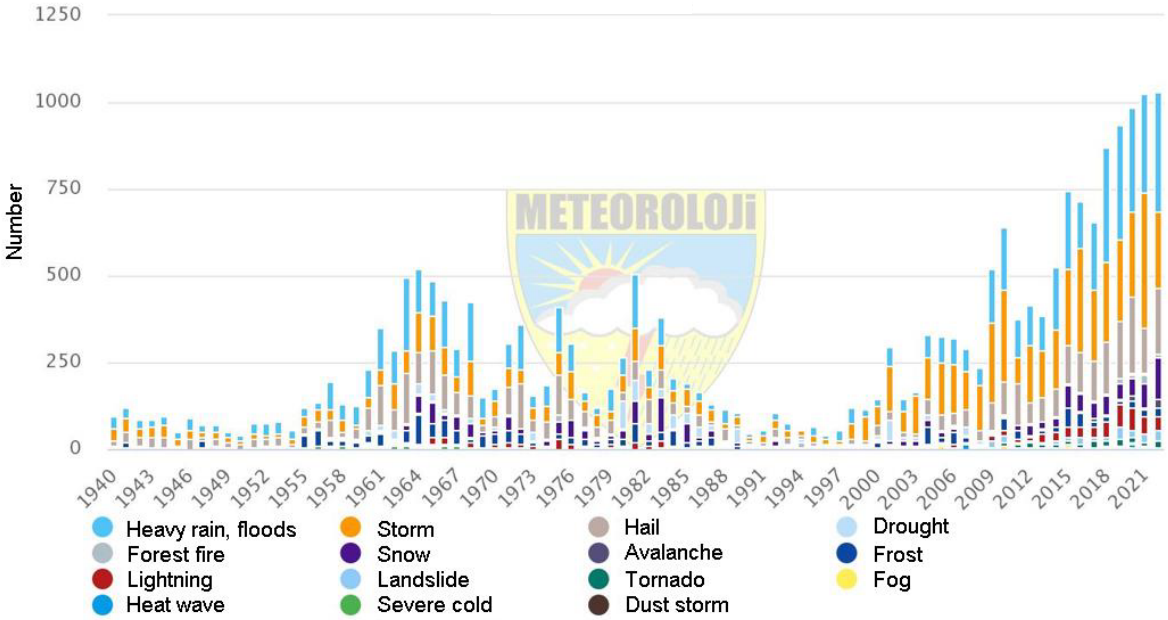



*Source: The State of the Türkiye's Climate in 2022, Turkish State Meteorological Service. 2023. (pg. 14)*

*Meteorological Disasters*

Although there has been an increasing trend in the number of extreme events, especially in the last two decades (Figure 9), with 1,030 extreme events, the year 2022 was the year in which the most extreme events occurred between 1940 and 2022.

Figure 9: Distribution of meteorological disasters across Türkiye (1940-2022)




*Source: The State of the Türkiye's Climate in 2022, Turkish State Meteorological Service. 2023. (pg. 16)*

The percentage of the type of extreme events recorded in 2022 are: heavy rain-flood (33.6%), windstorm (21.4%), hail (18.5%), snow (11.7%), lightning (4.1%), wildfire (0.9%), frost (2.5%), landslide (2.7%), avalanche (2.1%), dust storm (0.2%), and fog (0.3%).

**Hydrology**

There are twenty-five river basins in Türkiye, where six of them are transboundary river basins. Most of the rivers in Turkiye arise from within the borders of the country and flow into the sea within the country. The most important of these rivers are the Kızılırmak, Sakarya, Greater Menderes, Seyhan, Yeşilırmak, Ceyhan, Gediz and Smaller Menderes rivers. The rivers that arise within the borders of Türkiye and pour into the sea from the shores of other countries are Euphrates, Tigris, Çoruh, Kura and Aras rivers. The Asi and Meriç rivers, on the other hand, arise from the lands of other countries and flow into the sea on the shores of Türkiye.

According to the studies carried out by the General Directorate of Nature Conservation and National Parks, there are 320 natural lakes in Türkiye. Some of these lakes are seasonal and filled with winter precipitation and dry up due to lack of precipitation in summer. Among the lakes in

Türkiye, Lake Van, Lake Tuz, Lake Beyşehir and Lake Eğirdir are the largest lakes in terms of area[21].

Unless water resources are used more effectively and efficiently, Turkey is likely to become a water scarce country by the 2030s. To ensure the protection of the existing water resources in terms of quantity, quality and ecosystem, it has become obligatory to take necessary measures for the effective and efficient use of water, primarily in agriculture, industry and drinking-utility water sectors.[22] Therefore, river basin management plans have been prepared to ensure the water balance within the basins.

74% of Turkey's water resources potential is used in the agricultural sector. In recent years, many studies and projects have been carried out to increase irrigation efficiency, especially the transition to modern irrigation systems, and the irrigation efficiency is at the level of 51%. The main target is to increase the irrigation efficiency to 55% in 2024.

By 2030 in Turkey, at a rate exceeding 40% in the inner and western regions; It is predicted that there will be 20-40% water stress in the southeast and east regions[23]. Additionally, it is estimated that 50% of the surface waters will be lost at the end of this century in the Gediz and Greater Menderes basins on the Aegean coasts of Turkey, and there will be severe water shortages in agriculture, settlements and industry.[24]

**Biodiversity**

Türkiye is quite rich in terms of plant species, especially considering the climate zone in which it is located. The endemism rate is very high in the flowering plant group (Angiospermae) from seed plants. At the species and subspecies level, 3,925 of nearly 11,000 flowering plant species are endemic and the endemism rate is around 34 percent. Among the seedless plants, the best-known plant group is Ferns (Pteridophtyes). The number of species and subspecies level ferns detected in Türkiye is 101 and only 3 of them are endemic[25]. The areas with high plant endemism rates are shown in Figure 10.

Although Türkiye is very rich in terms of endemic plants, some of these species are faced with serious threats. According to the IUCN 2001 criteria, approximately 600 of the endemic species are in the "Very Endangered CR" category and 700 of them are in the "Endangered EN" category.

In terms of fauna, Türkiye has also a rich and unique situation in terms of its climate zone. It has 460 birds, 161 mammals, 141 reptiles and amphibians, 480 marine fish and 236 freshwater fish species. Of the 141 reptile and amphibian species in Türkiye, 16 of them are endemic and 10 of them are under threat. There are no bird species endemic to Türkiye. However, 5 species of

[21] https://dsi.gov.tr/Sayfa/Detay/754

[22] Ulusal Su Planı (2019-2023), https://www.tarimorman.gov.tr/SYGM/Belgeler/NHYP%20DEN%C4%B0Z/ULUSAL%20SU%20PLANI.pdf

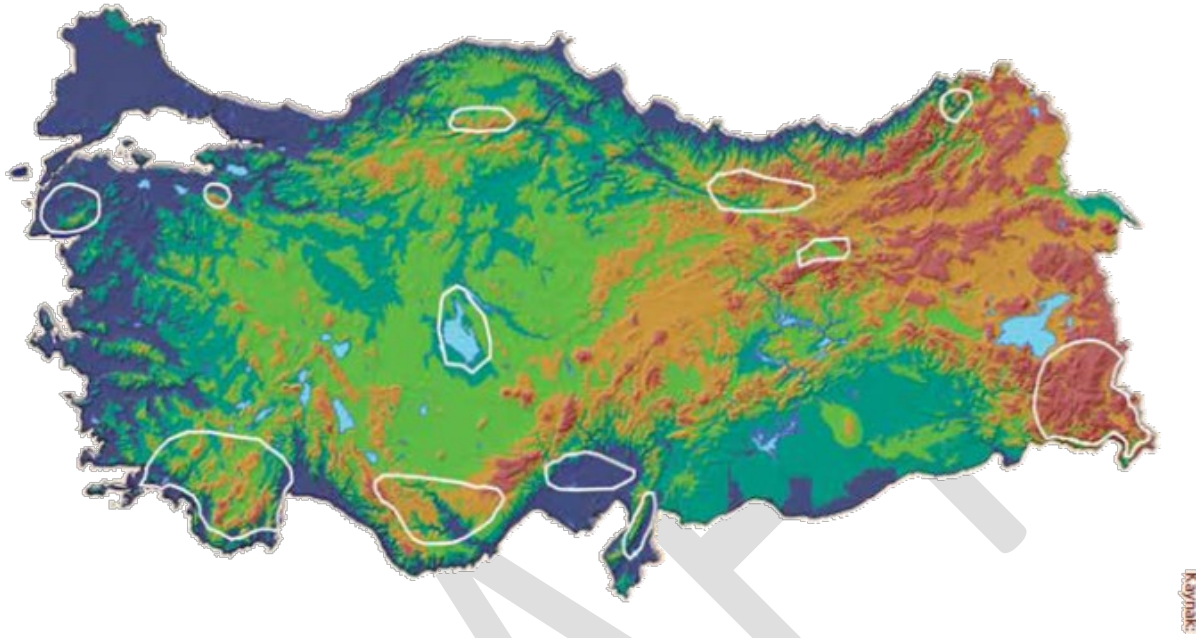
[23] Avrupa Çevre Ajansı 2009

[24] Onbirinci Kalkınma Planı (2019-2023), Özel İhtisas Komisyonu raporu, 2018

[25] Mülga Çevre ve Orman Bakanlığı, Doğa Koruma ve Milli Parklar Genel Müdürlüğü, Doğa Koruma Dairesi Başkanlığı, Biyolojik Çeşitlilik Sözleşmesi Ulusal Odak Noktası "Ulusal Biyolojik Çeşitlilik Stratejisi ve Eylem Planı" 2007, Ankara.

mammals, 32 subspecies, 16 species and/or subspecies of reptiles, and 70 species/subspecies of equestrian fish are endemic.

Figure 10. Areas with high plant endemism rates



*Note: Areas with high plant endemism rates are outlined with white against the backdrop of topographic elevations*

*Source: Ministry of Agriculture and Forestry, 2017 (obtained from Biodiversity of Turkiye. Contribution of Genetic Resources to Sustainable Agriculture and Food Systems. FAO, Ankara 2018)*

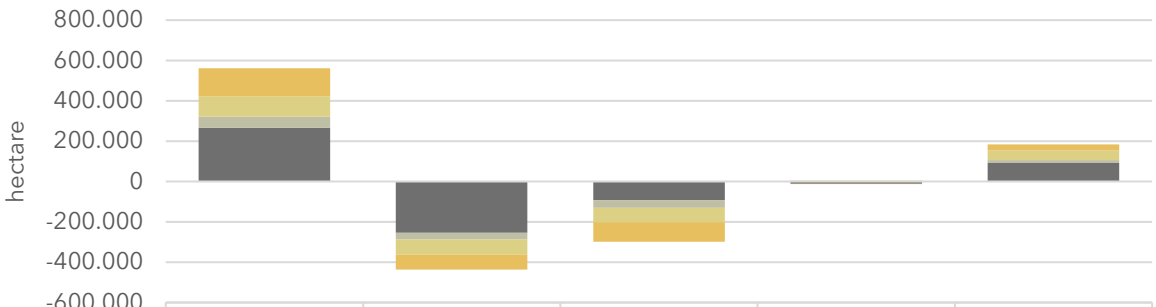
**Land Cover**

According to 2018 Coordination of Information on the Environment (CORINE) data, 2 percent of Türkiye's land is artificial area, 42 percent is agricultural area, 50 percent is forest and semi-natural area, 1 percent is wetland and 4 percent is water body[26].

The change in the land cover of Türkiye between 1990 and 2018 is shown in Figure 10. According to Figure 10, while an increase is observed in artificial areas and water areas between 1990 and 2018; the areas of agricultural areas, forest and semi-natural areas and wetlands are decreased. Although the date ranges are not equal, it is seen that the maximum decrease is between 1990-2000.

[26] https://corinecbs.tarimorman.gov.tr/corine

Figure 11: Change in the Land Cover, 1990-2018




| | Artificial Areas | Agricultural Areas | Forest and Semi-natural Areas | Wetlands | Water bodies |
|---|---|---|---|---|---|
| 2012-2018 | 141.020 | -74.515 | -97.871 | 1.118 | 30.248 |
| 2006-2012 | 99.358 | -74.871 | -71.066 | -1.500 | 48.078 |
| 2000-2006 | 55.795 | -34.025 | -38.085 | 2.342 | 13.973 |
| 1990-2000 | 265.858 | -253.954 | -91.926 | -12.065 | 92.087 |

*Source: https://corinecbs.tarimorman.gov.tr/corine*

## 2.2. GENERAL INFORMATION ABOUT PROJECT

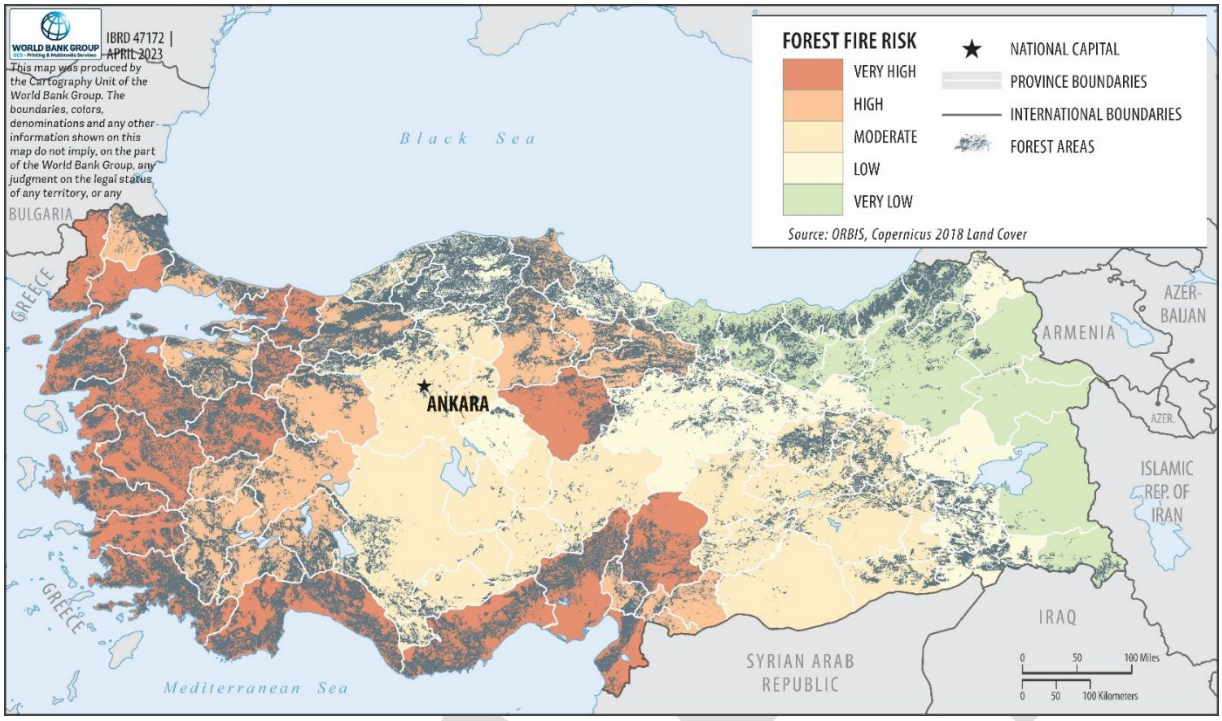
The Project will be implemented in nine Regional Directorates of Forestry (RDFs) which covers 15 provinces as shown in Figure 12.

Figure 12. Targeted Regional Directorates of Forestry


*Note: RDFs are outlined in red.*

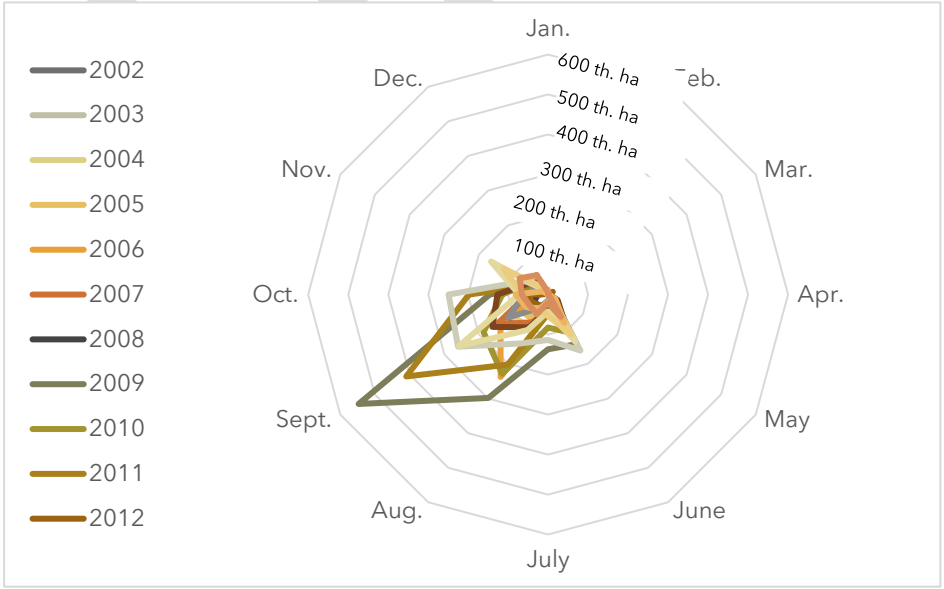
As shown in Figure 13, all the targeted RDFs are prone to wildfires.

Figure 13. Forest fire risk map.




According to Article 104 of the Forest Law No. 6831, the fire season in Türkiye begins on the first day of May and ends on the last day of November. Although as it is shown in Figure 14, the wildfires start in June, the beginning of fire season is determined as May to start and complete preparations before the beginning of wildfires. Figure 14 also shows that the fire season in Türkiye is not extended yet–which is expected to be extended in the future due to climate change. Between 2002 and 2019 in eight of eighteen years, September come to the fore as the month during which the area was burned at most. Similarly, June is the forthcoming month in six years, August in two years and November in two years.

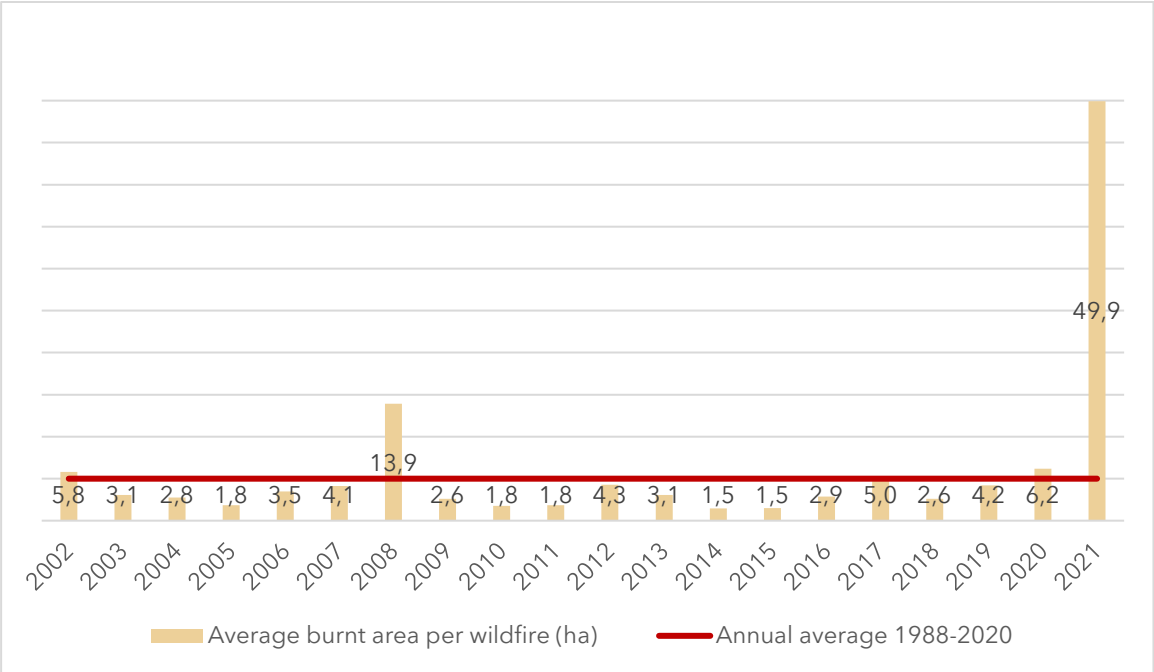
Figure 14. Monthly burned area between 2002 and 2019.




*Source: Global Wildfire Information System. https://gwis.jrc.ec.europa.eu/apps/country.profile/downloads.*
*Date of access: 31 January 2023*

Average burnt area per wildfire between 2002 and 2020 is given in Figure 15. Although there was no clear trend overall, the exceptional values in 2008 and 2021 strike at one glance.

Figure 15. The average burnt area per wildfire between 2002 and 2021.



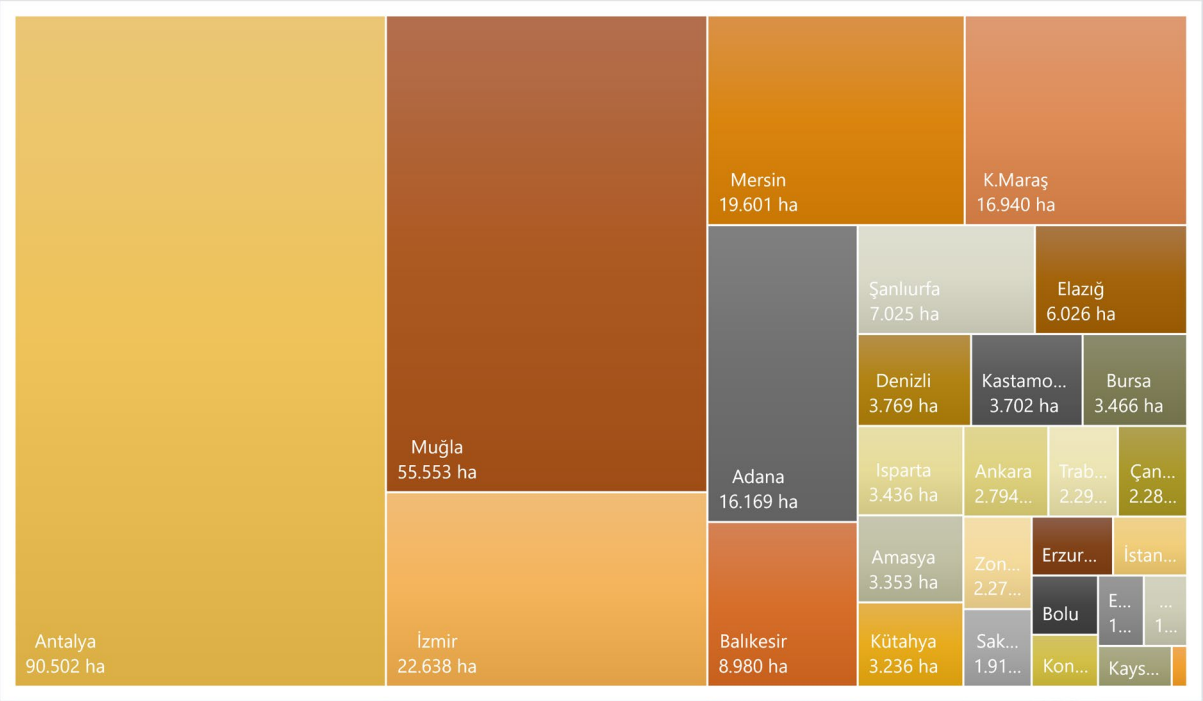

*Note: The value for 2021 is not included in the calculation of annual average 1988-2020, since it's exceptionality would elaborate the annual average.*

*Source: Forestry Statistics, OGM, 2021.*

Nearly one third of the total land area burned between 2004 and 2021 was within the responsibility area of Antalya Regional Directorate of Forestry which is followed by Muğla (19 percent), İzmir (8 percent), Mersin (7 percent), Kahramanmaraş (6 percent), Adana (6 percent), and others (Figure 16). It should be noted that, the total land area burned in 2021 was 45 percent of the total land area burned between 2004 and 2021. Therefore, excluding the year 2021, the ordering of regional directorates according to their share in total land area burned is Antalya (19 percent), İzmir (14 percent), Kahramanmaraş (10 percent), Muğla (8 percent), Mersin (6 percent), Balıkesir (6 percent), and others. [27]

[27] Forestry Statistics, OGM, 2021.

Figure 16. Total land area burned between 2004 and 2021, by RDFs.




*Note: Hatay RDF and Sinop RDF were established in 2021*

*Source: Forestry Statistics, OGM, 2021.*

# 3. WORLD BANK ENVIRONMENTAL AND SOCIAL ASSESSMENT POLICY AND NATIONAL REGULATORY FRAMEWORK

In this section, a gap analysis will be performed between the Turkish national environmental and social legislations and the World Bank's (WB) Environmental and Social Framework (ESF) to identify the gaps and define the measures to close the gaps where necessary. In the following paragraphs, a brief explanation about the WB ESF will be provided, and then in Sections 3.1 to 3.7, each ESS will be discussed with its corresponding national legislation, relevance to the Proposed Project, gaps, and measures to fill those gaps.

**World Bank (WB) Environmental and Social Framework (ESF)**

The WB ESF sets out the WB's commitment to sustainable development, through a Bank Policy (BP) and a set of Environmental and Social Standards (ESSs) that are designed to support Borrower's projects, with the aim of ending extreme poverty and promoting shared prosperity. The ESSs set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the WB through Investment Project Financing[28]. The ESSs will:

- support Borrowers in achieving good international practice relating to environmental and social sustainability,
- assist Borrowers in fulfilling their national and international environmental and social obligations,
- enhance nondiscrimination, transparency, participation, accountability, and governance, and
- enhance the sustainable development outcomes of projects through ongoing stakeholder engagement.

The ten ESSs that establish the standards that the Borrower and the project will meet through the project life cycle are:

- ESS1 *Assessment and Management of Environmental and Social Risks and Impacts*
- ESS2 *Labor and Working Conditions*
- ESS3 *Resource Efficiency and Pollution Prevention and Management*
- ESS4 *Community Health and Safety*
- ESS5 *Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement*
- ESS6 *Biodiversity Conservation and Sustainable Management of Living Natural Resources*
- ESS7 *Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities*
- ESS8 *Cultural Heritage*
- ESS9 *Financial Intermediaries*, and
- ESS10 *Stakeholder Engagement and Information Disclosure*

Among the above ten ESSs, ESS7 and ESS9 are not relevant to the Proposed Project, since there is no community in Türkiye that meets with the definition under ESS7, and the proposed Project does not involve any financial intermediary. ESS5 is also not relevant to the Project. Any Project activity (if exists, considering together with its associated facilities) that will lead to temporary or

[28] https://www.worldbank.org/en/projects-operations/environmental-and-social-framework

permanent economic/physical displacement and/or loss of livelihood of formal and/or informal users of the land at construction or operation phase will not be financed.

These ESSs establish the standards that the Project will meet throughout the project life cycle through defining objectives and requirements to avoid, minimize, reduce, and mitigate risks and impacts, and where significant residual impacts remain, to compensate for or offset such impacts.

In Sections 3.1 to 3.7, national environmental and social legislations will be analyzed and compared to ESSs to identify the gaps and define the measures to close the gaps where necessary. Where gaps exist between the national legislations and the WB policies, gap filling measures provided in this ESMF will prevail.

In addition to ESSs, Environmental, Health, and Safety Guidelines (EHSGs) which are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP) will be applied in the Proposed Project as relevant. These EHSGs contain the performance levels and measures that are acceptable to the WB Group and are generally considered to be achievable in new facilities at reasonable costs by existing technology. In cases where the requirements of the national legislation differ from the levels and measures presented in the EHSGs, the more stringent one (such as the most stringent discharge and emission standards) will be applied in the Project specifications.

## 3.1. ESS1 – ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

ESS1 sets out the Borrower's responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with each stage of a project supported by the WB through Investment Project Financing, to achieve environmental and social outcomes consistent with the ESSs. The objectives of ESS1 are:

- To identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs.
- To adopt a mitigation hierarchy approach to:
    - Anticipate and avoid risks and impacts,
    - Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels,
    - Once risks and impacts have been minimized or reduced, mitigate; and
    - Where significant residual impacts remain, compensate for, or offset them, where technically and financially feasible.
- To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project.
- To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development, and implementation of projects, whenever appropriate.
- To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

*Relevance to the Project*

ESS1 requires that the Borrower will assess, manage, and monitor the environmental and social risks and impacts of the project throughout the project life cycle so as to meet the requirements of the ESSs in a manner and within a time frame acceptable to the WB. Therefore, the Borrower will: (i) conduct an environmental and social assessment of the Proposed Project, including stakeholder engagement; (ii) prepare site specific Environmental and Social Assessment (ESA) instruments (see Section 5); (iii) undertake stakeholder engagement and disclose appropriate information in accordance with ESS10; and (iv) conduct monitoring and reporting on the environmental and social performance of the project against the ESSs.

**National Legislation**

Article 10 of the Environmental Law (No. 2872) states that institutions, organizations and businesses that may cause environmental problems as a result of their planned activities are obliged to prepare an environmental impact assessment report or project introduction file. In addition, unless the "Environmental Impact Assessment Positive Decision" or the "Environmental Impact Assessment Not Required Decision" is taken, approval, permit, incentive, construction, and usage license cannot be given for these projects; investment cannot be started for the project and the project cannot be tendered.

The process related to environmental impact assessment stated in Article 10 is regulated by Environmental Impact Assessment Regulation (July 29, 2022 / 31907) and Strategic Environmental Assessment Regulation (April 08, 2017 / 30032). Environmental Impact Assessment Regulation defines the rules and procedures regarding the environmental impact assessment and divides the projects into two as "projects where environmental impact assessment will be applied" and "projects whose environmental impacts are subject to preliminary examination and evaluation" according to the specifications given in the Appendix 1 and Appendix 2 of the regulation. The projects which are not included in Appendix 1 or Appendix 2 of the regulation are not subject to environmental impact assessment.

Strategic Environmental Assessment Regulation, on the other hand, defines the rules and procedures regarding the strategic environmental assessment to be made for the plans/programs that form a framework for the projects prepared in the waste management fisheries, energy, coastal management, spatial planning, forestry, industry, water management, agriculture, telecommunications, tourism and transportation sectors, and included in the lists provided in Appendix 1 or Appendix 2 of the Environmental Impact Assessment Regulation.

**Gaps and Measures**

Since none of the Project activities are in the list provided in the Appendix 1 or Appendix 2 of the Environmental Impact Assessment Regulation, the Project is not subject to the provisions of the Environmental Impact Assessment Regulation and the Strategic Environmental Assessment Regulation. Furthermore, had this legislation is relevant with the project activities, the procedures related to social issues/assessments are limited and includes only generic information based on secondary data collection. It does not have definitions regarding the area of influence (AoI), solid social baseline, stakeholder definitions, procedures for meaningful stakeholder engagement, social impacts and mitigations, cumulative impacts, and a social and environmental monitoring plan.

Therefore, to fill the gap, the requirements of ESS1 will be applied—being the preparation of this ESMF as the first step. Also, during the implementation stage, site-specific ESA instruments will be prepared based on the screening and scoping studies once the investments and their location details are finalized. In addition, these documents will be disclosed and consulted upon and annexed to the bidding documents, contractor's contracts and grant documents as binding documents. Both the contractors and the grant beneficiaries will be responsible for the implementation of the ESA instruments (ESMF, SEP, LMP, ESMP, etc.) and PIU will be responsible for the preparation of documents, monitoring and reporting of the implementation (see Section 5, Section 6 and Section 7).

This ESMF and the other ESA instruments will be applied for the activities to be financed directly under the Project as well as the associated facilities– if identified during the screening and scoping studies—of the Project[29].

## 3.2. ESS2 – LABOR AND WORKING CONDITIONS

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. The objectives of ESS2 are:

- To promote safety and health at work.
- To promote fair treatment, non-discrimination, and equal opportunity of project workers.
- To protect project workers, including vulnerable workers such as women, persons with
- disabilities, children (of working age, in accordance with this ESS) and migrant workers,
- contracted workers, community workers and primary supply workers, as appropriate.
- To prevent the use of all forms of forced labor and child labor.
- To support the principles of freedom of association and collective bargaining of project
- workers in a manner consistent with national law.
- To provide project workers with accessible means to raise workplace concerns.

*Relevance to the Project*

ESS2 requires that the Borrower develop and implement written Labor Management Procedures (LMP) applicable to the project. These procedures will set out the way in which project workers will be managed, in accordance with the requirements of national law and ESS2[30]. The procedures will address the way in which this ESS will apply to different categories of project workers[31]—which are direct workers, contracted workers, and primary supply workers—and the way in which the Borrower will require third parties to manage their workers.

[29] No associated facility is identified during the preparation of this ESMF, but the possibility for identification of associated facilities during the screening and scoping studies is considered.

[30] To the extent that provisions of national law are relevant to project activities and satisfy the requirements of this ESS, the Borrower will not be required to duplicate such provisions in LMP.

[31] The forest villagers will carry out afforestation and similar works within the Project. The forest villagers can be employed directly by OGM or through agricultural cooperatives or contractors. Since, OGM prefers to employ forest villagers through agricultural cooperatives or contractors in IDOP instead of employing them directly, these workers will be contracted workers. Therefore, there will be no community workers in IDOP.

**National Legislation**

*Labor and Working Conditions*

Turkey is party to a multitude of ILO conventions, including but not limited to conventions on equal treatment of employees, gender equality, child labor, forced labor, OHS, right of association and minimum wage. Accordingly, the Labor Law (No. 4857) is to large extent consistent with ESS2 requirements. There are also secondary legislations that may apply to the project which include regulations on annual leave, working hours, overtime work, minimum wage, female and child employees. The Ministry of Labor and Social Security has published various communiques and circulars that set ground for the implementation of the Labor Law which may also be referenced during project implementation.

*Occupational Health and Safety*

In recent years, Turkey has undergone a reform to improve its national Occupational Health and Safety (OHS) system through adapting a set of international and regional standards into its national level requirements for the prevention occupational risks as defined in the ILO Occupational Safety and Health Convention, 1981 (No. 155). The convention, along with the Occupational Health Services Convention, 1985 (No. 161) were both ratified by Turkey in 2005 who Turkey is also party to the Labor Inspection Convention, 1945 (No. 81) since 1951. In 2014, Turkey ratified the Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187). During 2012, a stand-alone Law on OHS (No. 6331) was put into force (20 June 2012). The OHS Law governs workplace environments and industries (both public and private) as well as virtually all classes of employees including part-time workers, interns, and apprentices. The legislation is comprehensive and is generally applicable across all sectors and many industries.

**Gaps and Measures**

In general, the provisions of national legislation satisfy the requirements of ESS2. However, to fulfill all requirements of ESS2, an LMP is prepared to include the below issues that are not covered in the national legislation:

- The categories of the project workers are set as direct workers, contracted workers, and primary supply workers, and the OGM's responsibility to these different types of project workers are defined.
- The rights of the forest villagers (who will work within the Project activities) regarding the terms and conditions are ensured by stating that, these workers will be employed under a Contractor during the duration of the Project activity.
- The rules for establishing, managing, and reporting a Worker's Grievance Mechanism are set.
- The Code of Conduct (CoC), which contains measures to deal with environmental and social risks related to the works is provided.
- The parameters for reporting and monitoring are set.
- The responsibilities of the PIU and the contractor are defined.

For detailed information please refer to LMP prepared for the Proposed Project.

## 3.3. ESS3 – RESOURCE EFFICIENCY AND POLLUTION PREVENTION AND MANAGEMENT

ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable. The objectives of ESS3 are:

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

*Relevance to the Project*

ESS3 requires that the Borrower will consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention measures in accordance with the mitigation hierarchy.

Although, the Proposed Project does not include large-scale construction works or interventions, there will be small-scale construction works under Subcomponent 1.2.d. *National public awareness campaign on wildfires and climate change*, Subcomponent 2.2.a. *Strengthening the forest fire detection system*, Subcomponent 2.3.a. *Rehabilitation and/or establishment of new nurseries*, and Subcomponent 2.3.c. *Supporting livelihood and employment opportunities for forest villages* which will require the use of resources and might affect ambient air quality. The forestry machines that will be used under Subcomponent 2.1.b. *Fuel load management interventions* might also create emissions. In addition, animal production support and plant production support under the Subcomponent 2.3.c. *Supporting livelihood and employment opportunities for forest villages* might lead to nitrate pollution, and additionally plant production support might have effect on water balance. All these activities, and the laboratories that will be constructed under Subcomponent 2.3.a. *Rehabilitation and/or establishment of new nurseries* will also generate hazardous and non-hazardous waste.

**National Legislation**

Most of the environment related laws and regulations are continuously revised and harmonized with the EU Directives in the scope of pre-accession efforts of Government of Turkey.

- Environmental Law (No: 2872) aims to protect the environment, which is the common property of all living things, in line with the principles of sustainable environment and sustainable development.
- Energy Efficiency Law (No: 5627)

**Gaps and Measures**

Although there is no major gap between the requirements of ESS3 and the national legislation, ESMP Checklist for building rehabilitation and small-scale construction works which is presented in Appendix 1 of this ESMF includes mitigation measures for construction related waste, wastewater, dust, and noise, etc. In addition, the ESMPs and the sub management plans such as vegetable waste management plans for greenhouses will be prepared if recommended by the screening and scoping studies of the subprojects and will include necessary mitigation measures in line with ESS3 and EHSGs.

## 3.4. ESS4 – COMMUNITY HEALTH AND SAFETY

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. The objectives of ESS4 are:

- To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances.
- To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams.
- To avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials.
- To have in place effective measures to address emergency events.
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

*Relevance to the Project*

ESS4 requires that the Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life cycle, including those who, because of their particular circumstances, may be vulnerable.

All of the potential risks and adverse impacts on community health and safety in the Proposed Project are related to the small-scale construction works which are emissions of dust, noise, odor, and vehicle exhausts; traffic jams and traffic and road safety risks due to increased traffic volume and movements of heavy-duty vehicles; temporary road blockades and closures; increased waste and wastewater generation (including hazardous waste). Community's potential exposure to waste (including hazardous waste), particulate matters, may lead to increased risks of health issues, resulting from poor site management, and communicable diseases relating to labor influx (i.e., COVID-19). Additionally, although a rare possibility there might be Sexual Exploitation and Abuse / Sexual Harassment (SEA/SH) risks.

**National Legislation**

Main national laws covering ESS4 "Community Health and Safety" are:

- General Health Protection Law (No: 1593)

- Law on Aids to be Made with Measures to be Taken Due to Disasters Affecting Public Life (No: 7269)
    - Türkiye Building Earthquake Regulation (18.03.2018/30364)
    - Disaster Regulation for Infrastructure (15.02.2007/26435)
- Law on Building Auditing (No: 4708) (Construction and Usage Permits)
- Zoning Law (No: 3194) (Construction and Usage Permits)
- Law on Private Security Services (No: 5188)
- Law on the Disabled (No: 5378)

**Gaps and Measures**

Although no specific gaps are identified between the requirements of ESS4 and the national legislation, ESMP Checklist for building rehabilitation and small-scale construction works which is presented in Appendix 1 of this ESMF, includes mitigation measures for construction related waste, wastewater, dust, noise and traffic and pedestrian safety, etc. Furthermore, the ESMPs and the sub management plans will be prepared if recommended by the screening and scoping studies of the subprojects and will include necessary mitigation measures in line with ESS4 and EHSGs.

In addition, to address SEA/SH risks, requirements related to CoC and the training and awareness sessions for Project workers is included in the LMP. Regarding the COVID-19, the Project workers will follow the national measures for COVID-19 or any other pandemic or epidemic which are effective at the time of the ongoing activity.

## 3.5. ESS6 – BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES

ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems. Biodiversity often underpins ecosystem services valued by humans. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services. The objectives of ESS6 are:

- To protect and conserve biodiversity and habitats.
- To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity.
- To promote the sustainable management of living natural resources.
- To support livelihoods of local communities, (…) and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.

*Relevance to the Project*

ESS6 requires that the Borrower will avoid adverse impacts on biodiversity and habitats.

While most of the project activities will be implemented in a forest environment, especially activities of Subcomponent 2.1.b. *Fuel load management interventions* and Subcomponent 2.2.a. *Strengthening the forest fire detection system* will be implemented in the forests which

might have adverse impacts on biodiversity and rural livelihood resources and biologically and ecologically important sites located within the subproject area.

**National Legislation**

- National Parks Law (No: 2873)
- Hunting Law (No: 4915)
- Aquaculture Resources Law (No: 1380)
- Forest Law (No: 6831)
- Pasture Law (No: 4342)
- Wetlands Protection Regulation (04.04.2014/28962)

**Gaps and Measures**

Although no specific gaps are identified between the requirements of ESS6 and the national legislation, ESMP Checklist for building rehabilitation and small-scale construction works which is presented in Appendix 1 of this ESMF, includes mitigation measures for construction related disturbance, erosion, waste, etc., on the affected forests, wetlands and/or protected areas. However, since most of the Project activities will be carried out in or near the forests, they may have impacts on natural habitats. Therefore, if recommended by the screening and scoping studies of the subprojects, ESMPs and/or Biodiversity Management Plans will be prepared, and these plans will include necessary mitigation measures in line with ESS6 and EHSGs . During the screening/scoping of sub-projects, any sub-project which will have significant impacts on natural habitats and any activity within critical habitats will be considered ineligible for financing.

## 3.6. ESS8 – CULTURAL HERITAGE

ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present, and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge, and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle. The objectives of ESS8 are:

- To protect cultural heritage from the adverse impacts of project activities and support its preservation.
- To address cultural heritage as an integral aspect of sustainable development.
- To promote meaningful consultation with stakeholders regarding cultural heritage.
- To promote the equitable sharing of benefits from the use of cultural heritage.

*Relevance to the Project*

ESS8 requires that the Borrower avoid impacts on cultural heritage and if previously unknown cultural heritage is encountered during project activities, a chance finds procedure will be followed.

Since there are construction activities which includes excavation and earthworks and Türkiye is well known for its cultural heritage resources, including for archaeological artifacts, there is a possibility to encounter unknown cultural heritage.

**National Legislation**

Cultural heritage in Türkiye is governed by:

- Protection of Cultural and Natural Assets (No: 2863)
- Foundations Law (No: 5737)

**Gaps and Measures**

The national legislation covers most of the requirements of the ESS8. However, as ESS8 defines the cultural heritage covering both tangible and intangible heritage, Law No. 2863 covers only the movable and immovable tangible cultural and natural assets. In addition, while national legislation covers only registered cultural assets, ESS8 applies to all cultural heritage regardless of whether it has been legally protected.

Therefore, within the Proposed Project, if screening and scoping studies for subprojects reveal that there are cultural assets that are not legally protected in the project area or a subproject would have material effects on the intangible cultural heritages, then that subproject will be ineligible for financing.

In addition, a Chance Finds Procedure (see Appendix 2) will be integrated into relevant ESA instruments and elaborated accordingly (See Section 4.2.2).

## 3.7. ESS10 – STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

ESS10 recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. The objectives of ESS10 are:

- To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties.
- To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance.
- To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them.
- To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.
- To provide project-affected parties with accessible and inclusive means to raise issues and grievances and allow Borrowers to respond to and manage such grievances and allow Borrowers to respond to and manage such grievances.

*Relevance to the Project*

ESS10 requires the Borrowers to engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a time frame that enables meaningful consultations with stakeholders on project design.

**National Legislation**

There is no straight-forward national legislation covering all investment projects on stakeholder engagement and information disclosure. Nevertheless, the existing legislations that can be helpful for stakeholder engagement and information disclosure are:

- Right to Acquire Information Law (No: 4982). The objective of this law is to regulate the procedure and the basis of the right to information according to the principles of equality, impartiality and openness that are the necessities of a democratic and transparent government.
- Right to Petition (No: 3071) and Appeal to the Ombudsperson. "Citizens and foreigner residents in Türkiye, with the condition of observing the principle of reciprocity, have the right to apply in writing to the competent authorities and to the Grand National Assembly of Türkiye regarding the requests and complaints concerning themselves or the public. The result of the application concerning himself/herself shall be made known to the petitioner in writing without delay. Everyone has the right to obtain information and appeal to the Ombudsperson. The Institution of the Ombudsperson established under the Grand National Assembly of Turkey examines complaints on the functioning of the administration.
- Environmental Impact Assessment Regulation (25.11.2014/29186)

**Gaps and Measures**

Since stakeholder engagement and disclosure of information is not necessitated by the existing legislation in Türkiye, all the requirements of ESS10 will be applied in the Proposed Project. Therefore, Stakeholder Engagement Plan (SEP) is prepared along with this ESMF, which will guide the subproject specific SEPs that will be prepared for each subproject (see Section 5) before the commencement of works. In addition, OGM will establish a Grievance Mechanism that will serve all stakeholders of the Proposed Project.

For detailed information including the definition of different types of project stakeholders, disclosure procedures, roles and responsibilities, please refer to the SEP prepared for the Proposed Project.

## 3.8. WORLD BANK SAFEGUARDS POLICIES

Although the ESSs replaces most of the Operational Policies (OPs) and Bank Procedures (BPs), three OPs/BPs remained effective which are OP/BP4.03 *Performance Standards for Private Sector Activities*, OP/BP7.50 *Projects on International Waterways*, and OP/BP7.60 *Projects in Disputed Territories*. While OP/BP4.03 and OP/BP7.60 are not relevant for the Project, some of the activities of the Project may trigger OP/BP 7.50 which describes the types of waterways and projects that the policy applies, and the requirements and conditions of financing projects on international waterways. In line with this OP/BP, OGM is responsible for ensuring that the subprojects located in transboundary river basins which do not affect water quality and quantity will be financed. Therefore, any subproject which triggers OP/BP7.50 will not be financed under this project. The river basins identified as NOT being a transboundary river basin (do not trigger OP/BP7.50) in Türkiye are: Akarçay, Antalya, West Mediterranean, West Black Sea, Burdur, Great Menderes, Ceyhan, East Mediterranean, East Black Sea, Gediz, Kızılırmak, Konya, North Aegean,

Small Menderes, Sakarya, Seyhan, Susurluk, Lake Van and Yeşilırmak which are shown in orange in Figure 17.

Figure 17. Transboundary river basins in Turkiye


*Source: Border of river basins was provided by OGM.*

The subprojects affecting water quantity and quality significantly in national river basins will be also ineligible for financing.

# 4. ANTICIPATED ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS & PROPOSED MITIGATION MEASURES

In this section anticipated environmental and social (E&S) issues pertaining to the potential types of subprojects will be identified and assessed.

**Note on Component 4. "Contingent Emergency Response Component (CERC)":** *Due to the nature of Component 4, its scope and the identification of its potential subprojects were not available during the preparation of this ESMF. Therefore, to manage potential E&S risks and impacts of the Component 4 and to define scope of application of ESSs to it; CERC Manuals (as annexes to the Project Operations Manual) will be prepared by OGM. E&S management of any possible eligible crises or emergency will be performed in accordance with the POM to be prepared. Furthermore, based on the positive list of activities agreed in the CERC Manual and initial E&S analysis, a CERC section will be prepared and included in the ESMF. The main aspects that the specific CERC section should include a) list of activities that the CERC could finance (positive list of goods, services and works; b) analysis of related potential E&S risks and impacts; c) Environmental and Social Management Procedures; and d) institutional arrangement for the Emergency Action Plan (EAP) implementation.*

## 4.1. POSITIVE ENVIRONMENTAL AND SOCIAL IMPACTS

In general, the Proposed Project will promote climate co-benefits, gender empowerment and citizen engagement.

**Increased Community Resilience.** Subcomponent 2.1. will support investments that will improve community resilience to future wildfires in selected forest villages through characterizing wildfire risks and requirements on village basis and providing trainings for forest villagers on fire preparedness such as daily fire danger analysis, fire behavior principles, evacuation principles, etc., ICS principles, fire suppression safety principles, fire suppression priorities and procedures, etc. These trainings and empowered dialogue will help the villagers to create their own customized strategies for the prevention and preparedness stage, and during the wildfire, increase their chances to survive and save their homes. In addition, sustainable land and natural resources management will improve the livelihood of the forest villagers.

**Promoted biodiversity.** Although fire has always been a natural part of the ecosystems, the rise in extreme wildfires due to climate change induces major risks to biodiversity. Through the application of "5R" principle in IDOP, the frequency and the severity of the wildfires and hence the damage to biodiversity network including many species of plants, animals and other organisms will be reduced. In addition, by reducing the intensity of the wildfires, the likelihood of the spread of exotic and invasive species in gaps created by wildfires will be minimized otherwise which would deplete the biodiversity of that area. As shown in Figure 10 in Section 2.2, the abundance of areas with high plant endemism rates within the targeted Regional Directorates of Forestry in IDOP also emphasizes the importance of the Project on protecting biodiversity. Moreover, Project has a specific activity under Subcomponent 1.1 on the preparation of biodiversity plans which aim to protect and manage the biodiversity in forests. Afterwards, these plans will be integrated into Forest Management Plans and will be used to create absolute protection and application zones which will guide activities for the protection of wildlife during fire.

**Reducing soil erosion and landslides.** One of the major issues faced after post-fire is the increased vulnerability of the burned area due to exposed bare ground's reduced capacity of storage of rainfall to flooding and erosion which in turn affects the hydrogeological characteristics of the region. In addition, land previously burned by wildfires is also vulnerable to landslides which affect the lives and the livelihoods of the local people and in some cases may cause relocation of the settlements. Therefore, effective implementation of IDOP will minimize the likelihood of the occurrence of these events, and in case when happens it will reduce the severity of the consequences.

**Promoting tourism.** The 2021 wildfires also impacted tourism sector. While the risk reduction and readiness activities of the Project includes preventive measures to minimize the possibility of such events in the future, recovery activities will restore the wildfire-damaged landscapes which in turn will promote the tourism activities such as tracking, hiking, claiming, etc.

**Better air quality.** The impact of wildfires on air quality is two-fold. While wildfires cause large increases in atmospheric emissions and pollutants, it also destroys the capacity of forests for carbon sequestration. IDOP's activities based on 5R principle will promote sustainable land and natural resources management through better management for forests and forest-related resources and supports forests for contributing to better air quality through reduction of emissions as a result of forest fires.

**Climate Co-Benefits.** Türkiye's current capacity and preparedness for managing forest fires may be overwhelmed by climate change which has compounded the intensity, proliferation, and uncertainty of wildfires. Hence, the project includes activities that are aligned with the Paris Agreement and will accrue significant climate adaptation and mitigation co-benefits. Climate risk screening has been conducted and climate risks and vulnerabilities (flooding, wildfires etc.) will be considered in the design of IFM plans. Forest landscape restoration will build climate resilience to wildfires reducing GHG emissions. Each component includes activities that support climate adaptation and mitigation and enhancing the resilience of landscape and communities to climate change. GHG emissions reductions have been estimated using IPCC Good Practice Guidance building on the CCDR and input into economic benefit streams using the World Bank's Social Cost of Carbon[32] Guidance.

**Gender.** Globally, the impacts of wildfire on health, approaches to wildfire response, risk perception and decision making have been found to differ between women and men: women face the highest health risks following exposure to wildfires[33] and may also have a higher perceived risk and fear levels during wildfire events[34]. Hence, the project will provide tailored training for women considering their Occupational, Health and Safety (OHS) in forestry management operations. Furthermore, Türkiye ranks 136 among 153 countries in the *Economic Participation and Opportunities* category of the Global Gender Gap Index[35]. Access to finance

[32] World Bank, 2017. Social cost of carbon: Guidance Note for Investment Project Financing, Washington DC.

[33] Evans, J., et al., 2022. Birth Outcomes, health, and health care needs of childbearing women following wildfire disasters: An integrative, state-of-the-science review. Environ. Health Perspectives. 2022, 130.

[34] Tal Shavit, et al., 2013. The effect of a forest fire disaster on emotions and perceptions of risk: A field study after the Carmel fire, Journal of Environmental Psychology, Volume 36, 2013.

[35] World Economic Forum, 2019. Global Gender Gap Report 2020.

is a recognized critical gender gap in Türkiye. Moreover, the climate crisis acts as a threat multiplier to the livelihoods of women and girls. In rural forest villages, where women are dependent on natural resources for their livelihoods, the climate crisis and wildfires are leading to forced migration with loss of income, lack of housing and employment opportunities. Hence to close the gender gap in entrepreneurship and diversity of women's livelihoods in the forestry sector, the project will provide training and a dedicated grant mechanism to support women-led entrepreneurial initiatives in forest villages linked to non-timber forest products such as mushrooms, lavender, jam making, cheese making, handicrafts and dairy production, among others. In addition to this, the broader livelihood support activities to be provided through matching grants under Subcomponent 2.3 will also include women beneficiaries as one of the prioritization criteria to be applied. Overall, the project will also deploy gender-sensitive approaches for awareness campaigns; to empower willing women to participate in volunteer fire brigades and wildfire prevention and response plans;[36] and in implementation of the stakeholder and citizen engagement plans.

**Citizen Engagement.** The project will establish effective and continuous participation of stakeholders through a two-way dialog of Citizen Engagement activities at local and national levels including awareness and educational campaigns taking into account the role of the public in the activities during and after forest fires. Forest villages will be engaged in the development of IFM Plans and in the restoration efforts of burned areas.

## 4.2. ADVERSE ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS & MITIGATION MEASURES

Although the Proposed Project has remarkable positive environmental and social impacts, some adverse environmental and social impacts and risks may occur during construction/ decommissioning and/or operation phases of the Project activities. The general adverse risks and impacts of the Project are the risk of exclusion from project benefits for vulnerable/disadvantaged groups and COVID-19.

Particularly in relation to the livelihood activities, persons with disabilities and women living in neighborhoods/villages near the forests may have limitations participating in the consultation processes which might lead to risk of exclusion of these groups from project benefits. Measures such as conducting separate consultations will be applied to minimize the exclusion risk. Please refer to Section 5.2 of SEP for more measures.

Regarding the COVID-19, at the time of the preparation of this ESMF, COVID-19, which is an acute global emergency since 2020, appears to be in transition, but the risks of emergence of new variants and future surges remain still. Especially, the vulnerable individuals are still at risk of severe disease[37]. Therefore, the Contractors/Subcontractors will follow the national measures for COVID-19 or any other pandemic or epidemic which are effective at the time of the ongoing activity.

[36] Zabaniotou, A.; Pritsa, A.; Kyriakou, E.-A. Observational Evidence of the Need for Gender-Sensitive Approaches to Wildfires Locally and Globally: Case Study of 2018 Wildfire in Mati, Greece. SUSTAINABILITY 2021, 13, 1556.

[37] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-policy-briefs

Other anticipated adverse environmental and social impacts and risks by subcomponents are described in the subsequent paragraphs.

The summary of the risks/impacts by project component, their scope and associated mitigation measures is also provided in Table 2 in Section 4.2.4.

**Component 1. Strengthening Institutions and Society for Wildfire and Forest Resilience**

*Subcomponent 1.1. Strengthening the institutional framework for IFM through" Review & Analysis"*

Under this subcomponent, fire management plans of RDF of Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin and Muğla will be updated through field observations and desktop studies. The only anticipated environmental and social risk is traffic accidents which can be avoided or minimized through advanced traffic training.

In addition, national legislation and policies on forest fires will be updated, and Turkish National Forestry Program (TUOP) for 2024-2043 and Turkish Forest Fire Strategy (TOY) will be prepared through workshops and consultations; an ICS approach for Türkiye based on international best practices will be developed; and the capacity (methods and protocols) for fire investigation and cause attribution post-fire will be strengthened. No indicative factors for environmental and social adverse impact are found.

There will be also R&D studies on determining the carbon stock amounts and eco-physiological behaviors in primary forest tree species, the effects of clear cutting in red pine on hydrological parameters and the effects of fire on water quality parameters in red pine forests and monitoring studies on permitted areas and harmful factors within the scope of climate change. These studies will be carried out through field research and laboratory studies. Field research will consist of only small-scale sampling of water and soil, and no environmental risk or impact is expected other than the traffic accidents which can be avoided or minimized through advanced traffic training. The laboratory works will be carried out in soil laboratories which do not include infectious agents or toxins that consistently cause disease in healthy adults. Therefore, no significant environmental and social adverse impacts or risks.

The last two activities of this subcomponent are making and developing biodiversity planning within the framework of adaptation to climate change, and preparation of adaptation strategy against the effects of climate change on forests. These activities include field observation and planning. Therefore, the only anticipated environmental and social risk is traffic accidents which can be avoided or minimized through advanced traffic training.

*Subcomponent 1.2. Increasing "Readiness" for IFM through institutional coordination and capacity building.*

Under this component the fire experts who can serve nationally and internationally, firefighting volunteers and search and rescue teams will be trained. Although wildfire firefighting and search and rescue activities will not be directly financed by the Project, these activities are considered as downstream activities and associated OHS risks of these activities will also be considered within the Project. Since these activities are very serious activities and can lead to disability and death, the criteria for the "quality" of the trainees will be carefully determined according to the international standards and the trainees will be selected according to the criteria that are set. In addition to the technical aspects of the trainings, these trainees will also be trained according to

the specific aspects of accidents, injuries and illnesses caused by explosions, falling objects, over-exertion, hot surfaces or superheated gases, solid particles and/or liquid chemical sprays, inadequate oxygen in breathing air, presence of carbon monoxide gas and other products of combustion in the breathing air, slipping, tripping and falling on the fire-ground, noise of pumps or other equipment, ergonomic factors and psychological stress.

Preparation and rolling out a national public awareness and communication campaign on wildfires and climate change will be another activity under this subcomponent. In addition to public awareness and communication campaigns, educational activities for the students of age between 7 and 14 to raise awareness about forest fires among the children will be carried out. For these educational activities, students of age between 7 and 14 will be invited to forest schools which will be constructed within the Project. The bungalow type, single-story forest schools will be constructed in the campus areas of the RDF in Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin and Muğla. Therefore, land acquisition will not be needed, and it will not lead to permanent or temporary loss of livelihood. However, most of the campus areas of the RDF are within the city centers, therefore there will be residential units in the Area of Influence (AoI) of the construction area which may be affected from dust and noise. These schools will not provide continuous education but since the students will be invited the location of these schools will be resilient to risks of flood, fire, earthquake, and other relevant disasters. As national legislation requires, construction works will be carried out according to Türkiye Building Earthquake Regulation, and EHSGs and other GIIPS for design and safety will be applied as required in ESS4. In addition, during the construction and decommissioning phases, small-scale construction related impacts and risks may occur (see 4.2.1 for risks and mitigation measures), and although it is a rare possibility, chance finds can be encountered during the construction (see Section 4.2.2 for mitigation measures).

The last two activity of this subcomponent are study tours to countries and the development of a digital decision support system based on the state-of-the-art technologies, including to enhance the forest fire danger rating and forest fire detection systems for improved wildfire prediction and resource allocation for effective response. No indicative factors for environmental and social adverse impact are found.

**Component 2: Investments in Climate "Resilient" Forests in Targeted Areas**

*Subcomponent 2.1. Scaling-up wildfire "Risk Reduction"*

Under this subcomponent bulldozers, graders, and trailers to transport them will be purchased whose primary use will be to support the maintenance of the forest road network (total of 9,212 km) to ensure accessibility during the fire season, according to OGM's fire safety road plans. Exhaust gas emission and fuel standards and energy efficiency of these vehicles will comply with the national legislation, and their regular servicing needs will be undertaken in licensed centers so that oil changes and similar practices will not be carried out in the forests to prevent soil and water pollution. Please see Section 4.2.3 for principal risks, impacts and mitigation measures for forestry works. National exhaust gas emission standards comply with the European Union standards as being regulated with the Requirements on Emission Limits and Type Approval of Gas and Particulate Pollutant for Internal Combustion Engines Installed on Mobile Machines Used off The Road. Moreover, the Regulation on Technical Criteria to be Applied in the Fuel Market regulates the fuel standards in Türkiye market which also complies with the European Union requirements.

In addition to forest road maintenance, silvicultural interventions to increase wildfire and forest resilience in existing forests, such as: firebreaks and boundary lines in selected areas to address the edges of roads and transition points of electrical communication lines; fuel load management interventions (e.g., thinning, grazing); creating buffer zones with forest fire resistant species between forest areas, settlements and agricultural areas; protecting or creating natural openings in forests will be carried out. Therefore, there will be risks and impacts for OHS (see 4.2.3 for risks and mitigation measures) and environment which are habitat alteration and loss of biodiversity, soil erosion, deterioration of water quality and quantity, degradation of soil productivity, hazardous materials and visual impacts which are directly or indirectly effects the community health and safety and ecosystem services These environmental risks and impacts will be avoided or minimized by applying the relevant EHSGs and GIIPs. There will be no camp sites—the workers will be commuted—so there is no risk or impact regarding the labor influx. For chance finds please see Section 4.2.2 for mitigation measures.

The last activity of this subcomponent will be training and awareness raising for local communities and stakeholders for risk reduction activities such as burning of agricultural residues by farmers, campfire management in recreation areas, etc., including a dedicated training program for women on OHS issues for forest activities. No indicative factors for environmental and social adverse impact are found.

*Subcomponent 2.2. Strengthening operational systems for "Response".*

Unmanned fire watchout towers with heights of between 24 meters and 50 meters near the existing open areas around fire lookout towers will be established, therefore construction of new forest roads will not be needed, and clear cut is not expected. No overhead power lines will be used. The electricity will be produced by small solar plants near the towers. See Section 4.2.1 for small-scale construction related risks, impacts and mitigation measures. Since these towers will be established in the forests biodiversity related risks and impacts may occur. Therefore, relevant EHSGs and GIIPs will be applied to meet the requirements of ESSs. There will be no loss of livelihood, the staff of the lookout towers will be employed within the OGM.

*Subcomponent 2.3. Resilient "Recovery" of landscapes and livelihoods affected by wildfires.*

One Biosafety Level-1 (BSL-1) genetic laboratory and two tissue culture laboratories will be constructed. The location of these laboratories will be chosen so that the construction activities will not lead to any permanent/temporary economic and/or physical displacement and loss of livelihood at construction or operation phase. For small-scale construction related impacts, risks and mitigation measures during the construction phase, please see Section 4.2.1. For chance finds please see Section 4.2.2. Since the activities of these laboratories do not include infectious agents or toxins that consistently cause disease in healthy adults, no CHS risks are anticipated. To avoid or minimize the impacts related to OHS; environment and CHS, the requirements of relevant EHSGs and GIIPs will be applied.

Since the activities will be carried out in burned areas, risks and impacts related to biodiversity are not expected. However, landslides may occur because of the vulnerability of exposed soil to heavy rains. Before the commencement of works the susceptibility of the area to landslides will be assessed. Please, refer to 4.2.3 for other forestry activities related OHS risks and mitigation measures.

Under this component matching grants for housing improvement (655 units of sheathing [including 100 $m^2$ window replacement], 715 units of roof cover, 1.000 units of floor heating, 1.000 units of electrical interior installation), technical beekeeping (30 hives per person for 700 people), forestry mechanization (100 tractors, 2,000 chainsaws and protective clothing, 200 log hauling cranes, 50 log strippers, 100 stacker loaders), solar photovoltaic systems (for 8,500 person), animal production (construction of barns, 2 heads of dairy cattle [to 336 people] or dairy sheep [to 393 people] or 10 beef cattle [to 390 people]), plant production (70 units of 1.000 $m^2$ greenhouses, 118 units of 500 $m^2$ greenhouses) and silkworm rearing will be provided to forest villagers. In addition, micro-credits will be distributed for women living in forest villages to be used for crop production (greenhouse cultivation, mushroom production, lavender production, etc.), animal production (feed supply), food production (jam, cheese, bread, etc.), handicrafts and machinery equipment supplies (milk tank, milking machine, etc.). Lastly, matching grants to multi-purpose agricultural development cooperatives to construct two packaging facilities, two cold storage warehouses and ten milk collection centers will be provided.

The construction/retrofitting works are small-scale works with one or two stories and their risks, impacts and mitigation measures are described in Section 4.2.1. The greenhouses and the animal barns will be established on the grant beneficiary's property. The packaging facilities, cold storage warehouses and milk collection centers will be constructed on the lands belonging to the village legal entity. Any location that will cause permanent/temporary economic and/or physical displacement or loss of livelihood at construction or operation phase will not be financed by IDOP. For risks related to chance findings, please see Section 4.2.2.

At operation phase risks and impacts may occur due to activities related to animal welfare and annual plant production. For greenhouses all plant protection products will be used in accordance with the procedures and principles of the "Regulation on the Recommendation, Application and Registration of Plant Protection Products" of the MoAF and polyurethane wastes will be collected separately and disposed of in accordance with the provisions of the relevant regulation. These provisions will also be added to their matching grant contracts. For animal husbandry activities the procedures and principles of the Regulation on Welfare of Farm Animals will be complied with. This will be added to the matching grant agreement.

There will be risks related to the operation and maintenance of forestry mechanization. Necessary training will be provided within the scope of national OHS and environmental legislation in order to minimize OHS and environment related risks.

### 4.2.1. RISKS, IMPACTS AND MITIGATION MEASURES FOR REHABILITATION /SMALL SCALE CONSTRUCTION WORKS

The generic environmental and social adverse risks and impacts for civil works are:

- Environment
    - Noise and vibration
    - Soil loss and soil erosion
    - Air emissions
        - Dust
        - Exhausts from diesel engines of construction machineries
        - Asbestos

        - Emissions resulted from open burning of solid.
    - Generation of solid and hazardous wastes
    - Use of hazardous materials which may release petroleum-based products,
    - Generation of sanitary wastewater discharges in varying quantities depending on the number of workers involved,
    - Contamination of land due to hazardous materials or oil,
    - Intervention on biodiversity and habitats.
- Occupational Health and Safety
    - Injuries resulted from over-exertion, slips and falls, work in heights, struck by objects, moving machinery, and confined spaces and excavations,
    - Exposure to dust, including asbestos,
    - Exposure to chemicals,
    - Exposure to hazardous or flammable materials,
    - Exposure to wastes
- Community Health and Safety
    - General site hazards resulting from inadvertent or intentional trespassing, including potential contact with hazardous materials, contaminated soils and other environmental media, buildings that are vacant or under construction, or excavations and structures which may pose falling and entrapment hazards,
    - Communicable diseases resulted from labor influx,
    - Traffic-related accidents and injuries resulted from the increase in traffic density or the movement of heavy vehicles for the transport of construction materials and equipment.

The potential impacts associated with the small-scale construction works, will be easily mitigated by ensuring that all civil works will be designed and operated in accordance with environmentally sound engineering practices and governed by the applicable environmental standards of Türkiye. This will be clearly specified in the construction contracts and enforced by the client. Such practices would include the following:

**Organizational measures.** Before starting the construction/rehabilitation activities it is necessary to inform the local construction and environment inspectorates and communities about upcoming activities in the media and/or at publicly accessible sites (including the site of the works). Furthermore, it is necessary to have in place all legally required permits. All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. Construction workers will be properly dressed, having, when necessary, respirators and safety glasses, harnesses, and safety boots.

**Protection of air quality and dust minimization.** During construction/rehabilitation activities it is necessary to use debris-chutes above the first floor and to keep demolition debris in controlled area, spraying with water mist to reduce debris dust. It is also necessary to suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site. It is strictly prohibited burning of construction/waste material at the site. For the transportation of any other dusty material to the rehabilitation site, watering or covering of the cargo will be implemented. Reduction of dust on rehabilitation sites during dry season of the year can be accomplished by watering the ground surface. Workers that perform the work will be introduced with protective closes and respirators.

**Noise reduction.** Before any beginning of the work, it is recommended to inform all potentially affected parties and especially the neighbors either directly or through local billboards or newspapers on the rehabilitation activities. The noise will be limited by using good management practice and limiting work on regular daily shift (during the vacation time) and or after the school classes. The construction equipment and machinery used will be calibrated according to the Noise Standards.

**Construction waste and spills.** As a general requirement is that the existing building elements to be rehabilitated (walls, ground cement slabs etc.) will be carefully rehabilitated and the construction wastes will be sorted and removed in an organized way and disposed on an authorized land filed. All valuable materials (doors, windows, sanitary fixtures, etc.) will be carefully dismantled and transported to the storage area assigned for the purpose. Valuable materials will be recycled within the project or sold. Waste wherever possible will be minimized, separated, and handled accordingly. When waste is separated, it is more manageable. Some materials like doors or ceramics sinks might be usable on the site again. Non-usable materials will be taken to an appropriate place for recycling. For nonrecyclable waste, in agreement with local councils the waste will be deposited on authorized landfill. Open burning and illegal dumping of any waste is strictly prohibited. In addition to solid wastes, some amounts of hazardous wastes will be produced on the site: like the remaining from paints, enamels, oiled packaging, oils, material contaminated with oil, insulation material, etc., which must be collected and handed over to the local self-government body authorized for collection and transportation of hazardous waste.

**Asbestos issues.** The general approach while handling this material is that constructors avoided crushing/destruction of asbestos plates from the roofs and or from the walls insulation and deposited them in an organized manner on the construction sites. Also, the constructors will avoid releasing asbestos fibers into the air from being crushed. It is also imperative while working with asbestos plates the workers must wear special closing, gloves, and respirators. No reuse of Asbestos Containing Material (ACM) is allowed under the project. Once the presence of ACM in the existing infrastructure has been presumed or confirmed and their disturbance is shown to be unavoidable, incorporate the following requirements in the ESMP and/or Waste Management Plan for construction works:

- Develop a Asbestos Management Plan for doing works involving removal, repair and disposal of ACM in a way that minimizes worker and community asbestos exposure. The plan will include: (i) Containment of interior areas where removal will occur in a negative pressure enclosure; (ii) Protection of walls, floors and other surfaces with plastic sheeting; (iii) Removal of the ACM using wet methods and promptly placing the material in impermeable containers; (iv) Final clean-up with vacuum equipment and dismantling of the enclosure and decontamination facilities; (v) Disposal of the removed ACM and contaminated materials in an approved landfill; (vi) Inspection and air monitoring as the work progresses, as well as final air sampling for clearance, by an entity independent of the contractor removing the ACM;
- Require that the construction firms/and or individuals employed during the construction have received training in relevant health and safety issues.
- Provide all construction workers with personal protection means, including respirators and disposable clothing.

- Require that the beneficiary or the selected contractor notifies authorities of the removal and disposal according to applicable regulations and cooperates fully with representatives of the cognizant agency during all inspections and inquiries.

**Temporary storage of materials (including hazardous).** Stockpiling of construction material will be avoided if possible. If not, construction material will be stored on the construction site and protected from weathering. Hazardous materials like paints, oils, enamels, and others will be kept on impermeable surface, and adsorbents like sand or sawdust will be kept for handling small spillage.

**Ensuring workers' health and safety.** The personnel will have personal protective equipment, rubber gloves, respirators, goggles and breathing mask with filter, as well as helmets. Prior to starting civil work, all workers have to pass labor safety training course. In addition, it is necessary to carry out the routine inspection of the machinery and equipment for purpose of the trouble shooting and observance of the time of repair, training and instruction of the workers engaged in maintenance of the machinery, tools and equipment on safe methods and techniques of work. Special attention will be paid to welding operations. It is prohibited to distribute the faulty or unchecked tools for work performance as well as to leave off hand the mechanical tools connected to the electrical supply network or compressed air pipelines; to pull up and bend the cables and air hose pipes; to lay cables and hose pipes with their intersection by wire ropes, electric cables, to handle the rotating elements of power-driven hand tools. Prevention and control measures must ensure that only trained and certified workers access the facilities or any area that could present occupational health and safety hazards, with the necessary safety devices and respect for minimum setback distances.

**Labor Influx** is not expected. However, if camps sites will be established to accommodate construction workers during the implementation of the Project Labor Influx Management plans will be prepared to prevent conflicts that may arise between the communities and workers.

**SEA/SH.** Awareness raising training will be given to Project workers. In addition, the Code of Conduct (CoC) will be signed, and grievance mechanism will be introduced to all stakeholders.

**Stakeholder engagement.** Stakeholder engagement activities will be carried out in line with the project SEP in a timely and effective manner. The stakeholder engagement will be a continuous process throughout the implementation of the Project. The stakeholders will be informed about the scope, objective, potential risks/impacts along with proposed mitigation measures, prior to commencement of any project activities through consultation meetings, disclosed and consulted E&S documents to be prepared for the subprojects, and communication materials to be developed within the scope of the Project. The stakeholders will be informed about and encouraged to use the project GM to communicate their grievances and requests (questions, suggestions, etc.).

### 4.2.2. RISKS, IMPACTS AND MITIGATION MEASURES FOR CHANCE FINDS

The construction works which include excavation and earthworks, there might be chances of finding some archeological artefacts. In these cases, the Chance Finds Procedure will be included in site-specific ESMP Checklists for all earth-moving subprojects. These procedure and guidelines are presented in the Appendix 2 and will be followed in all cases of previously unknown cultural heritage encountered during project activities and included in all project's

construction contracts that involve excavation, demolition, movement of earth, flooding, and/or any other changes to the physical environment.

### 4.2.3. RISKS, IMPACTS AND MITIGATION MEASURES FOR OHS IN FORESTRY WORKS

Risks, impacts and mitigation measures for OHS in forestry works are provided in Table 1.[38]

Table 1. Risks, impacts and mitigation measures for OHS in forestry works.

| Hazards | Risk Identification | Injuries from | Mitigation Measure |
|---|---|---|---|
| **Physical hazards** | Forest operations involve a number of activities that may result in severe physical injury to workers. Injury may result from improper use of chainsaws and axes or machetes during felling, crosscutting and debranching activities. Use of cables to extract logs may expose workers to injury from cable breakage under tension or the sudden release of loads. Falling trees and loose branches are a significant cause of injury, particularly when workers are engaged in clearing windthrow damage and other tree entanglements/hang-ups. | Cutting Equipment | • Workers should be properly trained in the safe use of cutting equipment, including work group coordination and safety measures,<br>• Equipment should be properly maintained and include all necessary safety devices (e.g., blade guards on saws),<br>• Workers should be provided with, and required to use, all necessary personal protective equipment (e.g., gloves, footwear, protective clothing, helmets),<br>• On-site first aid equipment and trained personnel should be available, as well as procedures for emergency evacuation. |
| | | Falling Trees and Cable Use for Log Extraction | • No worker other than the chainsaw operator and an assistant should be within two tree lengths when trees are felled,<br>• Workers should be trained in clearance of windthrow before entering an affected area,<br>• Hard hats should be worn at all times by workers when working under a forest canopy with a risk of falling branches,<br>• Where cables under tension are used for extraction of trees, no worker should be within two cable lengths of the closest secured point. |
| | Accidents may occur in connection with the use of machines and vehicles, including tractors and harvesting machinery, and during the transport of workers along poorly maintained roads. | Machinery and Vehicles | • Designing machines to eliminate trap hazards and ensuring that extremities are kept out of harm's way under normal operating conditions,<br>• Turning off, disconnecting, isolating, and de-energizing (Locked Out and Tagged Out) machinery with exposed or guarded moving parts, or in which energy can be stored (e.g., compressed air, electrical components) during servicing or maintenance, in conformance with a standard,<br>• Designing and installing equipment, where feasible, to enable routine service, such as lubrication, without removal of the guarding devices or mechanisms |
| | Forestry operations may necessitate that workers are isolated and out of verbal and line of sight communication with a | Lone and Isolated Workers | Where workers may be required to perform work under lone or isolated circumstances, Standard Operating Procedures (SOPs) should be developed and implemented to ensure all PPE and safety measures are in place before the worker starts work. |

[38] This section is based on the World Bank Group Environmental, Health, and Safety General Guidelines for Forest Harvesting Operations, 2007 and World Bank Group General Environmental, Health, and Safety General Guidelines, 2007.

| Hazards | Risk Identification | Injuries from | Mitigation Measure |
|---|---|---|---|
| | supervisor, other workers, or other persons capable of providing aid and assistance, for continuous periods exceeding one hour. The worker is therefore at increased risk should an accident or injury occur. | | SOPs should establish, at a minimum, verbal contact with the worker at least once every hour, and ensure the worker has a capability for summoning emergency aid. |
| **Noise and vibrations** | Chainsaws, vehicles, and other mechanical forestry equipment emit noise at excessive levels. Some logging machinery can subject workers to unsafe levels of vibration leading to work related injury to internal organs or hands. | Exposure to noise and vibrations | Use of vibration limitation devices on chainsaws and in seating designs on harvesting machinery should be implemented. However, as most of noise sources in forestry operations cannot be prevented, control measures should include the use of personal hearing protection by exposed personnel and implementation of work rotation programs to reduce cumulative exposure to vibration |
| **Chemical hazards** | Potential exposures to pesticides include dermal contact and inhalation during their preparation and application. The effect of such impacts may be increased by climatic conditions, such as wind, which may increase the chance of unintended drift, or high temperatures, which may be a deterrent to the use of personal protective equipment (PPE) by the operator. | Exposure to Pesticides | • Train personnel to apply pesticides and ensure that personnel have received the necessary certifications, or equivalent training where such certifications are not required,<br>• Use pesticides according to the specific label,<br>• Respect post-treatment intervals to avoid operator exposure during reentry to areas with residues of pesticides,<br>• Ensure hygiene practices are followed (in accordance to FAO and PMP) to avoid exposure of family members to pesticides residues. |

### 4.2.4. THE SUMMARY OF THE ANTICIPATED IMPACTS AND RISKS AND ASSOCIATED MITIGATION MEASURES

Table 2. The summary of the anticipated impacts and risks by project component, their scope and associated mitigation measures

| Component | Subcomponent | Activities | Anticipated Risk and Impacts | Associated Mitigation Measures |
|---|---|---|---|---|
| Component 1: Strengthening institutions and society for wildfire and forest resilience. | Subcomponent 1.1. Strengthening the institutional framework for IFM through "Review and Analysis" | • Policy development<br>• Capacity development (trainings on ICS, fire cause investigation and study tours) | No indicative factor | N/A |
| | | • Forestry service activities (IFM, biodiversity, eco-system planning) | Driving safety | Can be easily mitigated by providing advanced driving training to drivers |
| | | • R&D on forestry | • Driving safety<br>• OHS at Laboratory Studies | • Can be easily mitigated by providing advanced driving training to drivers.<br>• Works will be carried out in soil laboratories which do not include infectious agents or toxins that consistently cause disease in healthy adults, therefore can be easily mitigated. |
| | Subcomponent 1.2. Increasing "Readiness" for IFM through technology and capacity building | • Software development<br>• Capacity development (trainings on fire management, study tours)<br>• Conducting public awareness activities | No indicative factor | N/A |
| | | • Trainings for fire management experts<br>• Trainings for search and rescue teams<br>• Trainings for firefighting volunteers | The "quality" of the trainees | The trainees will be selected according to the criteria that will be set at international standards. |
| | | • Construction of forestry schools | • Risks and impacts to OHS and community because of rehabilitation/small- | • Risks related to rehabilitation/ small-scale construction works can be easily mitigated (see Section 4.2.1.) |

| Component | Subcomponent | Activities | Anticipated Risk and Impacts | Associated Mitigation Measures |
|---|---|---|---|---|
| | | | scale construction works.<br>• Chance findings<br>• Risks regarding the design and safety | • The schools will be in the campus areas of RDFs. The likelihood of chance finding is very low but can be easily mitigated (see Section 4.2.2.)<br>• The buildings will be constructed according to Türkiye Building Earthquake Regulation, and the location of schools will be assessed with respect to flooding risk. |

| Component | Subcomponent | Activities | Anticipated Risk and Impacts | Associated Mitigation Measures |
|---|---|---|---|---|
| Component 2: Investments in climate resilient forests in targeted areas | Subcomponent 2.1. Scaling-up wildfire "Risk Reduction" | • Maintenance of forest roads<br>• Construction of bare ground fire breaks<br>• Silvicultural interventions (thinning and pruning of vegetation, afforestation, etc.) | • OHS<br>• Spills from maintenance of machinery<br>• Exhaust gas emissions and fuel standards of the machinery<br>• Disturbance of biodiversity<br>• habitat alteration and loss of biodiversity, soil erosion, deterioration of water quality and quantity, degradation of soil productivity<br>• Chance findings | • OHS risks can be easily mitigated (see Section 4.2.3.)<br>• Regular servicing needs will be undertaken in licensed centers so that oil changes and similar practices will not be carried out in the forests to prevent soil and water pollution.<br>• Exhaust gas emission and fuel standards and energy efficiency of these vehicles will comply with the national legislation.<br>• The works will not be carried out in protected habitats, also if the screening and scoping studies reveals that the risk for biodiversity or environment is substantial or high, then the works will not be carried out.<br>• The environmental risks and impacts can be easily mitigated by applying relevant EHSGs and GIIPs.<br>• Chance findings can be easily mitigated (see Section 4.2.2.) |
| | | • Capacity building and awareness raising for local people about wildfires.<br>• Forest and women project | No indicative factor | N/A |
| Component 2: Investments in climate resilient | Subcomponent 2.2. Strengthening operational systems for "Response" | • Installation of unmanned fire watchtowers | • Risks and impacts to OHS and community because of rehabilitation/small-scale construction works. | • Risks related to rehabilitation/ small-scale construction works can be easily mitigated (see Section 4.2.1.)<br>• The works will not be carried out in protected habitats, also if |

| Component | Subcomponent | Activities | Anticipated Risk and Impacts | Associated Mitigation Measures |
|---|---|---|---|---|
| | | | • Biodiversity | the screening and scoping studies reveals that the risk for biodiversity or environment is substantial or high, then the works will not be carried out. |
| | | • Upgrading radio systems<br>• Planning of location of vehicles for wildfire suppression | No indicative factor | N/A |
| | Subcomponent 2.3. Resilient "Recovery" of landscapes and livelihoods affected by wildfires. | • Construction of biomolecular and genetics, tissue culture laboratories<br>• Housing improvement (sheathing, roof cover, floor heating, indoor electricity)<br>• Installation of solar photovoltaic systems<br>• Installation of barns, greenhouses<br>• Construction of packaging facility, cold storage warehouse and milk collection center | • Risks and impacts to OHS and community because of rehabilitation/small-scale construction works.<br>• Chance findings<br>• Pedestrian and traffic safety (will be decided according to location)<br>• Biodiversity (will be decided according to location) | • Risks related to rehabilitation/ small-scale construction works can be easily mitigated (see Section 4.2.1.)<br>• chance finding can be easily mitigated (see Section 4.2.2.)<br>• The works will not be carried out in protected habitats, also if the screening and scoping studies reveals that the risk for biodiversity or environment is substantial or high, then the works will not be carried out.<br>• The environmental risks and impacts can be easily mitigated by applying relevant EHSGs and GIIPs. |
| | | • Genetic and tissue culture related research and experimental development<br>• Afforestation | OHS | Can be easily mitigated by applying national OHS law |
| | | • Technical beekeeping<br>• Forestry mechanization | No indicative factor | N/A |
| | | • Animal production support | • Animal welfare<br>• Water quality | The procedures and principles of the Regulation on Welfare of Farm Animals will be complied with. |

| Component | Subcomponent | Activities | Anticipated Risk and Impacts | Associated Mitigation Measures |
|---|---|---|---|---|
| | | • Plant production support<br>• Silkworm rearing | • Use of plant protection products<br>• Polyurethane waste<br>• Water usage | For greenhouses all plant protection products will be used in accordance with the procedures and principles of the "Regulation on the Recommendation, Application and Registration of Plant Protection Products" of the MoAF and polyurethane wastes will be collected separately and disposed of in accordance with the provisions of the relevant regulation. |
| Component 3: Project Management, Monitoring and Evaluation | | | No indicative factor | N/A |

# 5. RULES AND PROCEDURES FOR ENVIRONMENTAL AND SOCIAL SCREENING AND ASSESSMENT OF PROJECT ACTIVITIES

The anticipated environmental and social (E&S) impacts and risks of the subcomponents of the Proposed Project are described in Section 4 to provide an overall assessment for the Project. These E&S risk assessments will be revised before the commencement of the related works once the design of the activities is finalized (when the subcomponent activities became a subproject). Therefore, in this section, guidelines and procedures related to these E&S assessments and the anticipated risk categories of the potential subproject based on the anticipated E&S impacts and risks presented in Section 4 will be presented.

## 5.1. PREPARATION AND APPROVAL OF SCREENING AND SCOPING STUDIES

The screening and scoping study will be used to define the potential E&S risks and impacts on which the E&S assessment will focus, the methods to be used and to identify the level of effort needed to fully understand the risks and impacts and the options for mitigating them.

The process will begin after the final design of the subproject [39,40]. Once the subproject will have the "out of scope of EIA" decision–if relevant–from the relevant institution[41], the **first step** in the screening and scoping process will be to determine whether the subproject is on the IFC/WB Group exclusion list–which is given in Appendix 3–or not. Any subproject which is on the exclusion list will not be financed.

Once it is confirmed that the subproject is not part of the list of non-eligible types of subprojects, the **second step** of the screening and scoping process will begin in which the E&S assessment of the subprojects will be carried out. In this assessment, the extent and complexity of potential E&S risks and impacts, and the socioeconomic characteristics of people in the subproject area will be analyzed based on the initial information on the (i) type and scale, (ii) location, (iii) sensitivity, and (iv) magnitude of the proposed subproject (if exists, including its associated facilities and its cumulative impacts). The required level of detail in these assessments will be proportionate to the (i) type and scale, (ii) location, (iii) sensitivity, and (iv) magnitude of the proposed subproject. The "Environmental and Social Screening Sheet" given in Appendix 4, which includes a series of questions to determine the extent and complexity of potential E&S risks and impacts, will guide the screening and scoping process.

This screening sheet will be completed by the PIU or the consulting firm (depending on the workload of the PIU), based on the answers provided by the subproject beneficiary and the *field* observations and the supporting documents, primary and secondary data gathered by the specialists. The subproject beneficiaries will provide answers based on their own and "all"

[39] In an ideal implementation, the potential subproject should be designed regarding the issues considered in Environmental and Social Screening Sheet with the assistance of the specialists of the PIU.

[40] In cases where several separate activities are combined in such a way to produce one single output, then these activities will be evaluated as a single subproject.

[41] As stated in Section 3.1., none of the Project activities are eligible for national environmental impact assessment process. However, according to national legislation they have to obtain "out of scope of EIA" decision from the related Provincial Directorate of Ministry of Environment, Urbanization and Climate Change before the commencement of the construction activities.

knowledge and experience and support their all answers with formal documents (such as title deeds, historical Google Earth images).

While assigning the risks categories to answers, the E&S specialists will consider potential environmental and social risks and impacts, the experience under other WB projects in the country, and the criteria presented in Appendix 5.

In the **third step** of the screening and scoping process (i) the initial risk category ("low", "moderate", "substantial", "high") of the subproject will be set (which will be the highest risk category among the answers) and (ii) if needed, further ESA instruments proportionate to the potential risks and impacts of the subproject will be recommended.

**Project-specific exclusion list**

In addition to IFC / WB Group Exclusion list, there will be additional criteria for a subproject to be financed by IDOP. If the result of the screening and scoping process reveals that the subproject will have

- significant impacts on natural habitats
- any activity within critical habitats
- significant impact on cultural heritage,
- "high" and "substantial" E&S risk category, and

if it triggers

- OP 7.50 (see Section 3.8), and
- ESS5[42]

then, the subproject will not be financed by IDOP.

**Approval Process**

If the screening is performed by the specialists of the consulting firm, the screening document will be sent to PIU for review along with the justifying documents. The PIU specialists will review the documents and if necessary, will ask for revisions and additional documents. When all revisions and the additional documents that requested are completed and provided, then the PIU will send the screening report with its related documents provided as annexes to the WB for clearance. PIU will submit the first two screening forms for each type of subprojects to WB for prior review. Based on mutual agreement between PIU and WB, the approval screening process can be moved to post-review.

## 5.2. PREPARATION AND APPROVAL OF ENVIRONMENTAL AND SOCIAL ASSESSMENT INSTRUMENTS

As stated in the previous section, in the third step of the screening and scoping process ESA instruments proportionate to the potential risks and impacts of the subproject will be recommended, if needed. Although there are numerous ESA instruments that can be utilized

[42] Any subproject (if exists, considering together with its associated facilities) that will lead to temporary or permanent economic/physical displacement and/or loss of livelihood of formal and/or informal users of the land at construction or operation phase will not be financed.

within a project, since the general E&S risk category of IDOP is "moderate", two of them will be used within this Project. These are:

- Environmental and Social Management Plan (ESMP). It is an instrument that details (i) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and (ii) the actions needed to implement these measures.
- ESMP Check List. It is an instrument developed for very limited, well understood and easily mitigated construction projects to ensure that basic good practice measures that are compatible with ESSs are recognized and implemented. In the proposed project, it will be used in small-scale construction and rehabilitation works with moderate environmental and social impacts. It has three sections: (a) Part 1 constitutes a descriptive part ("site passport") that describes the project specifics in terms of physical location, the project description and list of permitting or notification procedures with reference to relevant regulations. Attachments for additional information can be supplemented if needed; (b) Part 2 includes the environmental and social screening in a simple Yes/No format; (c) Part 3 specifies mitigation measures and (d) Part 4 is a monitoring plan for activities carried out during the construction/rehabilitation activities.

In addition to SEP, LMP (prepared for IDOP), ESMP and ESMP checklist, specific features of a subproject may require utilizing specialized methods and tools for assessment such as Occupational Health and Safety Plan (OHS Plan), Pest Management Plan (PMP), Hazardous Waste (including ACM) and/or Materials Management Plan, Waste Management Plan, Emergency Response Plan, Traffic Management Plan (TMP), Biodiversity Management Plan (BMP), etc.

The ESA instruments will be prepared by the PIU or will be outsourced to be prepared depending on the workload of the PIU. If during the preparation of the ESA instruments or the implementation of the subproject, if any new information will be obtained, so that additional ESA instruments will be needed to be prepared, then the prepared ESA instruments will be adopted accordingly, including the mitigation measures.

**Approval Process**

PIU will submit the first two ESMPs/ESMP Checklists for each type of sub-projects to WB for prior review. Based on mutual agreement between PIU and Bank, the approval process for ESMPs/ESMP Checklists can be moved to post-review. Final versions of the E&S instruments will be disclosed on the proposed Project's website. No site works regarding the subproject will commence until the disclosure, consultation and approval of the ESA documents.

These E&S instruments will be annexed to the bidding documents of Contractors' and tailored for grant documents, and they will be responsible for implementing the specified mitigation measures.

**Anticipated Environmental and Social Assessment Instruments for IDOP**

The anticipated risk categories, and the ESA instruments for the Project activities based on the currently available information—which are detailed in Section 4—is given in Table 3. These risk categories and the recommended ESA instruments will be updated during the implementation

of the Project, once the designs of the activities are finalized and the screening and scoping studies of the subprojects are carried out. The general principles applied in Table 3 are:

- No environmental and social assessment will be conducted for subprojects that has no footprint, which are marked with "N/A – Not Applicable" in the "WB Risk Category" column of Table 3.
- Subprojects with "low" risk category will be implemented according to the requirements of the relevant national legislation, such as maintenance of forest roads activities with "low" risk category will be carried out Communique 285 of the OGM on the Planning, Construction and maintenance of Forest Roads.
- Subprojects with "moderate" risk category will adhere to the requirements of both the national legislation, and the ESSs, EHSGs, and the ESA instruments prepared or will be prepared.
- ESMPs or ESMP Checklists will be prepared for subprojects of "moderate" risk category.
- For small-scale rehabilitation or construction works the Contractor will adopt the ESA instruments prepared before the commencement of the works such as Contractor's ESMP (C-ESMP), Contractor's ESMP Checklist (C-ESMP Checklist), Contractor's LM Plan (C-LM Plan) and other relevant plans.
  For all activities, SEPs will be prepared in line with the SEP of IDOP.
- For some activities, "low-moderate" categorization is used, since the location of the activity will affect the risk category, i.e. near to areas where biodiversity is an issue.

Table 3. Anticipated WB risk categories with respective ESA instruments.

| Component | Subcomponent | Activities | Indicative Factors for E&S Impact | WB Risk Category | Recommended E&S Instruments | |
|---|---|---|---|---|---|---|
| Component 1: Strengthening institutions and society for wildfire and forest resilience. | Subcomponent 1.1. Strengthening the institutional framework for IFM through "Review and Analysis" | • Policy development<br>• Capacity development (trainings on ICS, fire cause investigation and study tours) | No significant impact | N/A | SEP | |
| | | • Forestry service activities (IFM, biodiversity, eco-system planning) | OHS (predictable and easily mitigated) | Low | SEP | |
| | | • R&D on forestry | OHS at Laboratory Studies (predictable and easily mitigated) | Low | SEP | |
| | Subcomponent 1.2. Increasing "Readiness" for IFM through technology and capacity building | • Software development<br>• Capacity development (trainings on fire management, study tours)<br>• Conducting public awareness activities | No significant impact | N/A | SEP | |
| | | • Trainings for fire management experts<br>• Trainings for search and rescue teams<br>• Trainings for firefighting volunteers | No significant impact | N/A | SEP | |
| | | • Construction of forestry schools | • OHS (predictable and easily mitigated)<br>• Pedestrian and traffic safety. | Moderate | • ESMP Checklist or ESMP<br>• LMP<br>• TMP<br>• SEP | • C-ESMP Checklist or C-ESMP<br>• C-LMP<br>• C-TMP<br>• C-SEP |
| Component 2: Investments in climate resilient forests in targeted areas | Subcomponent 2.1. Scaling-up wildfire "Risk Reduction" | • Maintenance of forest roads<br>• Construction of bare ground fire breaks<br>• Silvicultural interventions (thinning and pruning of vegetation, afforestation, etc.) | • OHS (predictable and easily mitigated)<br>• Biodiversity<br>(These works will be carried out by the personnel of the OGM) | Low-Moderate | If moderate, then<br>• ESMP Checklist or ESMP<br>• LMP<br>• BMP<br>• SEP<br>If low, then<br>• SEP | |
| | | • Capacity building and awareness raising for local people about wildfires.<br>• Forest and women project | No significant impact | N/A | SEP | |

| Component | Subcomponent | Activities | Indicative Factors for E&S Impact | WB Risk Category | Recommended E&S Instruments | |
|---|---|---|---|---|---|---|
| Component 2: Investments in climate resilient forests in targeted areas | Subcomponent 2.2. Strengthening operational systems for "Response" | • Installation of unmanned fire watchtowers | • OHS (predictable and easily mitigated)<br>• Biodiversity | Moderate | • ESMP Checklist or ESMP<br>• LMP<br>• BMP<br>• SEP | • C-ESMP Checklist or C-ESMP<br>• C-LMP<br>• C-TMP<br>• C-SEP |
| | | • Upgrading radio systems<br>• Planning of location of vehicles for wildfire suppression | • No significant impact | N/A | • SEP | |
| | Subcomponent 2.3. Resilient "Recovery" of landscapes and livelihoods affected by wildfires. | • Construction of biomolecular and genetics, tissue culture laboratories<br>• Housing improvement (sheathing, roof cover, floor heating, indoor electricity)<br>• Installation of solar photovoltaic systems<br>• Installation of barns, greenhouses<br>• Construction of packaging facility, cold storage warehouse and milk collection center | • OHS (predictable and easily mitigated)<br>• Pedestrian and traffic safety (will be decided according to location)<br>• Biodiversity (will be decided according to location) | Low to Moderate | • ESMP Checklist or ESMP<br>• LMP<br>• BMP<br>• TMP<br>• SEP | • C-ESMP Checklist or C-ESMP<br>• C-LMP<br>• C-BMP<br>• C-TMP<br>• C-SEP |
| | | • Genetic and tissue culture related research and experimental development<br>• Afforestation | OHS (predictable and easily mitigated) | Low | SEP | |
| | | • Technical beekeeping<br>• Forestry mechanization | No significant impact | Low | SEP | |
| | | • Animal production support | • Animal welfare<br>• Water quality | Low | SEP | |
| | | • Plant production support<br>• Silkworm rearing | • Use of plant protection products<br>• Polyurethane waste<br>• Water usage | Low | SEP | |
| Component 3: Project Management, Monitoring and Evaluation | | | No significant impact | N/A | SEP | |

# 6. INSTITUTIONAL ORGANIZATION FOR THE IMPLEMENTATION OF ESA INSTRUMENTS

Project Implementation Unit (PIU), Regional Directorates of Forestry (RDFs) and Contractors will be the main actors in the implementation of the ESA instruments.

**Project Implementation Unit (PIU)**

As described in Section 1.3, a PIU was established under the Department of Forest Management and Planning of OGM, which will be responsible for day-to-day management and implementation of the Proposed Project, including the responsibility for financial management, procurement, disbursements, environmental and social (E&S) risk management, monitoring, evaluation, and reporting of Project activities. The general responsibilities of the PIU in terms of the implementation, management, monitoring and reporting of the ESA instruments will be:

- Carry out E&S screening and scoping studies for subprojects. If outsourced, ensure that E&S screening and scoping studies will be prepared accordingly and include requirements of ESMF, LMP and SEP prepared for IDOP and ESSs, and then review the prepared E&S screening and scoping studies of subprojects and approve when all necessary changes are made.
- Send the prepared or approved E&S screening and scoping reports to WB for no-objection (see Section 5.1).
- Prepare ESA instruments recommended in the E&S screening and scoping reports of subprojects. If outsourced, ensure that ESA instruments will be prepared accordingly and include requirements of ESMF, LMP and SEP prepared for IDOP, ESSs and the conclusions of completed E&S screening and scoping studies, and then review the prepared ESA instruments and approve when all necessary changes are made.
- Send the prepared or approved ESA instruments to WB for no-objection (see Section 5.2).
- Ensure that procurement documents prepared for the subprojects include the requirements of ESMF, LMP and SEP prepared for IDOP and the ESA instruments prepared for the subproject as proportionate to the scope of the work.
- Ensure that matching grant contracts prepared for the subprojects include the requirements of ESMF, LMP and SEP prepared for IDOP and the ESA instruments prepared for the subproject as proportionate to the grant to be delivered.
- If relevant, ensure that subproject specific ESA instruments that will be prepared by the contractors are prepared accordingly and include requirements of ESMF, LMP and SEP prepared for IDOP, ESSs and other ESA instruments prepared for the subproject.
- Establish and ensure effective implementation of the grievance mechanism and coordinate with ECC, TWG and regional directorates.
- Ensure that the activities of the subprojects (including matching-grants programs) are implemented in line with the ESMF, LMP and SEP prepared for IDOP and other prepared subproject specific ESA instruments through performing regular site visits. Collect data in these site-visits to monitor and evaluate E&S related issues.
- Working together with the regional directorates and using the data collected from the site visits, prepare reports for the implementation of the ESMF, LMP and SEP prepared for IDOP and the subproject specific ESA instruments, including chance finds, OHS accidents, received grievances, consultations and send to WB E&S task team semi-

annually. These reports will also include recommendations and any further actions required.
- Report instances of chance finds and fatal OHS accidents immediately.

Also, see Section 6 of LMP for LMP specific responsibilities, Section 5 of SEP for SEP specific responsibilities.

Although, the existing PIU has qualified staff responsible for management of core project management functions, to support E&S management of the Project, one environmental specialist, one OHS specialist, and one social specialist will be hired by OGM to ensure efficient and effective implementation of the E&S issues of the Proposed Project and will form the E&S team of the Proposed Project. In general,

- Environmental specialist will be responsible from the environmental aspects of E&S instruments and Project implementation,
- Social specialist will be responsible from the social aspects of E&S instruments and Project implementation, and support the External Communication Center in the operation and establishment of Grievance Mechanism, and
- OHS specialist will be responsible for the OHS related issues.

The specifications for the specialists to be employed will be finalized after the approval of the World Bank,

In addition to the E&S team of the Project, experts such as local experts to support specific activities during short periods or biodiversity experts, etc. will also be hired during the implementation of the Proposed Project.

**Regional Directorates**

OGM will assign focal points at the Regional Directorates of Forestry of Adana, Antalya, Balıkesir, Çanakkale, Hatay, İzmir, Kahramanmaraş, Mersin and Muğla, who will work closely with the E&S Team and will assist E&S team to

- Ensure that the activities of the subprojects (including matching-grants programs) are implemented in line with the ESMF, LMP and SEP prepared for IDOP and other prepared subproject specific ESA instruments,
- The implementation of ESA instruments in construction works will be supervised by supervision contractors under the monitoring of the environmental specialist and the social specialist of the PIU, with the support of regional directorates.
- Collect data to monitor and evaluate E&S related issues, and
- Collect grievances.

**Contractors**

For all sub-projects, the site specific ESMPs, ESMP Checklists and other ESA instruments if prepared, and the ESMF, LMP and SEP prepared for IDOP will be incorporated into the procurement documents. Respective construction and consultancy contracts for subproject design and development will include requirements to implement the site-specific ESA instruments.

The construction contractors will adopt these ESA instruments and prepare OHS plans before the commencement of the works on the site. The construction contractors will:

- ensure that the construction works are carried out according to the mitigation measures stated in ESA instruments,
- control and minimize environmental and social impacts,
- ensure that all staff and workers understand the procedures and tasks in the ESA instruments,
- submit monthly reports on E&S issues, mitigation, and results throughout the construction period,
- promptly notify any accident and incidents, and keep an incident register at construction site throughout the life cycle of the subproject,
- be responsible for the training of staff and workers regarding E&S and OHS issues and commitments within the scope of the approved ESA instruments, and
- develop and implement WGM in association with LMP.

## 6.1. ASSESSMENT OF ESA INSTRUMENTS IMPLEMENTATION CAPACITY OF OGM

OGM is responsible for and subject to Turkish national legislations, and it will fulfill all the requirements of these legislations during the implementation of the Proposed Project. In addition, since the IBRD loan will be used to support the Project activities, OGM will also apply the ESSs of WB, and therefore prepared LMP, SEP and this ESMF. During the implementation of the Proposed Project, subproject specific ESA instruments will also be prepared and become parts of respective bidding documents and construction and consultancy contracts as appropriate. These ESA instruments will also guide OGM to manage and oversee the compliance of project activities with the ESSs.

However, although the staff of OGM has extensive experience in technical and procurement related procedures of Türkiye and has started to build its own capacity on ESSs under the TULIP project (P172562), the experience regarding the requirements of ESSs is still limited. Therefore, capacity-building training will be provided.

**Capacity of RDFs in Terms of Monitoring and Reporting of Implementation of ESA Instruments**

OGM will not hire supervision companies for the construction works and will carry out the monitoring and reporting activities through the personnel of RDFs. Therefore, RDF will be one of the main actors in monitoring and reporting the implementation of ESA instruments.

Nearly all of the technical and managerial personnel of RDFs have OHS specialist certificates at levels of A, B or C, and they actively audit the OHS issues in the works related to forestry activities. In addition, they have construction engineers permanently employed in the sections of machinery supply of RDFs who also carries out auditing for the buildings that OGM constructs or are constructed by the grants of the ORKÖY department.

The capacity of RDFs and the Forestry Operational Directorates in terms of engaging with villagers is also much more developed than most of the other institutions in Türkiye, such as they always carry out public consultations in villages announced one week earlier prior to start a livelihood program to learn the needs and requests of the forest villagers.

Therefore, with capacity buildings as stated in Table 4, they will be qualified for monitoring and reporting for the Project activities.

**Capacity-Building Trainings**

Capacity-building trainings for ESSs will help to ensure that the requirements of the ESMF, LMP and SEP that are prepared for IDOP and the other subproject specific ESA instruments that will be prepared during the implementation of the Project are clearly understood and followed by all Project workers throughout the Project life cycle. The ECC, TWG and Regional and Operational Directorates will be continuously supported in terms of compliance to ESSs and national legislation by the E&S team of the Project during the design and implementation phases of the subprojects.

The ESSs training will be provided to the Project workers according to their level of engagement in Project activities and will cover workers at all levels, ranging from the management and supervisory to the skilled and unskilled categories, as required. The scope of the training will cover general environmental and social awareness and the requirements of the relevant ESSs of the ESA instruments, with special emphasis on sensitizing the Project workers to the environmental, social and gender aspects of the subproject area. Table 4 provides a summary of various aspects of the ESSs training to be conducted under IDOP. The initial ESSs training for the E&S team of the Proposed Project, which will then be responsible for organizing and conducting ESSs trainings for other Project workers, will be provided by the WB E&S task team which will also continue to provide on the job training during their supervision mission. The PIU will hire, as needed, external consultants who will conduct training on particular topics. For this purpose, the Proposed Project will provide necessary funding which was included in the second item of Table 5 which is "Specific Technical Support".

The PIU may revise the capacity building plan during the project implementation as required and subject to the WB approval.

Table 4. Capacity building plan

| Category | Target Audience | Contents | Responsibility | Schedule |
|---|---|---|---|---|
| For all activities | • PSC<br>• Management level of implementing departments and research institute<br>• ECC<br>• TWG<br>• Regional Directorates | • General information about the ESSs and the EHSGs.<br>• Key findings of ESMF, LMP and SEP prepared for IDOP and relevant anticipated mitigation measures.<br>• Grievance mechanism<br>• Conflict management | PIU | • Prior to the start of the Project activities.<br>• To be repeated when there is a positional change in the management |
| | • ECC<br>• TWG<br>• Regional Directorates<br>• Operational Directorates of Forestry | • General information about the ESSs and the EHSGs.<br>• Key findings of E&S screening and scoping studies and anticipated mitigation measures, including E&S sensitivity of the subproject area and | PIU | • After the design of the activities and prior to the start of the subproject activities. |

| Category | Target Audience | Contents | Responsibility | Schedule |
|---|---|---|---|---|
| | | their existing social and cultural values.<br>• Grievance mechanism<br>• Conflict management | | • To be repeated as needed. |
| For construction activities | • ECC<br>• TWG<br>• Regional Directorates<br>• Contractors | • General information about the ESSs and the EHSGs.<br>• Key findings of ESA instruments that will be used in the subproject and anticipated mitigation measures, including E&S sensitivity of the subproject area and their existing social and cultural values.<br>• Relevant E&S management plans (such as OHS, pest / waste / hazardous materials management, etc.)<br>• Chance Finds Procedures<br>• Grievance mechanism<br>• Conflict management | PIU | • After the bidding process and prior to the start of the construction activities.<br>• To be repeated as needed. |
| For grant activities | • For all beneficiaries of grant programs | • Grievance mechanism<br>• Conflict management | Regional Directorates | • Prior to the start of the grant activities<br>• To be repeated as needed |

In addition, raising public awareness and providing training on management of environmental and social issues for all involved parties is crucial for effective implementation of the mitigation measures presented in Section 4.2. In this regard, the Proposed Project will support a series of training, preparing, and disseminating guidebooks and implementing demonstration activities on sector environmental and social related issues.

## 6.2. BUDGET FOR ESMF IMPLEMENTATION

An estimated budget including contingencies for the implementation of ESMF is presented in Table 5 below.

Table 5. ESMF implementation budget

| Budget Categories | Estimated Cost |
|---|---|
| 1. Establishment of E&S team | |
| *One (1) Senior Environmental Specialist* | *US$ 216,000* |
| *One (1) Senior Social Specialist* | *US$ 216,000* |
| *One (1) OHS Specialist* | *US$ 216,000* |
| **Subtotal** | **US$ 648,000** |
| 2. Specific Technical Support | US$ 100,000 |
| 3. Training and Capacity Building | US$ 250,000 |
| 4. Information dissemination | US$ 100,000 |
| 5. Grievance mechanism | US$ 300,000 |
| 6. Visibility Materials and Outreach Package | US$1,500,000 |
| **Total ESMF Implementation Budget** | **US$ 2,898,000** |

Mitigation measures are included in the investment designs; hence no additional costs are envisaged.

# 7. SUPERVISION, MONITORING AND REPORTING

The actors that will take part in the implementation, monitoring and reporting of the ESA instruments were defined in Section 6. In this section, their responsibilities regarding the supervision, monitoring and reporting, and the reporting requirements for the implementation of the overall ESA instruments including the basic environmental and social performance indicators and timeframe will be described.

## 7.1. SUPERVISION AND MONITORING

The E&S issues included in the ESA instruments will be monitored and supervised by the RDFs, contractors, and PIU. E&S monitoring system will start from the preparation phase of the subprojects through the operation phase to prevent negative impacts of the subprojects and observe the effectiveness of mitigation measures. This system will help the WB, PIU, OGM and subproject beneficiaries to evaluate the success of mitigation as part of project supervision and allows taking an action when needed. The monitoring system provides technical assistance and supervision when needed, early detection of conditions related to mitigation measures, follows up on mitigation results, and provides information of the project progress.

E&S monitoring to be implemented by the PIU and RDFs must provide information about key E&S aspects of the subprojects, particularly the E&S impacts of the subprojects and the effectiveness of the applied mitigation measures. Such information will ensure the evaluation of the success of mitigation as part of project supervision and allows corrective action(s) to be implemented, when needed. In this regard the Monitoring Plan identifies monitoring objectives and specifies the type of monitoring, and their link to impacts and mitigation measures. Specifically, the monitoring section of the ESMP provides: (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements; and (b) monitoring and reporting procedures to: (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation. Also Monitoring Plan Format ESMP Checklist is presented in Appendix 1.

The RDFs will carry out control over the observance of obligations by Contractors to comply with the ESMP, ESMP Checklist, SEP and LMP requirements in full, including the submission of monitoring reports on the implementation of ESA instruments on quarterly basis.

During the project implementation, the RDFs and the PIU will perform regular inspections of subprojects with the purpose of confirmation of compliance/non-compliance of measures being performed with the requirements stipulated in ESA instruments. In case of any inconsistency, the RDFs and the PIU will determine the causes of this non-compliance and propose measures for bringing the subproject into compliance with these requirements. Notwithstanding regular inspections of the PIU, the WB's experts will also visit the facilities periodically to confirm their compliance with these requirements.

## 7.2. REPORTING

The RDFs and contractors will prepare and submit detailed reports on the subproject on a monthly basis to the PIUs, specifying if all the measures stated in ESA instruments have been implemented or not, being more detailed at the initial stage of the subproject implementation and providing, for example, if containers for separate waste collection have been installed at the

facility, gutters for waste disposal from higher floors have been equipped or not, water supply and sanitation have been arranged on a contract basis with specialized organizations or not, workers have been instructed on safety measures, rules of action in case of emergency, and use of personal protective equipment, etc.

Subsequent reports can be more concise and can describe only changes (if any) in the measures stated above and later actions (implemented mitigation measures and their efficiency reports on labor safety incidents at a construction site; complaints/appeals of residents; etc.). The final report shall present the overall results of the implementation of the ESA instruments compared with the initial conditions (completed works on the subproject, absence of unauthorized storage of waste at the site, plants have not been damaged or compensatory planting etc.). The monitoring reports will contain photo reports and graphic materials on performed works (photographs of the initial conditions and general appearance of the facility before the start of repair works, layout of the facility subject to reconstruction, photographs of works being performed, photographs of the results of works, etc. The final report will be submitted by RDFs and contractors to the PIUs after the completion of all works at the facility.

Reports on the implementation of the ESA instruments of the subprojects will be submitted together with an assessment of compliance with the agreed measures of environmental mitigation in a form of semi-annual reporting to the PIU. Respectively the RDFs and contractors shall be responsible for the accuracy and timeliness of reporting to the PIU.

The OGM PIU will prepare semi-annual monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project (by compiling the reports of contractors and RDFs), including but not limited to the implementation of the ESCP, status of preparation and implementation of ESA instruments required under the ESCP, stakeholder engagement activities, and functioning of the grievance mechanism and submit to the WB.

The units that will report, the frequency of reporting and the content of the reports are given in Table 6.

Table 6. Regular reporting activities

| Preparing Unit | Receiving Unit | Name | Content | Frequency |
|---|---|---|---|---|
| PIU | • PSC<br>• World Bank | E&S Progress Report | • Summary of Contractors' E&S progress reports.<br>• Summary of RDFs progress reports.<br>• Analysis of progress reports.<br>• Audits carried out in the project area.<br>• Minutes of stakeholder engagements.<br>• Summary on the stakeholder consultations (date/time, venue, participant list, minutes as an annex, etc.).<br>• Summary and disaggregated data of received grievances.<br>• Summary of land acquisition and resettlement related activities.<br>• Follow up information from any past issues that are still being resolved. | Semi-annual |

| Preparing Unit | Receiving Unit | Name | Content | Frequency |
|---|---|---|---|---|
| | | | • Look ahead to the next period. | |
| RDFs (for construction works) | PIU | Progress Report | • Implementation of E&S documents (that are annexed to its bidding document).<br>• Summary and disaggregated data of received grievances.<br>• Follow up information from any past issues that are still being resolved.<br>• Look ahead to the next period. | Quarterly |
| Contractor | PIU / RDFs (for construction works) | Progress Report | • Implementation of ESA instruments (that are annexed to its bidding document).<br>• Summary and disaggregated data of received grievances.<br>• Follow up information from any past issues that are still being resolved.<br>• Look ahead to the next period. | Monthly |

# 8. DISCLOSURE AND CONSULTATION OF ESA INSTRUMENTS

The disclosure and consultation of ESA instruments will be carried out in accordance with the subproject specific SEPs that will be prepared—in line with the SEP prepared for IDOP, but not limited to the initial assessments— proportionate to the nature and scale of the environmental and social impacts of the subprojects. Subproject specific SEPs will be formulated to ensure that project-affected people and other stakeholders are provided relevant, timely and accessible information so that they have an opportunity to express their views and concerns about the project category and corresponding range of impacts.

The timing and methods of engagement with stakeholders throughout the life cycle of projects will be described in subproject specific SEPs. Public consultation activities (including public consultation meetings) will be carried out as defined in each SEP to be prepared. Records of meetings and consultations with stakeholders will be included in the draft and final ESA instruments.

Please refer to SEP prepared for IDOP for details on disclosure and public consultation processes.

**Disclosure and Consultation of ESMF**

This ESMF will be disclosed by OGM through face-to-face meetings in RDFs where the provincial and district firefighting commissions, Forestry Operations Directorates, mukhtars will be invited. In addition, ESMF and the LMP and SEP prepared for IDOP will be disclosed at the web site of Project.

# APPENDIX 1: ESMP CHECKLIST FOR BUILDING REHABILITATION AND SMALL-SCALE CONSTRUCTION ACTIVITIES

## PART 1. GENERAL PROJECT AND SITE INFORMATION

General information about the …….. subproject to be implemented and the project site is presented in 1 1.

Table 1.1. Overview of the project and the project site

| | | |
|---|---|---|
| **GENERAL** | | |
| **Province/District Neighborhood or Village** | | |
| **Project Title** | | |
| **Scope of the Project and the Activities to be Performed** | | |
| **DESCRIPTION OF THE PROJECT SITE** | | |
| **Name of the Site** | | |
| **Location of the Project Site** | | |
| **Owner of the Project Site** | | |
| **Geographical, physical, biological, geological, hydrographic and socio-economic characteristics of the project site** | | Map showing the project area<br>[X] Available<br>[ ] Not Available<br>(*See Annex-1*) |
| **Location and distance of sensitive receptors such as school, hospital, etc.** | | |
| **Location and distance of the sites that the materials such as aggregate, water, stone, etc. will be supplied** | | |
| **LEGISLATION** | | |
| **Infrastructure services to be used during the life cycle of the project (sewage, electricity, water network, etc.)** | | |
| **The national legislations and the permits that the project should comply with (i.e., 1/1000 or 1/5000 scaled zoning plan regulations, construction permits, etc.)** | Environmental Law No. 2872, which came into force in 1983, addresses environmental issues in a comprehensive way. According to the fundamental principles governing the implementation of the Environmental Law, both the citizens and the state have responsibilities for the protection of the environment. In addition to the Environmental Law and its related regulations, there are other laws on environmental protection, protection of resources, cultural and natural assets, pollution prevention and control, implementation of measures to prevent pollution, health, safety and work. Furthermore, various regulations, communiqués and decrees have been published in parallel with the Environmental Law and other laws. A list of national | |

| | |
|---|---|
| | legislation and international agreements is given in *Annex 2*.<br><br>[*Information about the permissions required for the realization of the project will be added*] |
| **INFORMATION DISCLOSURE** | |
| **Details of when, where and with whom the information about the project was disclosed** | |

## PART 2. ENVIRONMENTAL AND SOCIAL PRE-ASSESSMENT

Table 2.1 will be used to identify the activities to be carried out within the scope of the subproject and accordingly to define the environmental and social issues and mitigation measures.

Table 2.1. Environmental and social pre-assessment table

| **ENVIRONMENTAL AND SOCIAL SCREENING** | | | |
|---|---|---|---|
| Will the site activity include/involve any of the following?? | **Activity/Issue** | **Status** | **Triggered Actions** |
| | A. Building Rehabilitation or Small-Scale Construction Activities | [ ] Yes [ ] No | If yes, then see Section **A** below |
| | B. Hazardous or Toxic Materials[43] | [ ] Yes [ ] No | If yes, then see Section **B** below |
| | C. Affected Forests, Wetlands and/or Protected Areas | [ ] Yes [ ] No | If yes, then see Section **C** below |
| | D. Disposal of Medical Waste | [ ] Yes [ ] No | If yes, then see Section **D** below |
| | E. Traffic and Pedestrian Safety | [ ] Yes [ ] No | If yes, then see Section **E** below |

[43] Toxic / hazardous material includes–but is not limited to–asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

## PART 3. ENVIRONMENTAL AND SOCIAL IMPACT MITIGATION PLAN

The environmental and social impacts likely to occur during the construction phase of the project, the measures to be taken to manage these impacts and the monitoring plan are presented in Table 3.1 and Table 3.2, respectively.

Table 3.1. Environmental and social impact mitigation plan

| Activity | Parameter | Mitigation/Measure to be Taken |
|---|---|---|
| **0. General Conditions** | Information Disclosure / Consultation | (a) Before the commencement of the construction activities, the local community and all relevant stakeholders will be informed about the works to be carried out and the measures to be taken.<br>(b) The public will be informed about the work to be carried out by making appropriate announcements in the media and/or public places. |
| | Permits | (a) All legally required environmental permits for construction work will be obtained. |
| | OHS | (a) The Contractor will carry out all works in a safe and disciplined manner and will ensure that the works are designed in such a way as to pose minimal risk to the surrounding habitats and environments.<br>(b) Workers' use of Personal Protective Equipment (PPE) will be in accordance with international good practice (helmet use at all times, masks and safety glasses seat belts and safety boots, etc., where necessary).<br>(c) Proper marking of sites will inform workers of the ground rules and regulations they must follow.<br>(d) All activities will be implemented accordance with both the Occupational Health and Safety Law (date and number of Official Gazette: June 30, 2012 / 28339) and relevant regulations, as well as the World Bank (WB) Group's Occupational Health and Safety (OHS) guidelines.<br>(e) The Contractor will provide a safe working environment for employees and take appropriate measures in accordance with international best practices and Turkish legislation, including COVID-19 related health and safety measures provided by the Ministry of Health and the Ministry of Labor and Social Security.<br>(f) The Contractor will assign personnel with relevant certificates and experience to be responsible for OHS.<br>(g) A Risk Assessment will be carried out for all work to be carried out prior to the commencement of the work. Relevant procedures and plans (including "Emergency Plans") will be implemented. Both the Risk Assessment and Emergency Response Plans will consider the risks of COVID-19 and, where relevant, other infectious disease risks. In addition, an OHS Plan will be prepared by the Contractor, which will include safe working methods for the works to be done.<br>(h) Appropriate signs will be used at the sites and employees will be informed about important rules and regulations that they must abide by.<br>(i) OHS training and occupational safety meetings will be held for the employees, including the work rules indicating the possible risks related to the work area and the work to be performed. These will include regular training for employees on COVID-19 symptoms, how to protect themselves, and what to do when symptoms appear.<br>(j) An OHS Plan including OHS risks, preventive and corrective actions, accident/incident monitoring, records, analysis, nonconformity action records, periodic inspection schedule and machinery, equipment and hand tools requirements, |

| Activity | Parameter | Mitigation/Measure to be Taken |
|---|---|---|
| | | responsible personnel, daily and weekly inspection routines, weekly site tour procedures, sample checklists, control forms, inspection forms, logs, records, etc., will be prepared by the Contractor before starting work.<br>(k) Significant events including both training and accidents (deaths, lost time accidents, leaks, fires, pandemics or epidemics, social unrest, etc.) will be recorded. Incident investigation reports will be prepared for each incident, including root cause analysis.<br>(l) The Contractor will immediately notify the PIU of all significant environmental and social accidents or situations such as, death, lost day accident, environmental leaks, etc. PIU will also inform the WB as soon as it receives the information of the incident (within 48 hours from the time of the incident or accident). The contractor will forward the incident report, including root cause analysis, measures taken and remedial measures, to the PIU and the PIU will forward this report to the WB within 30 workdays. |
| | Terms and Conditions[44] | (a) Workers shall be provided with clear and understandable information and documentation on terms and conditions of employment, such as their rights under national Labor Law (which will include applicable collective agreements).<br>(b) Workers will be regularly paid as required by national law and Labor Management Procedures (LMP).<br>(c) Workers will be provided with adequate weekly rest, annual vacation and periods of sickness, maternity and family leave as required by national law and LMP.<br>(d) Workers will receive timely written notice of termination of employment and details of severance pay.<br>(e) Workers will be employed with the principle of equal opportunity and fair treatment and there will be no discrimination in any area of the employment relationship.<br>(f) Project workers, including certain groups of workers, such as women, persons with disabilities, migrant workers, and children of working age, will be provided with appropriate protection and assistance measures in line with the Environmental and Social Standard (ESS) 2 *Labor and Working Conditions* of the WB Environmental and Social Framework (ESF). All this process will be carried out in accordance with the LMP prepared specifically for the project.<br>(g) Workers will be allowed to join or attempt to participate in workers' organizations and collective bargaining or alternative mechanisms.<br>(h) In all activities to be carried out within the rehabilitation or small-scale construction works, the minimum working age will be 18 and over, and accordingly, no employees under the age of 18 will be employed by the Contractor in connection with the project.<br>(i) Forced labor, which consists of any work or service that is not voluntarily performed and compelled by an individual under the threat of force or punishment, will not be used in connection with this project.<br>(j) A Worker's Grievance Mechanism (WGM) will be established by the Contractor for all employees at the construction site where they can voice their demands/complaints regarding the workplace. The contact details of the WGM will be shared with all employees.<br>(k) All workers will receive training on their rights under national labor and employment law and the WGM at the time of recruitment and prior to employment.<br>(l) All employees are responsible for complying with the Code of Conduct (CoC) and signing relevant documents during recruitment. |

[44] Will be applied in relation with the Labor Management Procedures (LMP) of IDOP.

| Activity | Parameter | Mitigation/Measure to be Taken |
|---|---|---|
| | Labor Related Issues (workers entering the project sites) | (a) Entries and exits to the project site will be controlled and unauthorized access to the site will be prevented.<br>(b) The Contractor will confirm that workers are fit for work prior to commencing work, paying particular attention to workers with underlying health conditions or who may be otherwise at risk.<br>(c) CoC will be shared with project workers during employment |
| | Design / Planning Considerations | (a) Subgrant recipient will apply the concept of universal access[45] to the design and construction of new and renovation of existing structures.<br>(b) If construction or renovation works are carried out in operational public buildings and access to these building are directed to other entrances of the buildings thereof, then necessary structures will be formed/constructed/installed considering universal access practices.<br>(c) If construction or renovation works are related with public access buildings (such as forest schools, etc.), it will be designed to prevent the start of fires through the implementation of national legislation (Regulation on the Protection of Buildings from Fire, (date and number of Official Gazette: December 19, 2007 / 26735) and the internationally accepted life and fire safety standards.<br>(d) Subgrant recipient and the Contractor will implement technically and financially feasible measures for improving efficient consumption of energy water and raw materials, as well as other sources.<br>(e) Structures (e.g., forestry schools) will be checked for seismic resilience, as appropriate. Provisions of "Türkiye Building Earthquake Regulation" (date and number of Official Gazette: March 3, 2018 / 30364) will be strictly followed. |
| **A. Building Rehabilitation or Small-Scale Construction Activities** | Air Quality | (a) The surroundings of the project site (sidewalks, roads) will be cleared of debris to prevent dust generation.<br>(b) There will be no open burning of construction/waste materials at the construction site.<br>(c) Construction machinery at the construction site will not be idle for a long time.<br>(d) Trucks will be covered and a speed limit will be imposed during material transportation.<br>(e) All vehicles to be used will have exhaust emission permits and all vehicles will be regularly maintained.<br>(f) In order to prevent dusting on the roads to be used during the transportation of materials, irrigation will be done on the roads, when necessary. |
| | Noise | (a) Noise generated during construction operations will be limited to the time periods specified in the permits. The construction site activities carried out in and around the residential areas will only be carried out during the daytime period and will not be carried out in the evening and nighttime periods.<br>(b) Engine covers of the generator, air compressor and other working mechanical equipment will be kept closed during the works carried out during the construction phase, and the equipment will be placed as far away from the living areas as possible.<br>(c) Impact noise that may occur due to construction site activity will not exceed 100 dBC in terms of $LC_{max}$ noise indicator.<br>(d) In case of an increase in the noise level during the construction phase, precautions such as not operating the construction machinery at the same time or, if possible, using new model vehicles will be taken.<br>(e) Those residing near the construction site will be informed during the construction period. |

[45] Universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances.

| Activity | Parameter | Mitigation/Measure to be Taken |
|---|---|---|
| | Wastewater | (a) Wastewater to be generated during the construction works will be integrated into the existing sewerage system.<br>(b) In case there is no sewerage system in the area where the construction site is located, the wastewater will be collected in impermeable septic tanks and removed from the site by sewer trucks belonging to the Municipality.<br>(c) Site/construction vehicles and machinery will be washed only in designated areas. |
| | Waste Management | (a) The resulting waste will be managed in accordance with the waste management hierarchy (prevention, reduction, reuse, energy recovery, disposal).<br>(b) Waste collection and disposal methods and sites/containers will be determined for all types of waste expected from all activities.<br>(c) All types of solid waste will be collected and disposed of in accordance with environmental legislation.<br>(d) Waste disposal records will be kept regularly.<br>(e) All waste will be segregated (e.g., hazardous/non-hazardous, recyclable/non-recyclable) and temporarily held in designated areas that meet the standards set by the relevant legislation until final removal from the site.<br>(f) Waste recycling, transportation and disposal operations will be carried out by licensed companies and/or relevant municipalities.<br>(g) Waste will not be given to informal collectors.<br>(h) Where appropriate, wastes other than asbestos may be reused or recycled. |
| **C. Hazardous or Toxic Materials** | Hazardous Waste Management | (a) In case of temporary storage of hazardous waste at the Project site; The wastes will be kept in containers that are sound, leakproof, safe and in accordance with internationally accepted standards, the hazardous waste phrase will be placed on the containers and the amount, content, properties, protection conditions and storage date of the stored material will be indicated on the containers.<br>(b) Containers for storing hazardous materials shall be placed in sealed containers to prevent spillage and leakage.<br>(c) Hazardous waste will be transported by licensed waste transport companies and disposed of in licensed facilities.<br>(d) Toxic paints, solvents or lead-based paints shall not be used.<br>(e) Hazardous chemicals and wastes likely to occur at the construction site will be stored in a way that does not pose a threat to public health.<br>(f) The disposal of hazardous chemicals and wastes that may occur at the construction site will be carried out in licensed facilities under the control of authorized companies and experts. |
| **D. Affected Forests, Wetlands and/or Protected Areas** | Protection | (a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities.<br>(b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided.<br>(c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences.<br>(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas. |

| Activity | Parameter | Mitigation/Measure to be Taken |
|---|---|---|
| **E. Disposal of Medical Waste** | Infrastructure for Medical Waste Management | (a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to:<br>• Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal; and<br>• Appropriate storage facilities for medical waste are in place; and<br>• If the activity includes facility-based treatment, appropriate disposal options are in place and operational. |
| **F. Traffic and Pedestrian Safety** | Direct or Indirect Hazards to Public Traffic and Pedestrians by Construction Activities | (a) In accordance with national regulations the Contractor will ensure that the site is properly secured, and traffic related to the construction is regulated. In this context, s/he will take the necessary measures, including but not limited to the following:<br>• Signposting, warning signs, barriers and traffic diversions: the site will be clearly visible, and the public will be warned of potential hazards.<br>• Activities that will affect the traffic in the region will be planned by taking into account the rush hour as much as possible.<br>• All drivers who will take part in the project will be informed about road safety, speed limits, traffic rules to be followed during the project and conditions to be considered.<br>• In order to prevent unauthorized access to the construction site, the construction site will be surrounded by fences/curtains and uncontrolled entrances will be prevented.<br>• Safe passages and sidewalks will be provided for pedestrians at the points where the works disrupt the traffic. |

## PART 4. ENVIRONMENTAL AND SOCIAL MONITORING PLAN

Table 3.1. Environmental and social monitoring plan

| **Phase** | **What** (Is the parameter to be monitored?) | **Where** (Is the parameter to be monitored?) | **How** (Is the parameter to be monitored?) | **When** (Define the frequency / or continuous?) | **Why** (Is the parameter being monitored?) | **Cost** (if not included in project budget) | **Who** (Is responsible for monitoring?) |
|---|---|---|---|---|---|---|---|
| During activity preparation **(pre-construction)** | | | | | | | |
| During activity implementation **(construction)** | | | | | | | |

## APPENDIX 2. CHANCE FINDS PROCEDURE

This procedure has been prepared in accordance with the Protection of Cultural and Natural Assets Law (No: 2863).

**1. Definition of Cultural and Natural Heritages**

*Cultural assets:* All movable and immovable assets above ground, underground or underwater, which are related to science, culture, religion and fine arts belonging to prehistoric and historical periods, or which have been the subject of social life in prehistoric or historical periods, having scientific and cultural original value.

*Natural assets:* Values above ground, underground or underwater that belong to geological periods, prehistoric and historical periods and need to be preserved in terms of their rarity or their characteristics and beauties.

**2. Ownership**

All movable and immovable cultural and natural assets that are found are state property.

**3. Recognition**

All project workers that work in excavation works will be informed about this chance finds procedure and they will be obliged to inform resident engineer upon any unusual find. In addition, although, subproject activities within cultural or natural heritage sites will not be financed, for subproject activities within the 1 km radius of the registered cultural and natural heritage sites, a specialist will be hired to accompany excavation works.

**4. Procedure upon Discovery**

The procedures that will be followed upon the finding of a cultural or natural heritage during the execution of the works are:

- The worker will inform the resident engineer immediately.
- The resident engineer will immediately stop all the work in the project area, inform the subcontractor/contractor, and take the necessary measures for protection and safety of the heritages.
- The subcontractor/contractor will inform the nearest museum directorate or the village headman or the local administrators, and the PIU within three days at the latest.
- Resident engineer will prepare a chance finds report and submit it to subcontractor/ contractor which then will submit to PIU. Chance finds report will include:
    - date and time of discovery,
    - location of the discovery,
    - description of the heritage,
    - photographs and videos,
    - temporary protection implemented.

All work will be suspended until the competent authorities give permission to continue the work.

## APPENDIX 3. IFC / WB GROUP EXCLUSION LIST

The Proposed Project will not support subprojects that are specified in the below IFC / WB Group Exclusion List[46]:

- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under CITES.
- Production or trade in weapons and munitions. *
- Production or trade in alcoholic beverages (excluding beer and wine). *
- Production or trade in tobacco. *
- Gambling, casinos and equivalent enterprises. *
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.
- Production or trade in unbonded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.
- Drift net fishing in the marine environment using nets in excess of 2.5 km in length.
- Production or activities involving harmful or exploitative forms of forced labor**/harmful child labor. ***
- Production or trade in wood or other forestry products other than from sustainably managed forests.
- Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.
- Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples.

[46] http://www.ifc.org/exclusionlist

Notes:

* This does not apply to project sponsors who are not substantially involved in these activities. "Not substantially involved" means that the activity concerned is ancillary to a project sponsor's primary operations.

** Forced labor means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

*** Harmful child labor means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development.

# APPENDIX 1. ENVIRONMENTAL AND SOCIAL SCREENING SHEET[47]

## OVERVIEW OF SUBPROJECT

**Name of the Project Component:** ie.,

**Name of the Project Subcomponent**: ie.,

**Title of the Subproject:** ie.,

**Date:** ie.,

**Brief explanation about the subproject:** ie.,

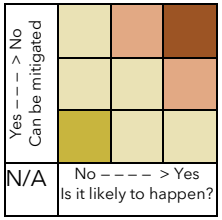
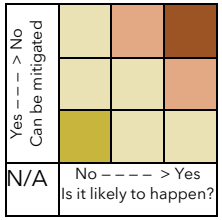
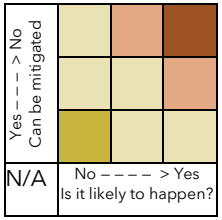
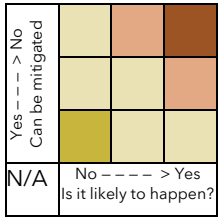
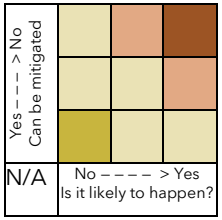
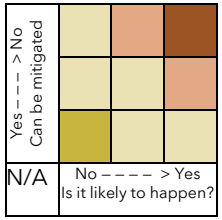
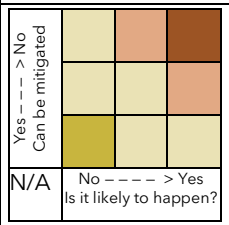
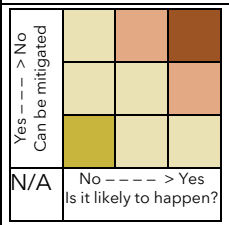
Associated facilities of the subproject (if any)

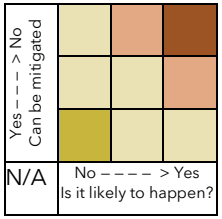
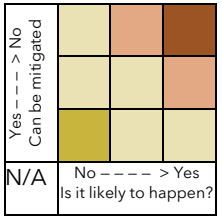
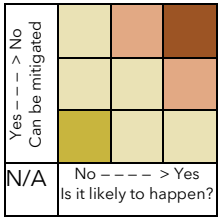
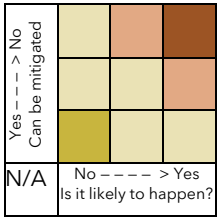
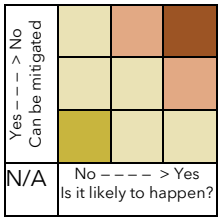
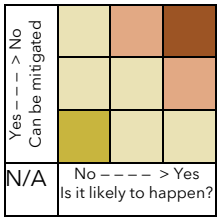
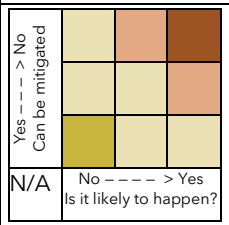
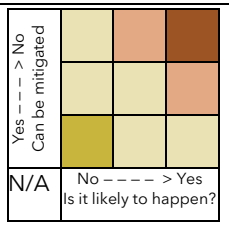
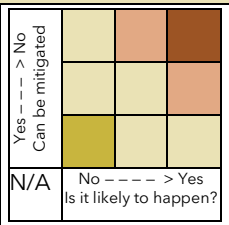
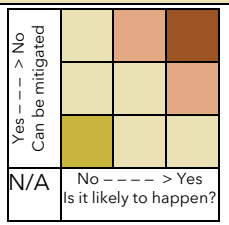
**Location of the subproject:** ie.,

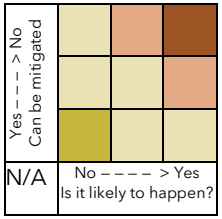
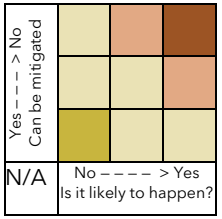
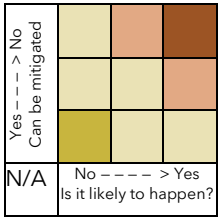
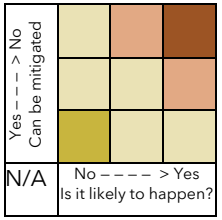
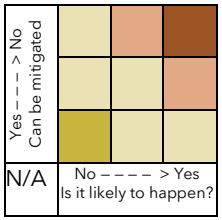
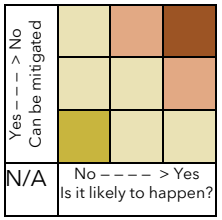
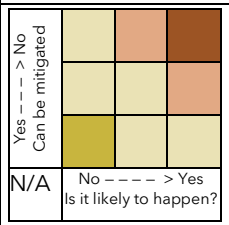
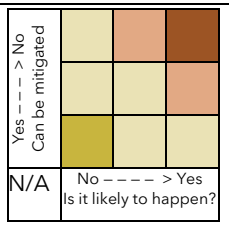
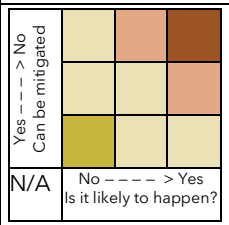
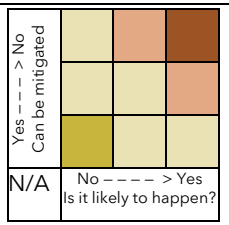
**Photographs from the site**

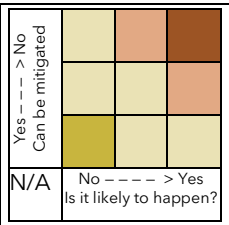
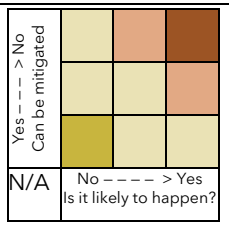
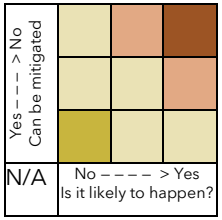
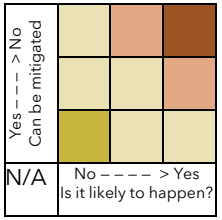
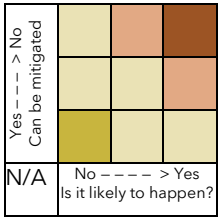
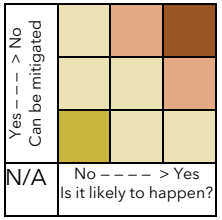
[47] Tailored from UNDP, Social and Environmental Screening Template (2021 SESP Template) with information from WB Good Practice Notes

## ENVIRONMENTAL AND SOCIAL SCREENING OF THE PROJECT

| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| **ESS2 - Labor and Working Conditions** | | | |
| 2.1. Would the project potentially involve or lead to the use of child labor?<br>*Consider the contractors, subcontractors and primary suppliers of the project.* |  |  | |
| 2.2. Would the project potentially lead to occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life cycle? |  |  | |
| **ESS3 - Resource Efficiency and Pollution Prevention and Management** | | | |
| 3.1. Would the project potentially lead to the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts? |  |  | |
| 3.2. Would the project potentially lead to the generation of waste (both hazardous and non-hazardous)? |  |  | |

| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| 3.3. Would the project potentially lead to the manufacture, trade, release, and/or use of hazardous materials and/or chemicals? |  |  | |
| 3.4. Would the project potentially lead to the use of chemicals or materials subject to international bans or phase-outs? For example, DDT, PCBs and other chemicals listed in international conventions |  |  | |
| 3.5. Would the project potentially lead to the application of pesticides that may have a negative effect on the environment or human health? |  |  | |
| 3.7. Would the project potentially lead to the significant consumption of raw materials, energy, and/or water? |  |  | |
| ESS4 - Community Health and Safety | | | |
| 4.1. Would the project potentially lead to air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation? |  |  | |

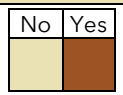
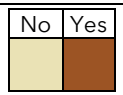
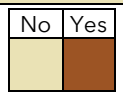
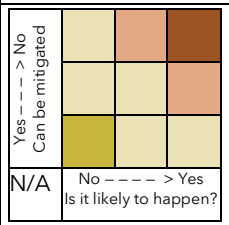
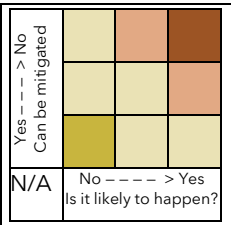
| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| 4.2 Would the project potentially lead to harm or losses due to failure of structural elements of the project (e.g., collapse of buildings or infrastructure)? |  |  | |
| 4.3. Would the project potentially lead to risks of water-borne or other vector-borne diseases (e.g., temporary breeding habitats), communicable and noncommunicable diseases? |  |  | |
| 4.4. Would the project potentially involve transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g., explosives, fuel and other chemicals during construction and operation)? |  |  | |
| 4.5. Would the project potentially lead to adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g., food, surface water purification, natural buffers from flooding)? |  |  | |
| 4.6. Would the project potentially lead to engagement of security personnel to protect facilities and property or to support project activities? |  |  | |

| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| **Labor Influx** | | | |
| 4.7. Will the project potentially involve an influx of workers to the project location, and will the influx be considered significant for the local community?[48] |  |  | |
| 4.8. Is the project located in a rural or remote area?[49] |  |  | |
| 4.9. Based on the socioeconomic, cultural, religious, and demographic qualities of the local community and the incoming workers, is there a possibility that their presence or interaction with the local community could create adverse impacts?[50] |  |  | |

[48] Consider below aspects:
- How many workers will be needed for the project, with what skill sets, and for what period of time?
- What is the size and skill level of the existing local workforce?
- Can the project hire workers from the local workforce?
- If the skill level of the local workforce does not match the needs of the project, can they be trained within a reasonable timeframe to meet project requirements?
- How will the workers be accommodated? Will they commute or reside on site? If so, what size of camp will be required?

[49] Consider below aspects:
- What is the size of the local population in the project area?
- Is the project located / being carried out in an area that is not usually frequented by outsiders?
- What is the frequency and extent of contact between the local community and outsiders?
- Are there sensitive environmental or social conditions that need to be considered?

[50] Consider below aspects:
- Is it likely that the incoming workers and the local community come from a shared socio-economic, cultural, religious or demographic background?
- What is the adequacy/level of existing public services and natural resources, and will the incoming workers use or create competition for these resources?

| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| **ESS5 - Displacement and Resettlement** | | | |
| 5.1. Does the beneficiary own the property of the location of the Project? |  | | |
| 5.2. Will the project trigger ESS 5?[51] |  | | |
| **ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources** | | | |
| 6.1. Will the project activities be carried out within a protected biodiversity area? |  | | |
| 6.2. Would the project potentially lead to adverse impacts to habitats (e.g., modified, natural, and critical habitats) and/or ecosystems and ecosystem services? (i.e., *through habitat loss, conversion or degradation, fragmentation, hydrological changes)* |  |  | |

- What is the expected duration of the incoming workers' presence in the community?
- Given the characteristics of the local community, are there any specific adverse impacts that may be anticipated?
- Are there specific characteristics that need to be taken into account in the Worker's Code of Conduct for the project, or in the project grievance mechanisms (GMs)?

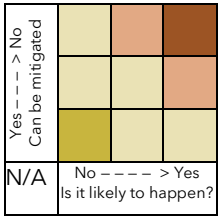
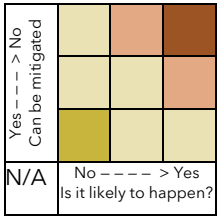
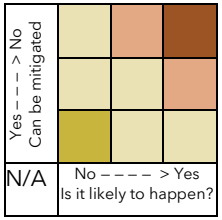
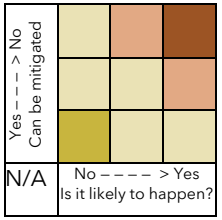
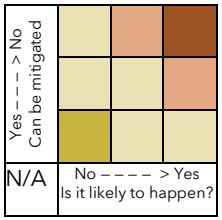
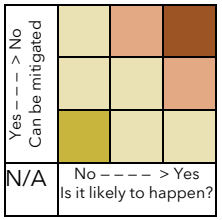
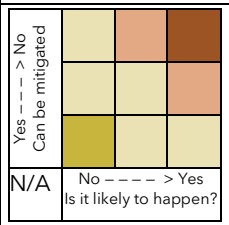
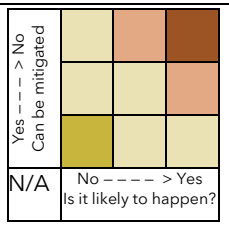
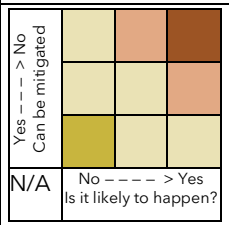
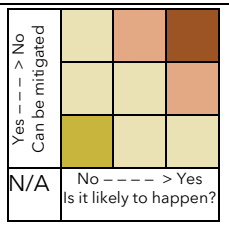
[51] If the project will lead to

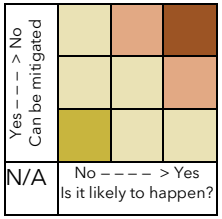
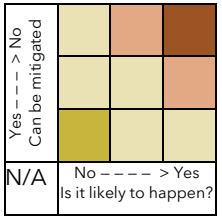
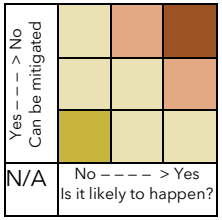
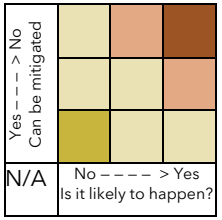
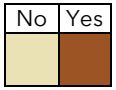
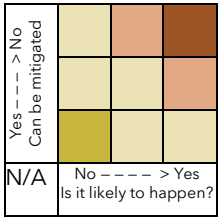
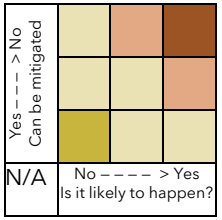
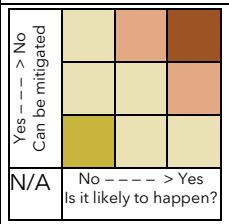
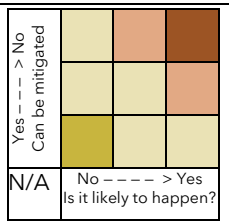
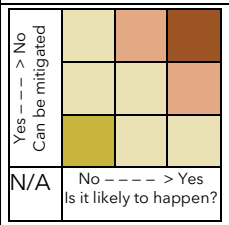
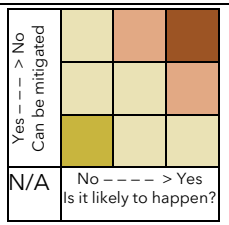
- temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land) or
- economic displacement (e.g., loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation) (including people without legally recognizable claims to land) or
- impacts on or changes to land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources or
- loss of/damage to productive trees, fruit plants or crops that generate livelihood income for the households or

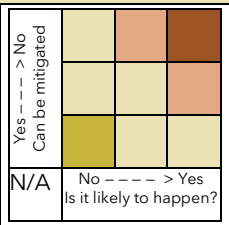
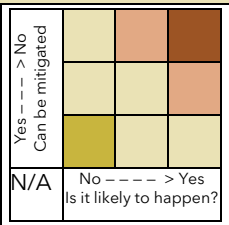
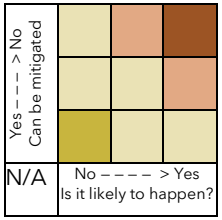
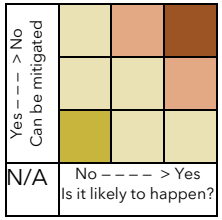
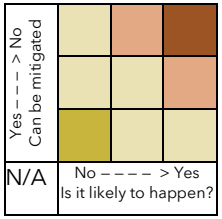
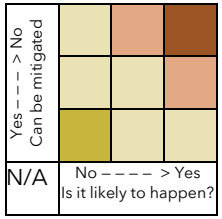
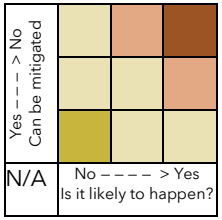
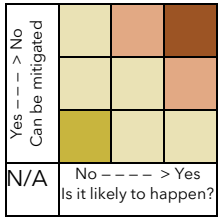
or if the site chosen for work

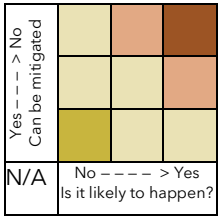
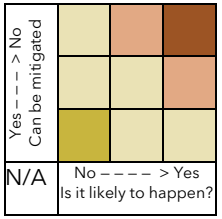
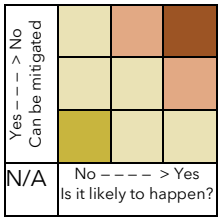
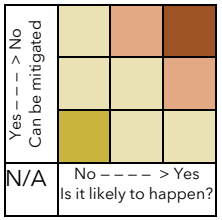
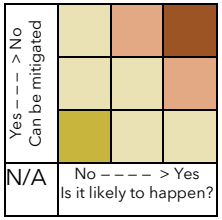
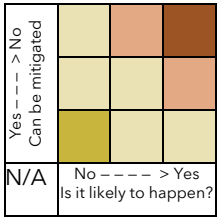
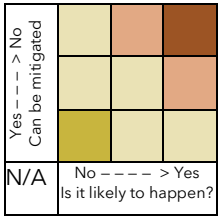
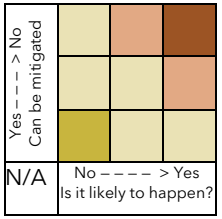
- is not free from encumbrances and is in possession of the public/government/ community land or
- requires private land acquisition or
- requires ex-post audit or
- causes any access restriction to the commuters/pedestrians/ business and trades or
- causes people permanently or temporarily lose access to facilities, services, or natural resources.

Then the project triggers ESS5.

| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| 6.3. Would the project potentially lead to changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? |  |  | |
| 6.4. Would the project potentially lead to risks to endangered species (e.g., reduction, encroachment on habitat)? |  |  | |
| 6.5. Would the project potentially lead to the introduction of invasive alien species? |  |  | |
| 6.6. Would the project potentially lead to adverse impacts on soils? |  |  | |
| 6.7. Would the project potentially lead to significant extraction, diversion or containment of surface or ground water? |  |  | |

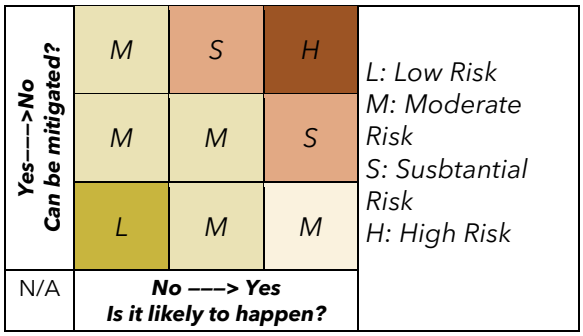
| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| 6.8. Would the project potentially lead to handling or utilization of genetically modified organisms/living modified organisms? |  |  | |
| 6.9. Would the project potentially lead to utilization of genetic resources? (e.g., collection and/or harvesting, commercial development) |  |  | |
| **ESS8 - Cultural Heritage** | | | |
| 7.1. Will the project activities be carried out within a Cultural Heritage site? |  | | |
| 7.2. Would the project potentially lead to significant impacts to nearby Cultural Heritage sites? |  |  | |
| 7.3. Would the project potentially involve significant excavations, demolitions, movement of earth, flooding or other environmental changes, so that chance finds can be found? |  |  | |
| 7.4. Would the project potentially lead to adverse impacts to intangible forms of culture? |  |  | |

| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| **Gender, Disadvantaged/Vulnerable Groups** | | | |
| GDV.1. Would the project potentially lead to inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? |  |  | |
| GDV.2. Would the project potentially lead to restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities? |  |  | |
| GDV.3. Would the project potentially lead to adverse impacts on gender equality and/or the situation of women and girls? |  |  | |
| GDV.4. Would the project potentially lead to reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits? |  |  | |

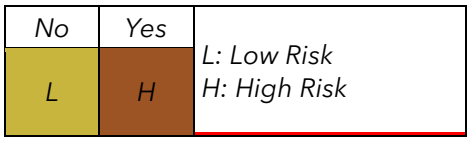
| Area of Interest | Risk at Construction/ Decommissioning | Risk at Operation | Brief Description |
|---|---|---|---|
| GDV.5. Would the project potentially lead to limitations on women's ability to use, develop and protect natural resources, considering different roles and positions of women and men in accessing environmental goods and services? (i.e., activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and wellbeing) |  |  | |
| GDV.6. Would the project potentially lead to exacerbation of risks of gender-based violence? (i.e., through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.) |  |  | |
| GDV.7. Would the project potentially lead to exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them? |  |  | |
| GDV.8. Would the project potentially lead to grievances or objections from potentially affected stakeholders? |  |  | |

***Notes:***

- *The questions will be evaluated according to the matrix below.*




- *If the question is not applicable, please mark "N/A" box.*
- *In the "Brief Description" column, it will be summarized why the relevant risk category was chosen separately for the construction/decommissioning and operation phases.*
- *Some questions are prepared as "yes" or "no" only. A "yes" answer puts the subproject directly in the high-risk category.*




- *As a result of the screening, the highest risk category among the answers to the questions will be selected as the risk category of the subproject.*
- *Any subproject with substantial or high-risk will not be funded by IDOP.*
- *Any information which depends on legal documents will be presented along with the legal documents themselves. These documents will be annexed to the screening template (i.e.,* if the answer to question *"Does the beneficiary own the property of the location of the Project?" is "Yes", then the title deed of the land will be annexed to the template)*

## CONCLUSION

**Risk category of the subproject:**

*Restate the reasons…*

**Recommended Environmental and Social Assessments:**

**Names and signatures of the people who prepared.**

**Names and signatures of the staff in PIU who approved.**

## APPENDIX 2: RISK CATEGORIES OF WORLD BANK

World Bank classifies projects into one of four categories as low, moderate, substantial, and high depending on

- the type, location, sensitivity, and scale of the project, and
- the nature and magnitude of the potential environmental and social risks and impacts.

A project will be classified as **High Risk** if:

- the project is likely to generate a wide range of significant adverse risks and impacts on human populations or the environment. This could be because of the complex nature of the project, the scale (large to very large) or the sensitivity of the location(s) of the project. This would take into account whether the potential risks and impacts associated with the project have the any, some, or all of the following characteristics:
    - long term, permanent and/or irreversible (e.g., loss of major natural habitat or conversion of wetland), and impossible to avoid entirely due to the nature of the project,
    - high in magnitude and/or in spatial extent (the geographical area or size of the population likely to be affected is large to very large),
    - cumulative and/or trans-boundary in nature, and
    - a significant probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal, etc.).
- the area likely to be affected is of high value and sensitivity, for example sensitive and valuable ecosystems and habitats (protected areas, National Parks, World Heritage Sites, Important Bird Areas), lands or rights of indigenous people or other vulnerable minorities, intensive or complex involuntary resettlement or land acquisition, impacts on cultural heritage or densely populated urban areas,
- some of the significant adverse environmental and social risk and impacts of the project cannot be mitigated or specific mitigation measures require complex and/or unproven mitigation, compensatory measures or technology, or sophisticated social analysis and implementation,
- there are concerns that the adverse social impacts of the project, including the risk of political capture of project benefits, and the associated mitigation measures, may give rise to significant social conflict,
- there is a history of unrest in the area of the project or the sector, and there may be significant concerns regarding the activities of security or other armed forces,
- the project is being developed in a legal or regulatory environment where there is significant uncertainty or conflict as to jurisdiction of competing agencies, or where the legislation or regulations do not adequately address the risks and impacts of complex projects or changes to applicable legislation are being made, or enforcement is weak,
- the past experience of the Borrower and/or the implementing agencies in developing complex projects project is limited, and their track record regarding environmental and social issues generally is poor,
- stakeholder engagement, especially community participation in the project area, is weak; or
- there are a number of factors outside the control of the project which could have a significant impact on the environmental and social performance and outcomes of the project.

A project will be classified as **Substantial Risk** if:

- the project is not as complex as high-risk projects, its scale is smaller (large to medium) and the location is not in such a sensitive area. This would take into account whether the potential risks and impacts have the any, some or all of the following characteristics:
    - mostly temporary, predictable and/or reversible, and the nature of the project does not preclude the possibility of avoiding or reversing them (although substantial investment and time may be required),
    - medium in magnitude and/or in spatial extent (the geographical area and size of the population likely to be affected are medium to large),
    - the potential for cumulative and/or trans-boundary impacts may exist, but they are less severe and more readily avoided or mitigated than for high-risk projects,
    - medium to low probability of serious adverse effects to human health and/or the environment (e.g., due to accidents, toxic waste disposal, etc.), and there are known and reliable mechanisms available to prevent or minimize such incidents.
- the effects of the project on areas of high values or sensitivity will be lower than high risk projects,
- mitigatory and/or compensatory measures that may be designed more readily and be more reliable than those of high-risk projects.

A project will be classified as **Moderate Risk** if:

- the potential adverse risks and impacts on human populations and/or the environment are not likely to be significant. This is so because the project is not complex and/or large, does not involve activities that have a high potential for harming people or the environment, and is located away from environmentally or socially sensitive areas. As such, the potential risks and impacts and issues are likely to have the following characteristics:
    - predictable and expected to be temporary and/or reversible,
    - low in magnitude,
    - site-specific, without likelihood of impacts beyond the actual footprint of the project,
    - low probability of serious adverse effects to human health and/or the environment (e.g., do not involve use or disposal of toxic materials, routine safety precautions are expected to be sufficient to prevent accidents, etc.), and
- risks and impacts can be easily mitigated in a predictable manner.

A project will be classified as **Low Risk** if:

Its potential adverse risks and impacts and issues on human populations and environment are likely to be minimal or negligible and are less than those in projects classified as moderate risk. These projects, with few or no adverse risks and impacts and issues, will not require further environmental and social assessment.

## APPENDIX 6. INDICATIVE OUTLINE OF ESMP

An Environmental and Social Management Plan (ESMP) consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a project to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures. The Borrower will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements. The content of the ESMP will include the following:

**Mitigation**

The ESMP identifies measures and actions in accordance with the mitigation hierarchy that reduce potentially adverse environmental and social impacts to acceptable levels. The plan will include compensatory measures, if applicable. Specifically,

- identify and summarize all anticipated adverse environmental and social impacts,
- describe—with technical details—each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate,
- estimate any potential environmental and social impacts of these measures; and
- take into account, and be consistent with, other mitigation plans required for the project (e.g., cultural heritage).

**Monitoring**

Monitoring during project implementation provides information about key environmental and social aspects of the project, particularly the environmental and social impacts of the project and the effectiveness of mitigation measures. Such information enables the evaluation of the success of the mitigation as part of project supervision and allows corrective action to be taken when needed. Specifically, the monitoring section of the ESMP provides:

- a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and
- monitoring and reporting procedures to
    - ensure early detection of conditions that necessitate particular mitigation measures, and
    - furnish information on the progress and results of mitigation.

**Capacity development and training**

To support timely and effective implementation of environmental and social project components and mitigation measures, the ESMP draws on the environmental and social assessment of the existence, role, and capability of responsible parties on site or at the agency and ministry level. Specifically,

- provide a specific description of institutional arrangements, identifying which party is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training).
- recommend the establishment or expansion of the parties responsible, the training of staff, and any additional measures that may be necessary to support implementation of mitigation measures and any other recommendations of the environmental and social assessment, and to strengthen the environmental and social management capability in the agencies responsible for implementation.

**Implementation schedule and cost estimates**

- For all three aspects (mitigation, monitoring, and capacity development), the ESMP provides,
    - an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and
    - the capital and recurrent cost estimates and sources of funds for implementing the ESMP, which are also integrated into the total project cost tables.

**Appendices**

- Contractor's Environmental and Social Management Plan