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## 19. Cumulative Impact Assessment

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### 19.1 Introduction

Cumulative Impact Assessment is the process of assessing potential effects on receptors from environmental and social impacts caused by the combined influence of more than one project.

This Chapter focuses on known planned and foreseeable future development within the Develi District; and investigates whether any of these planned projects will cause additional unanticipated environmental and social impacts when their influence is combined with the Öksüt Project.

### 19.2 Guidance

EBRD Performance Requirement 1 (para. 9) references the need for the ESIA process to consider the cumulative impacts of the project in combination with impacts from other relevant past, present and reasonably foreseeable developments as well as unplanned but predictable activities enabled by the project that may occur later or at a different location.

The method and content of the CIA study has not yet been clearly established under the Turkish regulations. Cumulative impact assessment is a concept recently introduced to the Turkish environmental legislation. The concept was first used in the General Format of the Environmental Impact Assessment which constituted the Annex 3 of the *Environmental Impact Assessment (EIA) Regulation* published in the Official Gazette no. 28784 of 3 October 2013. However, the description, requirements or methods of cumulative impact assessment are not provided in the *EIA Regulation* or in any other regulations.

A cumulative impact assessment is provided as Appendix 20 of the Turkish EIA, and no cumulative impacts were predicted.

### 19.3 Scope and Methodology

#### 19.3.1 Spatial Scope

The spatial scope of the cumulative assessment focuses on potential developments within the Develi District that may interact with impacts (positive and negative) arising from the Öksüt Project.

#### 19.3.2 Temporal Scope

The cumulative assessment has considered the effects of known planned projects over the life of mine.

#### 19.3.3 Assessment Methodology

The methodology for the identification and assessment of cumulative impacts has comprised the following steps:

- **Project identification** - Determine whether the other development projects in the Develi District are in the planning system
- **Impact and “interlinkages” assessment** - Undertake a cumulative assessment that determines whether the combined impact of the Öksüt Project and the other development projects will have a significant effect on any of the resources or receptors identified in the ESIA.

## Unplanned but Predictable Activities

As part of the assessment, consideration has been given to “unplanned but predictable” activities anticipated as part of the Project that may occur later or at a different location. No such activities have been identified and are therefore not considered further in this cumulative impact assessment.

### 19.3.4 Assumptions and Limitations

Despite undertaking a review of information on projects within the Develi District, limited information is available for planned projects within the District.

As part of this cumulative assessment, and based on the information identified as at September 2015 and January 2016, it is assumed that the following projects will be complete and/or operational as of Q3 2016 (i.e. prior to Project construction):

- Gümüşören Dam;
- Develi Water Supply Project;
- Erciyes Highway Project;
- Aksu Picnic Area Project;
- Develi Woman and Youth Center Project;
- Develi Gas Project;
- Develi Sport Complex;
- Kapulsuzlar Eltemtek Develi Solar Power Project.

The potential effects of the Öksüt Project on the Gümüşören Dam and Develi Water Supply Project are assessed in *Chapter 10: Water Resources*.

## 19.4 Cumulative Impact Assessment

### 19.4.1 Development Context

Turkey is an upper middle income country, with a GDP of US\$786 billion, making it the 18th largest economy in the world, ranked behind Indonesia and ahead of the Netherlands<sup>1</sup>. Turkey's economy is increasingly driven by its industry and service sectors.

Kayseri Province is currently the 18<sup>th</sup> largest industrial region in the country accounting for approximately 1.5% of the national manufacturing industry. The key sectors in the province include industry, trade, agriculture and animal husbandry. The services sector is the largest employer within Kayseri Province.

Based on review of government data and consultation with government representatives, the following known and foreseeable developments in the Develi District are set out in Table 19-1 below.

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<sup>1</sup> World Bank. 2012. GDP Ranking Table. Accessed at: <http://data.worldbank.org/datacatalog/GDP-ranking-table>

**Table 19-1: Known or Foreseeable developments in the Develi District**

Development Name	Construction Workforce	Remarks
Develi waste water treatment Project	25	Will be complete by July 2016. Southwest of Develi on the main road before Sarıca. KAKSI, the Kayseri Water and Sewage Services is the owner of the Project which will be completed by end of July 2016. This is a new plant being constructed to replace an old one, in the same place.
Erciyes University Develi Seyrani Campus Education Project	85	On the western outskirts of Develi. This is part of a Vocational High School where some classes of the Agricultural Engineering Department of Erciyes University will be provided in Develi.
Develi-Yahyalı-Tomarza Dump Garbage Project	30	There is no additional information for this Project.
Kayseri Şeker Fabrikası Pumpkin Seed Warehouse Project	30	There is no additional information for this Project.
Develi New Bus Terminal Project	50	The existing bus terminal which contains the minibus station for Kayseri and the bus stations for Ankara and İstanbul will be renovated by Kayseri Metropolitan Municipality. Project will be started in 2016.
Develi New State Hospital	60	The existing state hospital has 35 inpatient beds availability which is fall short of giving service. The new hospital land is already defined and the design studies and preparations for 70 inpatient bed availability are ongoing under the control of Ministry of Health.
Develi-Yahyalı Highway	80	The expropriation process is started to improve and enlarge the existing road between Develi District Center and Yahyalı District Center. Construction will be started in 2016 after the completion of Erciyes-Develi road
Başköy-Develi Highway	Unknown	Başköy is the location at the intersection point of Develi-Kayseri-Ürgüp-Niğde highway. The planned project scope is to enlarge the existing road starting from Develi to this intersection point. Project will be started after the completion of Develi-Yahyalı road improvement.
Develi New Bazaar Project	40	The Metropolitan Municipality of Kayseri has already completed the tender process for the renovation of existing bazaar area. The project will be started in 2016.
Nursing and Rehabilitation Centre	Unknown	A service for the elderly, the Ministry of Family and Social Policies has budgeted the project which will be located at Yukarı Develi quarter. The project is in the 2016's program of the Ministry.
Sports Complex	Unknown	Capacity of 1000 person. The Ministry of Youth and Sport will deliver the complex to the Develi Municipality after the completion of the construction in 2016
Develi Hotel Management and Tourism Vocational High School Project	30	The construction of the school is ongoing by the charitable giving who is originally from Öksüt quarter. The school will provide training for 2016-

Development Name	Construction Workforce	Remarks
		2017 year of study. According to the officials, the charitable has promised for the financial support of the construction for the practice hotel to complete the education of the students.
Gazi Hopper Project	unknown	Kayseri Sugar Factory is the owner of the project. The construction of the silos started on the property which is owned by the factory and located close to Gazi Quarter. The facility will be served to the farmers of Develi, Yahyalı, Tomarza and Yeşilhisar districts by buying and /or storing the dry products, like wheat, barley, pumpkin seeds etc. The operation of the facility will be started in the harvest season of 2016

#### 19.4.2 Identification and Assessment of Cumulative Impacts

Potential environmental and social impacts caused by a combination of planned projects and the Öksüt Project have been assessed and results are set out in Table 19-2 below, where an \* denotes a potential adverse cumulative impact; and a “-” denotes that no potential cumulative impact is expected.

**Table 19-2: Cumulative Impacts Assessment Matrix**

Development Name	Air Quality	Biodiversity	Soils	Water Resources	Noise and Vibration	Visual	Waste	Traffic	Population Influx	Economics	Employment	Livelihoods	Community Health and Safety	Cultural Heritage
Develi waste water treatment Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Erciyes University Develi Seyrani Campus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Develi-Yahyalı-Tomarza Dump Garbage Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kayseri Şeker Fabrikası Pumpkin Seed Warehouse Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Develi New Bus Terminal Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Develi New State Hospital	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Development Name	Air Quality	Biodiversity	Soils	Water Resources	Noise and Vibration	Visual	Waste	Traffic	Population Influx	Economics	Employment	Livelihoods	Community Health and Safety	Cultural Heritage
Develi- Yahyalı Highway Project	x	-	-	-	x	-	-	x	-	-	-	-	-	-
Başköy-Develi Highway	x	-	-	-	x	-	-	x	-	-	-	-	-	-
Develi New Bazaar Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Develi New Bazaar Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nursing and Rehabilitation Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sports Complex	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Develi Hotel Management and Tourism Vocational High School Project	-	-	-	-	-	-	-	-	-	-	-	-	-	-

### 19.4.3 Evaluation of Potential Cumulative Impacts

The known planned projects in the Develi District are all small scale and are generally unlikely to have a cumulative effect on any resources and receptors when their influence in combination with the Öksüt Project.

Based on this evaluation, potential adverse cumulative impacts are considered possible in relation to the following projects:

- Develi-Yahyalı Highway.
- Başköy-Develi Highway.

Potential cumulative dust and noise impacts from construction of the OMAS bypass road, combined with construction of the two additional highway projects may lead to an identifiable adverse effects on receptors in and around Yazıbaşı. However, the long-term benefits of these projects in terms of increased access, improved road safety and reduced dust emissions are considered likely to outweigh short-term construction impacts and will support overall economic development of the District.

The identified construction projects will increase local employment on a temporary basis but this positive impact is considered to be of negligible impact on a District-wide basis.

#### **19.4.4 Conclusion**

On the basis of this evaluation the key conclusions are as follows:

- Regional economic development will continue and is likely to be a more significant cause of economic and community development, at a District level, than the Öksüt Project alone.
- No planned mining or other major infrastructure projects have been identified within the Develi District.
- There are no significant planned or foreseeable projects that will have significant adverse cumulative impacts in combination with the Öksüt Project.