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3. Approach to Environmental and Social Assessment

3.1 Introduction

This Chapter of the ESIA sets out the overall approach to the preparation of the ESIA of the Öksüt Project. It presents the background to the ESIA, summarises the key stages in the preparation of the ESIA, including the Project scope, stakeholder engagement and disclosure. The Chapter outlines the impact assessment methodology used, including the approach adopted in the selection of impact assessment criteria.

3.2 Approach to the ESIA Process

This Öksüt Project ESIA builds upon the Environmental Impact Assessment ("Turkish EIA") that was prepared to meet Turkish EIA requirements[1] and a number of additional studies.

3.3 Stakeholder Engagement

OMAS has undertaken engagement with local communities and other stakeholders since the initial exploration phase and has developed and implemented a Stakeholder Engagement Plan (SEP) (OMAS-ESMS-SEP-PLN-001) to guide its activities. The SEP has been developed to meet EBRD requirements.

3.3.1 ESIA Scoping

Feedback from stakeholder engagement, together with the Turkish EIA, has been used to inform the scope of the ESIA as outlined in *Chapter 6: Stakeholder Consultation and Engagement.*

3.4 Analysis of Alternatives

Chapter 4: Alternatives of the ESIA identifies alternatives for key Project activities that may cause environmental and social impacts; and includes an examination of each technically and financially feasible alternative to the source of such impacts, including the non-project alternative, and documents the rationale for selecting the chosen alternative.

3.5 Project Area and Scope of Assessment

3.5.1 Temporal Scope

The ESIA addresses effects arising throughout the full life of the Project during construction, operation and closure phases.

3.5.2 Spatial Scope

Definition of Project Area

EIA Permitted Area
The Turkish EIA concentrated its assessment on the "**EIA Permitted Area**", which reflected the area that was to be physically enclosed by the mine fence line, which includes the pits and mine facilities. This area is shown in red in Figure 3-1 below.

[1] Considered within the scope of paragraphs (a) of Article 7 of the *EIA Regulation*, which came in effect upon its publication in the Official Gazette no. 38784 of 03.10.2013, and of paragraphs (a) and (c) of Article 29 of the Annex I.

Project Area

In addition to the EIA Permitted Area, this ESIA also considers the potential impacts that may be caused by construction of the water supply pipeline, access road and powerline. The access road pastureland permit corridor, water supply pipeline and powerline routes are shown in Figure 3-1 below. Along the linear infrastructure, the ESIA has assessed impacts along a 200 m corridor (100 m either side of each infrastructure alignment unless otherwise stated).

The area that represents both the EIA Permitted Area, plus the infrastructure corridors, is collectively known as the "Project Area".

Study Areas

The spatial extent of the ESIA comprises the geographical area potentially affected by the Project. Individual study areas were selected for each discipline, and these are illustrated and justified in the relevant chapters of this ESIA. The following definitions were used to determine each individual ESIA study area:

- Areas and communities potentially impacted by the Project and its activities.
- Areas and communities potentially impacted by cumulative impacts from further planned development of the Project or other sources of similar impacts in the geographical area and other Project-related developments.
- Environmental and social issues associated with activities or facilities which are not part of the Project, but which may be directly or indirectly influenced by the Project, exist solely because of the Project or could present a risk to the Project.

Social Study Area

The social setting of the Project in terms of local settlements, population and distance to mine operations is set out in Table 3-1 below.

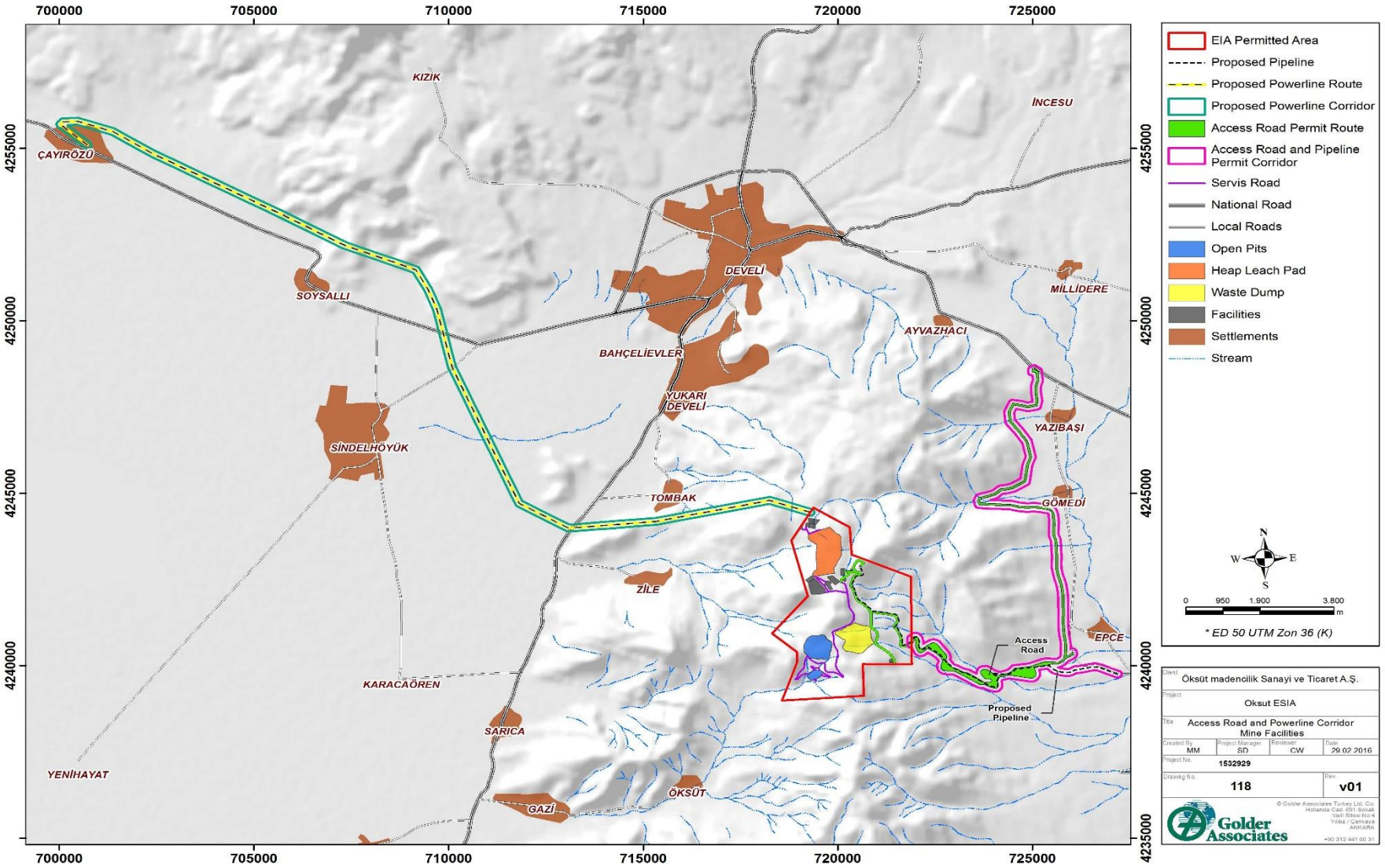
Table 3-1: Population in settlements in the study area

Settlement	Type	Population[2][3]	Distance to Mine
Develi District	-	64,550	-
Develi town	District Centre	39,342	8 km
Yukarı Develi • Yedek • Kopçullu • Camikebir • Güney Yukari	Quarter of Develi	898[4]	4 km
Gazi	Neighbourhood	1,125	8 km
Öksüt	Neighbourhood	590	4 km
Sarıca	Neighbourhood	351	8 km
Tombak	Neighbourhood	227	5 km
Zile	Neighbourhood	403	4 km
Epçe	Neighbourhood	843	7 km
Gömedi	Neighbourhood	83	7 km
Yazıbaşı	Neighbourhood	292	9 km

[2] TurkStat, ABPRS 2014.
[3] Çayırözü, Soysallı, Sindelhöyük figures obtained from http://www.yerelnet.org.tr and are from 2012.
[4] Estimated during key informant interview, December 2014

Settlement	Type	Population[23]	Distance to Mine
Çayirözü	Neighbourhood	695	24 km
Soysalli	Neighbourhood	1,310	17 km
Sindelhöyük	Neighbourhood	4,334	13 km

Figure 3-1: Location of "EIA Permitted Area" and "Project Area"



3.6 Project Standards

A regulatory review has been conducted to determine the Project Standards. As outlined *in Chapter 2*, OMAS Project Standards have been developed based on the more stringent standard of national Turkish legislation and EBRD requirements (including EU regulatory requirements where applicable).

3.7 Impact Assessment Methodology

An overarching framework for the impact assessment has been developed for the ESIA, as outlined below.

3.7.1 Identification and Assessment of Receptors

The term "receptor" is used to describe features of the environment and may comprise resources such as water resources, habitats and species which are valued by society for their intrinsic worth and/or their social or economic contribution; and social groups such as individuals and communities that may be affected by the Project.

The importance of a receptor is determined by the consideration of a range of criteria depending on the topic under consideration, including: the economic, social and cultural value of the receptor, locally, nationally and internationally; any local, national or international designations; the rarity of the receiving environment; and the benefits or services provided.

Receptor sensitivity is determined by the consideration of a receptors' ability to resist or adapt to changes and its resilience to change. Table 3-2 below describes categories of importance and/or sensitivity that have been applied in this ESIA.

Table 3-2: Receptor Importance and Sensitivity

Importance/Sensitivity of Receptor	Example of Importance of receptors	Example of Sensitivity of receptors
Very high	An attribute with a high quality and rarity on an international, regional or national scale with little or no potential for substitution.	Sensitive area or receptor with little resilience to imposed stresses.
High	An attribute with a high quality and rarity on a local scale with little or no potential for local substitution, or with a medium quality or rarity on a regional or national scale with limited potential for substitution.	
Medium	An attribute with a medium quality and rarity on a local scale with limited potential for substitution, or an attribute of low quality and rarity on a regional or national scale.	The receiving environment or receptor has a moderate natural resilience to imposed stresses.
Low	An attribute of low quality and rarity on a local scale with potential for substitution locally.	The receiving environment or receptor has a high natural resilience to imposed stresses.

3.7.2 Identification and Assessment of Potential Impacts

Potential environmental and social impacts are identified and then it is assessed whether these impacts may or may not consequently have a potential significant effect on sensitive receptors, where:

- The term "impact" will be used to describe an effect that results in a significant change to a sensitive receptor.

- The term “effect” is used when describing the consequence of a change arising from the Project on a sensitive receptor.

Impacts are classified based on:

- Type:
  - direct which arise directly from activities that form an integral part of the Project (e.g. new infrastructure) and is within the control of the developer;
  - indirect which arise from activities not explicitly forming part of the Project but as a “knock on effect” of it, that may not be within the control of the developer (e.g. changes to water availability due to increased influx of people);
- Duration:
  - short-term (days to weeks);
  - medium-term (weeks to months); or
  - long term (months to years);
- Extent:
  - highly localised;
  - localised; or
  - widespread;
- Likelihood:
  - highly unlikely to occur;
  - unlikely to occur;
  - likely to occur; or
  - certain to occur

The impact magnitude is then ranked as negligible, low, medium or high, which is explained and justified using modelling results or professional judgement.

3.7.3 Significance of Effects

Significance reflects the relationship between two factors:

- The magnitude (or severity) of impact (whether the impact is direct or indirect, its geographic extent, the duration of change and its likelihood);
- The sensitivity, importance or value of the affected receptor.

Effect significance is determined by considering the importance and sensitivity of the receptor in combination with the magnitude of the impact. Predicted significance of effects is classified according to whether they are considered to be Major, Moderate, Minor or Negligible; and Beneficial, Adverse or Neutral. Table 3-3 below demonstrates how these parameters are considered in the assessment of significance.

Table 3-3: Predicting significance of effects

		Magnitude of Impact			
		High	**Medium**	**Low**	**Negligible**
Receptor Sensitivity or importance	**Very High**	Major	Major	Moderate	Minor
	High	Major	Moderate	Minor	Negligible
	Medium	Moderate	Minor	Minor	Negligible
	Low	Minor	Minor	Negligible	Negligible

Significance criteria have been developed and are specific to each environmental and social topic and are defined in the relevant Chapter. The methodology has been developed for each specific topic based on Project Standards and has been defined using professional judgement; comparison with topic-specific legislation, regulations or standards; comparison with experience on other similar projects and consultation with stakeholders. For some topics, use is made of modelling or other methodologies. Impacts will be quantified where possible and the method of qualification will be clearly explained if significance cannot be quantified.

Any effect that crosses the significance threshold is broadly defined as one which should be brought to the attention of those involved in the decision-making process.

3.7.4 Mitigation Measures and Use of the Mitigation Hierarchy

A series of mitigation measures are identified to address significant adverse impacts, applying a hierarchy of options (the mitigation hierarchy) as outlined below.

- Avoid - making changes to the project's design or location to avoid adverse effects on an environmental feature. This is considered to be the most acceptable form of mitigation.
- Minimise - where avoidance is not possible, adverse effects can be reduced through sensitive environmental treatments/design.
- Restore - measures taken during or after construction to repair / reinstate and return a site to the situation prior to occurrence of impacts.
- Compensate/offset - where avoidance or reduction measures are not available, it may be appropriate to provide compensatory/offsetting measures. It should be noted that compensatory measures do not eliminate the original adverse effect; they merely seek to offset it with a comparable positive one.
- Improvement measures - projects can have positive effects as well as negative ones, and the project preparation stage presents an opportunity to enhance these positive features through innovative design.

3.7.5 Residual Effects

Residual effects are those that remain following the implementation of the proposed mitigation. These will be identified for each of the specialist topics by reviewing the predicted impacts against the mitigation measure proposed and then identifying any residual impact. Residual effect will be defined based on the same process applied to the evaluation of impacts.

3.8 Assessment of Cumulative Effects

An assessment of cumulative effects considers the effects of other past, present and reasonably foreseeable developments in the vicinity of the Project. It also considers unplanned but predictable activities enabled by the project that may occur later or at a different location, which when combined with the effects of the Project may have an incremental effect on overall impacts.

3.9 Development of an Environmental and Social Management Plans

Based on the findings of the environmental and social assessment process and the outcomes of stakeholder engagement, a programme of mitigation actions and management controls has been prepared to address the Project's identified potential environmental and social impacts and issues and other performance improvement measures. These are captured within a suite of Environmental and Social Management Plans (ESMPs), which cover all phases of the Project.

The ESMPs are based on the findings in the ESIA and complement the OMAS Environmental and Social Management System (ESMS) Framework (OMAS-ESMS-01). The ESMPs consists of a set of management, mitigation and monitoring measures to be taken during Project construction, operation and maintenance to manage key potential environmental and social impacts identified in the ESIA.

The development of the ESMPs is a dynamic process that will take into account ongoing studies and experience gained during construction and operations. Reflecting the ongoing development of the Project, some ESMPs are presented as "frameworks" which will be developed into fully detailed management plans at a later stage in the development of the project, and based on ongoing data gathering and the development of detailed operating procedures. Timeframes for the completion of all ESMPs are provided in this ESIA[5].

3.10 Limitations of the Study and Assumptions

This ESIA has been prepared based on information and studies provided by OMAS related to the Turkish EIA as well as primary data gathering and research undertaken by the ESIA study team. In some instances, OMAS has not yet finalised its detailed plans and procedures related to construction and operations. Irrespective of this, the key mitigations and other commitments are clearly set out in this ESIA and associated ESMS and will be implemented by OMAS and its contractors.

[5] Further information on Management Plan development is described in Section 5.19.2.