

Chapter 14: Socio-Economics

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14 Socio-Economics

14.1 Introduction

This chapter presents an assessment of the potential socio-economic impacts resulting from the Project. In addition, mitigation measures designed to reduce, remediate or avoid potential impacts are described, and the residual impacts (i.e. impacts after mitigation measures are implemented) assessed.

14.1.1 Structure of Socio-Economics Chapter

Section 14.2 draws on the Project description (see **Chapter 5 Project Description**), the Scoping Stage and the stakeholder engagement process to identify potential impacts. Section 14.3 details the approach taken for the socio-economic baseline and impact assessment with regard to the spatial boundaries and defines the zone of influence for socio-economic impacts. Section 14.4 and Section 14.5 provide quantitative and qualitative baseline data commencing with a description of the data sources used in the baseline and followed by baseline summaries related to population and demography; economy; employment and livelihoods; land use; the local communities; public infrastructure and services; transport; accommodation and real estate; health, well-being and social infrastructure; the local tourism, recreation and leisure sector; and the local and regional fisheries industry.

Section 14.6 reports on the impact assessment in relation to socio-economic receptors, including during Construction and Pre-Commissioning and Operational Phases. Where relevant, this section presents the impact assessment at the pre-mitigation stage before presenting suggested mitigation measures, followed by the potential residual socio-economic impacts that would result following implementation of mitigation. Section 14.10 provides a summary of the key findings of this assessment.

14.1.2 Human Rights Due Diligence

Prior to concluding this chapter, Section 14.9 covers the Human Rights Due Diligence process that has been undertaken to complement the socio-economic impact assessment. This section explains the due diligence process that has been followed and examines human rights issues in respect of general policies and procedures, including labour and working conditions, local communities, supplier engagement, and security provision.

14.1.3 Relationship to the Community Health, Safety and Security Impact Assessment

A community health, safety and security impact assessment has been undertaken following the standards and guidelines of finance institutions and covering community health, safety, and security, as well as workforce occupational health and safety. The chapter also addresses the potential for impacts associated with construction traffic including road safety issues and severance. The results of this process have been documented in **Chapter 15 Community Health, Safety and Security** and in Appendix 15.1 Occupational Health and Safety. Appendix

9.1 Traffic and Transport Study has informed the findings of the assessments. The socio-economic and health impact assessment teams have worked together closely in undertaking these assessments.

14.1.4 Relationship to Other Chapters

An Ecosystem Services impact assessment has been undertaken following the standards and guidelines of finance institutions. The results of this process have been documented in **Chapter 17 Ecosystem Services**. The socio-economic and ecosystem services impact assessment teams have also worked together closely in undertaking these assessments.

This socio-economic impact assessment chapter has taken into account the findings of other chapters to inform and evidence the assessment of impacts on socio-economic receptors; including, but not limited to, **Chapter 9 Air Quality**, **Chapter 10 Noise and Vibration** and **Chapter 13 Landscape and Visual**.

The findings of this chapter are also supported by several appendices including Appendix 9.1, Appendix 12.2 Sediment Dispersion Study and Appendix 14.1 Fisheries Study.

14.2 Scoping and Stakeholder Consultation

14.2.1 Impacts Identified During Scoping

A scoping exercise was undertaken in 2012 and resulted in the disclosure of a Scoping Report (Ref. 14.1) in December 2012, followed by associated stakeholder consultation. The aims of the scoping process were to identify the potential Project-related impacts, so as to inform further baseline studies, seek feedback from stakeholders on the Scoping Report and identify any additional issues to be considered in the ESIA process.

The Scoping Report identified receptors and communities with the potential to be affected by the Project Activities. For the purposes of this socio-economic assessment, certain communities (Gai Kodzor, Rassvet, Varvarovka, Sukko, Supsekh, and the town of Anapa) are referred to as the 'Local Communities' for the Project. These communities were identified as potentially Project-Affected Communities (PACs) in the Scoping Report, with the exception of Rassvet which has been identified since. The Scoping Report also identified potential impacts on these communities in relation to land use and ownership, the local economy and traffic.

Fishery businesses and individual fishers have been engaged since the scoping meetings in December 2012, and were also interviewed as part of the Fisheries Study in March and October, 2013. South Stream Transport met with representatives of RPK Briz Fishing Company, ZAO Morskoy Club, and OOO RAM Fishing Company. Briz Fishing Company was the only company to respond to a meeting request in March 2013. In October, 2013 a meeting request was sent to OOO RK Chernomorec but they declined to meet in person or provide feedback for the ESIA Report.

Fishers have raised concerns about the potential access to fishing grounds and also potential disruption on the migration routes of fish in the Black Sea from construction activities, including from light, noise and vibration. They were concerned that the Project could affect the migration

routes of fish, which could potentially impact on fish catches and subsequently company profits. In addition, concerns were raised that the Pipeline might interfere with trawl gear. However, as the nearshore section of the Project Area is located within the Anapa Bank, in which bottom trawling is not permitted, the potential interaction with trawl fishing gears and the Project pipelines is thus reduced. Stakeholders also asked if the pipelines will be marked with buoys or on charts. The fishers also indicated that they would alter their trawling patterns once they knew the exact location of the Pipeline (Ref. 14.2, Ref. 14.3, Ref. 14.4 and Ref. 14.5).

Given the concerns that were raised and the importance attached to the issue by stakeholders, a fisheries study was undertaken (see Appendix 14.1) to assess potential Project impacts on fisheries. The Fisheries Study examined the potential risks of the Project to both fish stocks (including fish health and migration routes for various species) and the fishing activities of local fishers and fishing businesses.

Stakeholder consultation also identified some specific, primarily local, concerns that had not been covered in the Scoping Report, including questions about the safety of the Pipeline, local gas supplies, traffic, and access to local areas. A summary of stakeholder interests and concerns is provided in **Chapter 6 Stakeholder Engagement**.

14.2.2 Post-Scoping Stage Revisions

Following the Scoping Stage, refinement of the Project Description and further investigation of the baseline conditions within the Study Area (Section 14.3.3) enabled this assessment to conclude that there will be no significant impact in relation to certain issues. As such, these issues do not merit further consideration within the socio-economic assessment, and have not been the focus of baseline studies; this approach allows the socio-economic assessment to focus on the issues (and supporting information) pertinent to the Project. The rationale for screening out these potential impacts and risks is discussed below.

Indigenous peoples: Baseline studies have not identified any indigenous peoples, as defined by IFC Performance Standard 7, in the vicinity of the Project or the Local Communities. As such, no potential impacts on indigenous peoples were identified or assessed.

Utilities services: The Project, during both construction and operation, will make provision for meeting its electricity, sewage and telecommunications needs by means (e.g. by using diesel generators and using chemical toilets) that will be independent of existing systems serving domestic or commercial users within the Local Communities. Water will be obtained from a well in Sukko by agreement with the well owner; water will only be abstracted between October and April, and will be stored in water tanks at the landfall construction site for use throughout the year. Therefore, no potential impacts on existing users of utilities (specifically electricity, water, sewage and telecommunications) were identified or assessed. See **Chapter 17 Ecosystem Services** for further information.

Utilities infrastructure: The design of the Project has ensured that existing third party services will be located, marked, and either safeguarded or diverted prior to the start of construction, in accordance with owners' agreements (see **Chapter 5 Project Description**). Accordingly, unless in case of accidental disruption, no potential impacts to these services, or to the domestic or commercial users of these services, were identified or assessed (see

Chapter 19 Unplanned Events for consideration of the issues associated with accidental damage to third party property and utilities).

Since the Scoping Report was issued, the community of Rassvet has been identified as a potentially affected Local Community due to confirmation that construction traffic will travel through Rassvet. Therefore, potential socio-economic impacts on Rassvet have been considered in this chapter.

14.3 Spatial and Temporal Boundaries

14.3.1 The Project Area and Project Sections

The Project was described in the Scoping Report and a revised, detailed Project Description is provided in **Chapter 5 Project Description**.

The Project Area comprises three sections—landfall, nearshore and offshore—within which the Project’s activities will occur. The landfall section includes South Stream Transport’s landfall facilities (a fenced area containing metering and other equipment), 2.5 km of buried pipelines, and four microtunnels transitioning from land to sea. The short nearshore section starts at the exit of the microtunnels, approximately 400 m from the shore, and continues another 425 m to where the water is 30 m deep. From here, the offshore section begins and involves pipe-laying in deeper waters. Further information explaining the extent and nature of each section is given in **Chapter 1 Introduction**.

14.3.2 Location

The proposed site of the landfall section of the Project is located within the Anapa Resort Town (ART) municipal district, a district with Resort Status¹ (see Section 14.4.2.1 for further information on this status) on the Black Sea coast, in the Krasnodar region (or Krai) of the Russian Federation. It is set among rolling hills leading to the cliffs at the shore of the Black Sea.

The Project is located near to the six identified Local Communities (town of Anapa; Gai Kodzor, Rassvet, Supsekh, Sukko and Varvarovka). These communities have been identified either because they are the closest communities to the Project Area or, in the case of Rassvet and the town of Anapa, because they have the potential to experience impacts associated with construction and accommodation of the Project workforce.

The town of Anapa (estimated population 59,000) is the largest Local Community and is also the nearest large urban settlement, approximately 10 km to the north of the landfall section of the Project. With the exception of Anapa, the surrounding area is largely rural and includes a

¹ This Resort Town status was established by Presidential Decree of 1994 No. 1954 and the Russian Government Executive Order of 1996, No. 591-p. Resort Town status recognises Anapa as a place of importance for tourism. The Resort Town status provides for certain land and development management regimes that are intended to safeguard the area’s environmental qualities so as to ensure the area’s suitability and appeal for resort and tourism related activities.

number of small to medium-sized communities near the landfall section of the Project. Of the remaining Local Communities, Varvarovka is the closest to the landfall section; it is located approximately 2 km northwest of the Project Area. All of the Local Communities are situated within the ART municipal district. The Local Communities are shown in Figure 14.1, together with the Project, including temporary and permanent access roads, and described in Section 14.4.3.

Novorossiysk is located on the Black Sea approximately 50 km by road to the southeast of the Project landfall section, and its port may be utilised by the Project.

14.3.3 Study Area and Zone of Influence

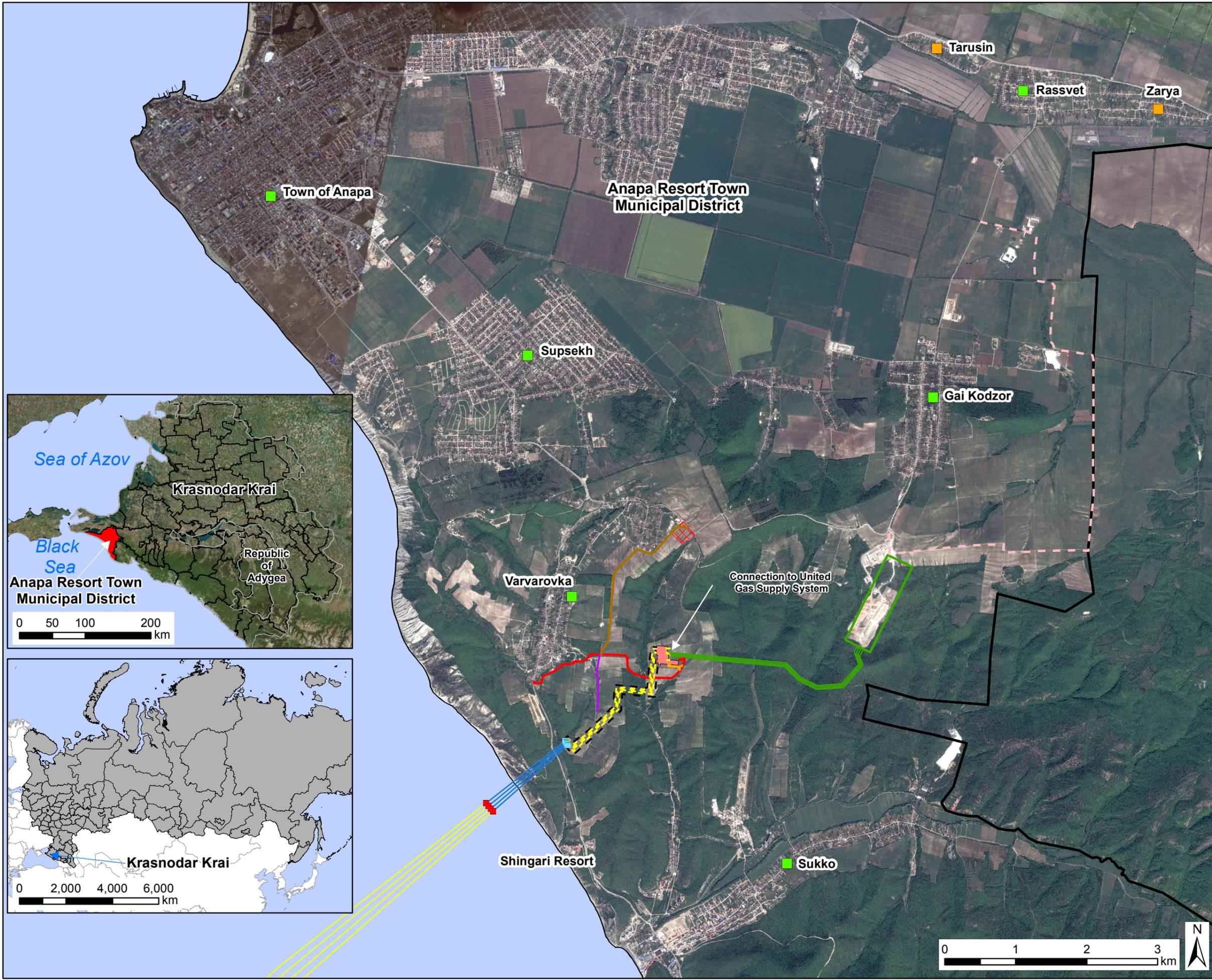
Onshore and offshore socio-economic Study Areas were identified and mapped in the Scoping Report. The Onshore Study Area included the area within 2 km of the landfall section of the Project and also within a 300 m zone either side of potential (existing) access routes². Offshore, the Study Area was based on a 1 km wide zone following the nearshore and offshore route of the Pipeline, ending at the EEZ border between Russia and Turkey; this is the area in which the construction vessel spread will operate. The Study Area definition provided a primary frame of reference to consider the potential impacts arising as a result of the Project on its immediate surroundings. References in this chapter to the Study Area refer to the Onshore Study Area unless otherwise stated.

The Project may also give rise to economic impacts at a range of geographic scales, from the national scale (Russian Federation) to the regional scale (Krasnodar Krai), to the municipal district level (Anapa Resort Town (ART)³). Any impacts within the Study Area will usually be at the local scale (the Local Communities), although this assessment has also identified the town of Anapa and Rassvet as Local Communities due to the potential for possible impacts associated with workforce accommodation and construction traffic. For the socio-economic impacts described in this chapter, the anticipated zones of influence are also identified. Economic impacts, for example, may be experienced at all levels, whereas community and transport-related impacts are generally local. Exceptions to this pattern are clearly stated under each respective impact assessment.

² An access route is a collection of roads on which project traffic is carried, which (i) runs within a community, and (ii) may be expected to experience an increase of 30% in heavy traffic/overall traffic volumes, except for very sensitive receptors where an impact could be experienced with a 10% increase.

³ Hereafter, this level will always be referred to as the Anapa Resort Town (or ART where abbreviated) and refers to the entire municipal district administrative level which encompasses the Town of Anapa and the identified Local Communities, as well as other communities.

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 File Name: I:\5004 - Information Systems\46369082_South_Stream\MXDs\Report Maps - Russia\Russian ESI v2\Chapter 14 Socio-Eco\Figure 14-1 National Regional and Municipal District Context of the Project.mxd



LEGEND

- Local communities
- Other communities
- Anapa resort town municipal district boundary

Russian Sector of South Stream Offshore Pipeline

- - - Proposed landfall section pipelines
- Landfall facilities
- Proposed microtunnels
- Proposed offshore pipelines
- Microtunnel entry shaft
- Microtunnel exit pit
- - - Construction corridor
- Permanent access road to be constructed by SSTTBV
- Temporary access road constructed by SSTTBV
- Varvarovka bypass road (used by Project during construction only)
- Transfer site

United Gas Supply System

- Russkaya compressor station
- United Gas Supply System pipelines
- Permanent access road to be constructed by Gazprom Invest
- Gazprom Invest temporary bypass road to be utilised by SSTTBV

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Revision Details		By	Check	Date	Suffix

Purpose of Issue: For Information

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Offshore Pipeline

Project Title: **SOUTH STREAM OFFSHORE PIPELINE**

Drawing Title: **NATIONAL, REGIONAL AND MUNICIPAL DISTRICT CONTEXT OF THE PROJECT**

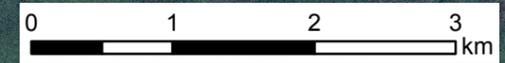
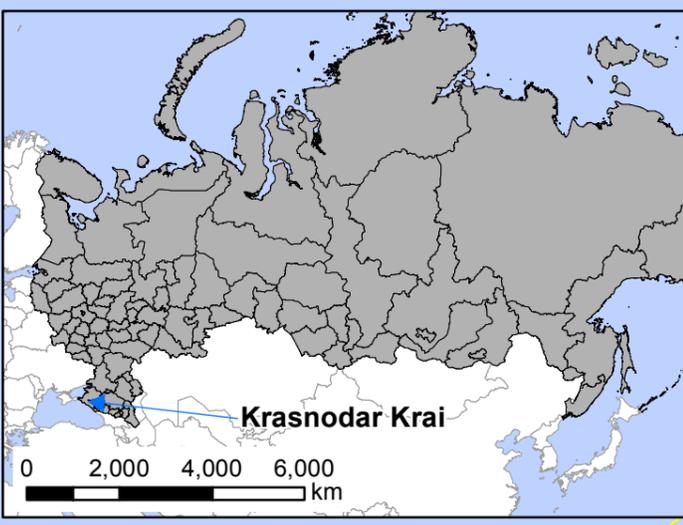
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14.4 Methodology and Data

To assess potential socio-economic effects, data and information for the relevant baseline characteristics have been identified and considered. Data have been collected and presented at different spatial levels (national, regional, municipal district and local levels, as appropriate).

Socio-economic data and information included in this assessment have been obtained from a wide range of sources including secondary sources (i.e. existing data including census statistics, government or academic reports, etc.) and primary sources (i.e. new data collected through interviews, field surveys and stakeholder engagement activities, as described in **Chapter 6 Stakeholder Engagement**).

Where possible, the baseline characteristics section presents data for the Local Communities individually. For certain aspects of the baseline, data is only available at the Supsekh Rural District and Gai Kodzor Rural District levels. These cases are clearly indicated.

14.4.1 Data Sources

In the Russian Federation, there are generally good-quality social statistics at national, regional (Krasnodar Krai) and municipal district (Anapa Resort Town) levels. Some statistics at all three levels are collected by the national statistical agency Rosstat, while other statistical data are collected by the regional statistical agency Krasnodarstat or by the municipal district administration.

Data on local level administrative units, such as those within which the Local Communities fall, is available but limited. The extent of the available data was determined by contacting and visiting the local government administrations. Some current data were not available as they are not recorded at the local level. Therefore, primary data collection consisting of specific surveys and studies was needed to obtain the required data.

The following sections set out the secondary data obtained, the data gaps identified, and the primary data research and baseline surveys undertaken to supplement available secondary data.

Secondary Data

Secondary data and information was obtained from relevant regional and national bodies and for the identified Local Communities. The secondary data was obtained from publicly available databases and by contacting local government authorities and explaining data needs with requests for access to data, and then accessing and recording the data in local government offices.

The main sources of secondary data include:

- Information provided by the Krasnodar Krai Territorial Authority of the Russian Federal State Statistics Service (ROSSTAT);

- Information provided by the Anapa Resort Town (ART) municipal administration, Gai Kodzor Rural District administration, and Supsekh Rural District administration;
- Information published on the official website of the Russian Federal State Statistics Service (www.gks.ru);
- The Russian Federation Common Interagency Information Statistical Service (www.fedstat.ru); and
- The results of the Russian Federation 2010 National Census (www.perepis-2010.ru).

Data Gaps

Analysis revealed a number of data gaps which were most acute in the following areas:

- Demographics and migration;
- Economy, including the ART municipal district tourism sector and construction sector; and
- Housing and the property market.

Primary Data Collection

In light of the data gaps that emerged from the review of secondary data, a data collection exercise was undertaken with the aim of obtaining additional secondary data within the respective zones of influence. It sought to supplement the secondary data gaps as well as to verify and ground-truth the secondary data in order to better understand the key social issues and constraints. Primary data on socio-economic characteristics were collected during field visits in 2012, 2013 and 2014. These visits included observations of conditions in the Local Communities; meetings and interviews with local government authorities and local businesses including fisheries enterprises representatives and tourism entities; and a survey of existing traffic volumes near the landfill. The visits sought to:

- Observe and ascertain the prevailing socio-economic characteristics in the area;
- Conduct socio-economic baseline studies and collect data;
- Conduct qualitative interviews with local officials in order to build up a more detailed picture of the socio-economic environment in the Study Area and zones of influence, particularly within the identified Local Communities; and
- Observe and ascertain the condition of roads and other infrastructure that may be used by the Project.

Table 14.1 lists the stakeholder engagement activities to date which have informed the primary data collection efforts, as indicated by the purpose and topic and the meeting⁴. (Other meetings which have been held, including those which have informed the identification and prioritisation of stakeholder issues are presented in **Chapter 6 Stakeholder Engagement**.)

⁴ This table includes meetings concerning the ESIA and does not include meetings concerning land acquisition, land / facilities use, or permitting.

Table 14.1 Stakeholder Engagement Activities to Date

Stakeholder Name	Date	Purpose and Topic of Meeting
ART Municipal District Administration	20 August 2012	Regional and local socio-economic baseline data collection for ESIA
Gai Kodzor Rural District Administration	21 August 2012	Regional and local socio-economic baseline data collection for ESIA
Supsekh Rural District Administration	23 August 2012	Regional and local socio-economic baseline data collection for ESIA
Supsekh community	10 December 2012	Scoping Open House Community Meeting
Sukko and Varvarovka Community	11 December 2012	Scoping Open House Community Meeting
Gai Kodzor Community	12 December 2012	Scoping Open House Community Meeting
Local NGOs in Anapa Resort Town	13 December 2012	Scoping consultations
National NGOs in Moscow	14 December 2012	Scoping consultations
Briz Fisheries	25 March 2013	Regional and local socio-economic baseline data for ESIA
Supsekh Rural District Administration	26 March 2013	Regional and local socio-economic baseline data for ESIA
Horse-riding Stables, Sukko	26 March 2013	Regional and local socio-economic baseline data for ESIA
Utrish Nature Reserve	26 March 2013	Regional and local socio-economic baseline data for ESIA
ART Municipal District Administration	27 March 2013	Regional and local socio-economic baseline data for ESIA
Utrish Nature Reserve	18 April 2013	Introductory meeting and to gather information/data on the reserve.
Anapa Resort Town Municipal District Administration	31 May 2013	Public Hearing on EIA documentation
OOO Morskoy Club (Fishing Organisation in Bolshoy Utrish)	14 October 2013	Fisheries data / information request

Continued...

Stakeholder Name	Date	Purpose and Topic of Meeting
RPK Briz (Fishing Organisation with office in Varvarovka)	14 October 2013	Fisheries data / information request
OOO RAM (Fishing Organisation in town of Anapa)	15 October 2013	Fisheries data / information request
Fond Yug	16 October 2013	Local socio-economic data / information request
Agrifirm Kavkaz	16 October 2013	Local socio-economic data / information request
Shingari Holiday Complex	16 October 2013	Local socio-economic data / information request
Environmental Specialist, town of Anapa	16 October 2013	Information on local hiking and horse riding activities
Representative from horse riding company, Varvarovka	17 October 2013	Information on local horse riding activities and business
Vivat Tourism Agency	17 October 2013	Local socio-economic data / information request
Anapa Resort Town Municipal District Administration	5 February 2014	Local socio-economic data / information request
Supsekh Rural District Administration	5 February 2014	Local socio-economic data / information request
Gai Kodzor Rural District Administration	5 February 2014	Local socio-economic data / information request
School of Rassvet	5 February 2014	Local socio-economic data / information request

Complete.

Information from Other Chapters

The socio-economic baseline has also considered information from other chapters, in order to inform and evidence the subsequent assessment of impacts on socio-economic receptors; including but not limited to **Chapter 13 Landscape and Visual**, **Chapter 15 Community Health, Safety and Security**, **Chapter 16 Cultural Heritage** and **Chapter 17 Ecosystem Services**, as well as Appendix 9.1 and Appendix 14.1. Other chapters of the ESIA Report are cross referenced where appropriate.

14.4.2 Data Assumptions and Limitations

Limitations

The following limitations apply to the data in this baseline:

- Some of the trend series data includes large movements between years, particularly for data during 2010 and 2011. It is likely that the completion of the 2010 data has enabled the statistical gathering agencies to revise statistics based on the 2010 Russian Census. However, it appears that a retrospective revision of data has not been carried out. While this can result in unexplained movement in the trend series data, it indicates that the latest data is likely to be more accurate;
- Where possible, a minimum of five years data has been provided. In some cases, it has not been possible to obtain a full five years of trend series data; and
- In certain circumstances, data is not always available; however, where possible, efforts have been made to obtain qualitative data in place of quantitative data.

It is considered that the above limitations do not compromise the integrity of the assessments made within this chapter.

Assumptions

The following assumptions have been made:

- The Project workforce in the nearshore and offshore sections of the Project will be specialised and non-local. This workforce will be accommodated on the vessels on which they work. The workers will come ashore only for brief periods in transit when rotating on and off the vessels. They are likely to come ashore at a port and proceed with onward travel. This port may or may not be in Russia;
- There will be no accommodation camp for the landfall section workforce; and
- Further to the statement in **Chapter 5 Project Description** that non-local construction workers will be lodged in the nearby towns and villages, it is assumed for the purposes of this assessment that they will lodge in the town of Anapa. This is based on the consideration that it is the town of Anapa, rather than the Local Communities, that is most likely to have a sufficient supply of suitable accommodation options available for requirements given the anticipated number of non-local workers.

Chapter 15 Community Health, Safety and Security states that South Stream Transport (or the Contractor) will undertake a Rapid Health Appraisal of the potential socio-economic and health impacts related to the preferred option(s) for workforce accommodation during the Construction and Pre-Commissioning Phase. The purpose of this appraisal is to avoid significant adverse impacts on Local Communities by identifying potential impacts and appropriate mitigation and management measures before the start of construction. The appraisal will include consultation with applicable local and regional authorities, including health and social service providers.

14.5 Socio-Economic Baseline

This section provides a summary of the baseline methodology (including data sources and limitations), and describes the baseline socio-economic characteristics of the Project Area and Study Area. The section is structured as follows:

- Section 14.5.1: Geographic and Political Context;
- Section 14.5.2: Administrative Framework;
- Section 14.5.3: Introduction to Local Communities;
- Section 14.5.4: Population and Demography;
- Section 14.5.5: Economy;
- Section 14.5.6: Employment and Livelihoods;
- Section 14.5.7: Land Ownership;
- Section 14.5.8: Land and Marine Area Use;
- Section 14.5.9: Social Infrastructure and Services;
- Section 14.5.10 Tourism, Recreation and Leisure;
- Section 14.5.11: Fisheries;
- Section 14.5.12: Vulnerable Groups; and
- Section 14.5.13: Baseline Summary and Key Findings.

Information presented in Section 14.5.4 to Section 14.5.6 includes data for the Russian Federation, Krasnodar Krai and the ART municipal district, as well as at the Local Community level where available, in order to demonstrate how local demographic and socio-economic characteristics compare with the national and regional levels.

Information presented in Section 14.5.3 and Section 14.5.7 to Section 14.5.14 focuses primarily on the municipal district and/or local level (Local Community), with occasional reference to regional and federal level data where relevant.

14.5.1 Geographical and Political Context

14.5.1.1 Geographical Context

The South Stream Offshore Pipeline will extend across the Black Sea from the Russian coast near Anapa, to the coast of Bulgaria near Varna. It travels through Russian territorial waters, the Russian EEZ, the Turkish EEZ, the Bulgarian EEZ, and Bulgarian territorial waters.

14.5.1.2 Political Context

Russia's political system is based on the 1993 Constitution and is a democratic federal law-governed state (Ref. 14.6). The President is the head of state, and the Prime Minister has responsibility for running the government. The Prime Minister is appointed by the president, and confirmed by the State Duma. Parliamentary elections were held in 2011 and presidential

elections in 2012, with Vladimir Putin coming to power and appointing Dmitry Medvedev as Prime Minister. The ruling party is United Russia.

Vladimir Putin was Boris Yeltsin's successor and, since then, has been Russia's dominant political figure. Putin served two terms as President before becoming Prime Minister, and then subsequently resuming the Presidency in 2012. Putin won presidential elections in 2000 and again in 2004. In the elections of 2008 Putin was barred by the Constitution from running for a consecutive third term as President, instead making way for Dmitry Medvedev (Ref. 14.7) who appointed Putin as Prime Minister. When Putin returned to the Presidency in 2012, Medvedev was appointed as Prime Minister.

14.5.2 Administrative Framework

14.5.2.1 Introduction and Overview

National, Regional and Municipal District Sub-Level Administrative Structure

Figure 14.2 shows the location of the Project in relation to the national, regional and municipal district levels of local government. A brief description of each level of government and relevant administrative framework is provided below.

Russian Federation

The Russian Federation consists of 83 federal administrative units of different extent and status. The administrative structure and organisation of the Russian Federation is described further in **Chapter 2 Policy, Regulatory and Administrative Framework**.

Krasnodar Krai

Krasnodar Krai is located approximately 1,000 km south of Moscow. It occupies the whole of Russia's Black Sea coast and contains the country's main beach resorts. This region has grown in popularity, particularly with tourists, since the fall of the Soviet Union as more Russians choose to take seaside holidays within Russia rather than along Ukraine's Black Sea Coast.

The largest cities in the region include Krasnodar (with a population of 709,800), Sochi (334,300), Novorossiysk (227,900) and Armavir (189,100). Krasnodar Krai's southern-most coastal city Sochi hosted the 2014 Winter Olympic Games; preparations for this resulted in considerable spending on infrastructure in the region, especially in and around Sochi.

Anapa Resort Town Municipal District

The ART municipal district is one of 38 administrative districts within Krasnodar Krai and it has the status of a city or municipal district (Ref. 14.8). ART has a growing population, which reached approximately 147,000 in 2012 (Ref. 14.9) and covers a total area of 982 km². It borders the Black Sea to its west, Temryuk District to the north, Krymsk District to the east and the port city of Novorossiysk to the south. The administrative centre is the town of Anapa (approximately 59,000 inhabitants) and there are 52 communities in total within the municipality, including the five designated as Local Communities for the ESIA: Gai Kodzor,

Rassvet, Sukko, Supsekh and Varvarovka. The town of Anapa is also designated as a Local Community.

The ART municipal district was designated a health resort town in 1957 (Ref. 14.10) and is designated at a Russian federal level as a specially protected natural area⁵ (SPNA) (Ref. 14.11), under the category of 'health improving (spa) resort area' known as the Anapa Sanitary Protection Area (SPA) (Ref. 14.12). The Anapa SPA designation entails a series of development control regimes that apply to three different sanitary protection zones (SPZs) within the SPA, the general purpose of which is to protect the area from any activities that may adversely affect the natural therapeutic resources and sanitary conditions of the resort town area (Ref. 14.13) (see **Chapter 2 Policy, Regulatory and Administrative Framework** for further information).

The area around and between the communities of Gai Kodzor, Rassvet, Supsekh, Sukko and Varvarovka is primarily woodland or agricultural land. Vineyards account for most of the agricultural land, although the level of active cultivation varies. The pipelines will be located on a gently sloping plateau, which is separated from the Black Sea by a steep coastal cliff. Watercourses include the Shingar River and an unnamed tributary of the Sukko River; both rivers are intermittent (i.e. seasonal) and flow approximately north to south across the landfall section.

The state of the road infrastructure in the area is variable. Main roads linking the Local Communities to the town of Anapa are sealed and appear well-maintained. Some of the local roads between and within the Local Communities are simple dirt tracks. Traffic in the area varies according to the number of tourists in the area, and is highest during the summer months.

Municipal District Sub-Level Administrative Structure and the Local Communities

The ART municipal district includes one urban district, the town of Anapa, and ten rural districts. Two of these rural districts include the Local Communities identified for this socio-economic impact assessment), as shown below:

- Gai Kodzor Rural District, which includes the communities of Gai Kodzor and Rassvet⁶; and
- Supsekh Rural District⁷, which includes the communities of Supsekh, Varvarovka and Sukko.

⁵ SPNA zones can also be designated for a number of other purposes such as wetlands, protected natural landscape, traditional nature use, national parks, natural monuments, etc.

⁶ Gai Kodzor Rural District contains four rural communities in total; these are Gai Kodzor village, Rassvet, Khutor (a smaller community), and Khutor Zarya and a total population of approximately 6,000 people in 2011 (Ref. 14.15). The total area of this Rural District is approximately 33 km²

⁷ Supsekh Rural District contains six rural communities in total. These are: Supsekh, Sukko, Varvarovka, Prostorniy, Bol'shoi Utrish and Malyi Utrish.

Figure 14.2 Project-Related Russian Sector Administrative Structure



14.5.3 Introduction to Local Communities

14.5.3.1 Overview

Table 14.2 provides a summary of some of the key statistics for the Local Communities and is followed by a short description of each Local Community.

Table 14.2 Local Communities – Area and Population (2012)

Local Community	Area (ha)	Population	Proportion of ART Municipal District Population
Town of Anapa	N/A	59,000	40%
Gai Kodzor	175	3,370	2.3%
Rassvet	94	1,410	1.0%
Sukko	396	3,150	2.1%
Supsekh	635	8,760	6.0%
Varvarovka	215	2,250	1.5%

Sources: Area of Local Communities (Ref. 14.14). Population figures: Town of Anapa (Ref. 14.15); Gai Kodzor and Rassvet (Ref. 14.16); Sukko, Supsekh and Varvarovka (Ref. 14.17). Note: Population figures rounded to nearest 10 people. Population for Rassvet does not include the adjoined village of Zarya, which has a population of approximately 1,180 people.

14.5.3.2 Local Community Profiles

Town of Anapa

The town of Anapa, located approximately 8 km north of the landfall section of the Project at its closest point, is the only designated urban district⁸ within the ART municipal district and is the seat of the municipal district administration. The town of Anapa's importance as a tourist centre is underlined by the designation of the wider municipal district as a 'resort town'. The town is one of a number of holiday resorts along the Black Sea coast and is a popular holiday destination for Russian tourists, especially for family holidays and children's activities. The town of Anapa has a population of approximately 59,000 (Ref. 14.15). It is served by an airport, railway station and bus station and is also easily accessible by road via the M25 which is part of the intercity regional road network in Krasnodar Krai (see Appendix 9.1 for further detail on transport infrastructure in the area).

As one of the main holiday resorts on the Black Sea coast, the town of Anapa relies heavily on tourism. The resident population increases seasonally when tourists visit the area; the high tourist season runs through July and August and can extend into September.

Gai Kodzor

Gai Kodzor (Figure 14.3) is the administrative centre of the Gai Kodzor Rural District. Gai Kodzor has a population of approximately 3,370 within an area of approximately 175 ha.

Figure 14.3 Gai Kodzor



The southern edge of the community lies approximately 3 km northwest of the Project Area and approximately 4 km from the landfall facilities. The section of road passing through Gai Kodzor is one that was considered as part of the access to the landfall section of the Project, but a bypass road has since been built around the community by Gazprom Invest and it will also be used by Project construction traffic. The community is built on either side of the existing paved road. Approximately 70% of the population is Armenian (Ref. 14.16). A community centre, a

⁸ As a sub-municipal district level administrative unit.

school, a bakery and various shops are located along the road running through the community. Site visits noted that some local residents of Gai Kodzor sell their produce along the road, e.g. fruit.

Rassvet

Rassvet is a small community located within the Gai Kodzor Rural District. Rassvet has a population of approximately 1,410 within an area of approximately 94 ha, and is bounded to the north by the M25. The community lies approximately 5 km north of Gai Kodzor community at the junction of the M25 and the proposed construction access route heading south towards the landfall section of the Project. To the immediate east of Rassvet is an adjoining but separate smaller community of Zarya (population approximately 1,180), while to the west and separated by a strip of open land is the much smaller and also separate community of Tarusin (population approximately 390). Similar to neighbouring Gai Kodzor, the population is nearly 60% Armenian, with the remaining 40% being of Russian ethnicity (Ref. 14.71).

The community has a school, nursery school, post office, community centre, car wash and tyre shop, hardware store, bottled water facility, supplier of sewage/water tanks, as well as a small number of shops along the main road. In addition to the retail premises, site visits noted that some local residents of Rassvet sell their produce, e.g. vegetables and watermelons, along the M25 road; while residents living on the main north-south road through Rassvet (ulitsa Kommunarov) sell goods such as potatoes along the road (Ref. 14.18).

Sukko

Sukko (Figure 14.4) is part of the Supsekh Rural District and lies on the coast. Sukko has a population of approximately 3,150 within an area of approximately 396 ha. Sukko Beach is located approximately 3 km south-east of the Project landfall section construction area, while the nearest residential properties on the northern outskirts of the town of Sukko are located approximately 2 km southeast of the Project Area, with the intervening land consisting of dense woodland. A water well in Sukko will be used to supply water during the Construction and Pre-Commissioning Phase of the Project; however, due to seasonal constraints, water will only be abstracted between October and April.

Sukko is organised along a single, long road that runs through the middle of the community with one end of this road leading to the beach, which is the main, easily accessible public beach between the town of Anapa and the Utrish Specially Protected Natural Area (SPNA). Tourism is well established in Sukko and there are more tourist facilities in Sukko than in the other Local Communities (including Supsekh even though Supsekh is a larger community) due to Sukko's prominence as a tourist destination being located on a beach (the other Local Communities, excepting the town of Anapa, being located inland). The town has well-developed tourist infrastructure and services including recreation centres, fishing and horse riding facilities. Accommodation facilities in the community include over 300 hotels; seven health resorts, sanatoria and health improvement centres; and three children's and tourist camps. One of the children's holiday camps is located next to the public beach (Smena or 'Time Off'), which is well known in the area. In addition, Sukko has a kindergarten, a sports centre and a healthcare facility, as well as many restaurants, shops and kiosks catering to visiting tourists. Many of the buildings in this community are four to five storeys high and appear to be hotels. Most other

buildings are one to two-storey detached houses. Marine activities include scuba diving, yachting and recreational fishing.

Figure 14.4 Sukko



Supsekh

Supsekh, located approximately 4 km north of the landfall section (refer to Figure 14.5), is the administrative centre of the Supsekh Rural District. Its population is approximately 8,760 and its area is approximately 635 ha.

Supsekh is close to the town of Anapa and, although physically separate, it appears to function as a suburb of the town of Anapa; a high proportion of its residents work in the town of Anapa, and access services and facilities there. The housing in the community is of a similar size and quality to that observed in Varvarovka. However, the community has a more extensive range of social infrastructure, including schools and community centres, and several retail and service outlets including supermarkets, a pharmacy and restaurants.

Figure 14.5 Supsekh with the Town of Anapa in the Background



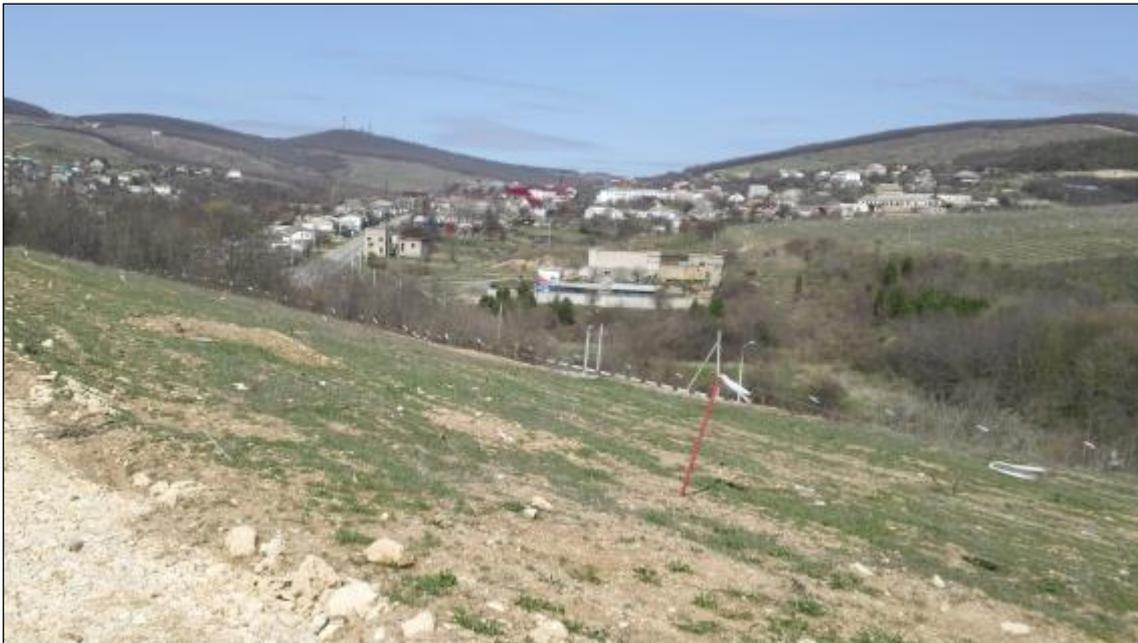
Varvarovka

Varvarovka is the closest community to the Project. The nearest identified buildings are located to the north-west within approximately 1 km of the landfall section; the intervening land is agricultural in nature with some woodland. A Project transport route from the water well in Sukko (which will supply the Project) will run along the southern edge of the community. In addition, the community lies on a section of road that was considered for access to the Project landfall section during construction; however, a Varvarovka Bypass Road will be constructed as part of the Project and used by construction traffic to avoid construction vehicles travelling on the main road through Varvarovka during the Construction Phase.

Varvarovka (Figure 14.6) occupies an area of approximately 215 ha with a population of approximately 2,250 and is located within the Supsekh Rural District. The population is mainly ethnic Russian with a significant Armenian minority forming around 40% of the population. It is located approximately 2 km south-east of the community of Supsekh.

Varvarovka consists of two main streets, one asphalted (or paved), which are connected at several points by dirt tracks. Most houses are single or two-storey detached structures arranged along the hill which slopes through the community. Varvarovka has a number of amenities such as a nursery and a general school, a community centre and a sports centre along with a few small shops. The Kavkaz Winery (together with a separate but related firm, ZAO Agrifirm Kavkaz) is well-known for grape production and wine making, and is located in the community. This enterprise includes wine-processing facilities, a distribution and administrative centre and a wine shop, all located along the main paved road. Varvarovka is also the headquarters of Briz, one of two small commercial fishing organisations in the Anapa area.

Figure 14.6 Varvarovka (Viewed from the Lesnaya Polyana site)



14.5.3.3 Shingari and Don Holiday Complexes

Approximately 2 km south of Varvarovka, between Varvarovka and Sukko, are two neighbouring holiday complexes (tourist resorts) known as the Shingari and Don holiday complexes, which are not considered in this chapter to form part of any of the Local Communities. They are located approximately 1.5 km south of the landfall section. Shingari is a privately owned complex of holiday residences built on the coastal cliff top adjacent to the landfall section. There is a beach in front of Shingari immediately below the complex which is accessible to guests staying at Shingari by steps from the resort. The Don complex is located opposite Shingari on the north side of the roadway running between Varvarovka and Sukko, and its residents also have access to the beach via a path that runs on the outside of the Shingari complex perimeter boundary.

Shingari reported that it has capacity for approximately 300-370 guests and that it welcomes approximately 6,000 to 7,000 guests per year. It is a year round resort, although the peak season (during which time occupancy is 100%) runs from June to early October. The shoulder season starts at the beginning of May, during which time they typically achieve 50% occupancy. At other times, they tend to operate at approximately 20 to 30% capacity. Shingari mostly works with corporate clients and most guests are company employees who have been provided vouchers to stay at the complex by their companies. Most visitors are from different regions of Russia, with around 3% of visitors coming from other countries within the former Soviet Union. Around 150 people are employed by Shingari although this rises to 200 during peak season. Most employees are local and reside in Anapa.

The Don holiday complex has capacity for 50 guests, and it is understood that Don operates on a similar basis, although only for employees or other people associated with Russian Railways, and it is not open to the public (Ref 14.19) (see also **Chapter 17 Ecosystem Services**).

14.5.4 Population and Demography

14.5.4.1 Population

Russia experienced a steady decline in its population from 1991 through to 2009 due to declining birth rates, rising death rates and emigration. However, since 2010, the nation's population has grown⁹, reaching 143.0 million in 2012 (an increase of 0.6% over the period 2007 to 2012) (Ref. 14.20). A similar trend is observed in Krasnodar Krai, where the population in 2012 was estimated at approximately 5.3 million, and population increased by 3.6% over the five years to 2012 (Ref. 14.15).

⁹ This reversal is likely due to a combination of increased confidence in Russia's economic prospects as a result of continued steady economic growth and also government policies to stimulate population growth. One policy, known as the 'maternal capital' scheme provides vouchers worth approximately RUB 400,000 (approximately US\$13,000) and which are given to mothers who have two or more children (this figure is indexed every year). This has been provided since 2007 and the vouchers can only be used for a limited range of purposes such as home improvements, education, and the mother's pension savings.

In the ART municipal district, the population increased by 9.1% during the period from 2007 to 2012. In 2012 it was 147,200, with about 40% living in the town of Anapa itself (Ref. 14.15).

Of the Local Communities, the town of Anapa is the largest, with 59,000 people, followed by Supsekh with approximately 8,760 people. Varvarovka, Gai Kodzor and Sukko are relatively small at 2,250, 3,370 and 3,150 people respectively (town of Anapa data (Ref 14.15); Gai-Kodzor data (Ref. 14.16); Sukko, Supsekh and Varvarovka data Ref 14.17). Rassvet is the smallest of the Local Communities with a population of approximately 1,410 (Ref. 14.16).

The ART Municipal District, including the Local Communities, is experiencing a higher rate of population growth than that seen at the national and regional levels, owing to higher birth rates, lower death rates and positive net migration. The main factors contributing to migration growth are the influx of migrant labour for the construction, tourism and agricultural sectors, as well as a relocation programme run by the Russian military to resettle service personnel to the area on retirement (Ref. 14.21).

14.5.4.2 Demographics

The gender ratio at the national and regional levels is approximately 46% male and 54% female, while in the ART municipal district it is 47% male and 53% female. The profile of the Local Communities is similar (Ref. 14.15).

Whereas at the national and regional levels there has been a slight decrease in the proportion of the population that is of working age, in the ART municipal district during the period 2007 to 2011, the number of people of working age increased by approximately 14% (from 84,200 to 95,900). The biggest contribution to this increase comes from females (Ref. 14.15). This is in line with the economic growth that ART has been experiencing in recent years.

Ethnic Russians form the great majority of the population at national and regional levels, making up more than 80% of the population (Russian Federation data Ref. 14.22; Krasnodar Krai data Ref. 14.23). The ART district is characterised by a high proportion of ethnic Armenians (Ref. 14.24). The ethnic composition of the Local Communities is broadly as follows:

- Varvarovka: Russians, plus other ethnic groups (excluding Armenians) account for approximately 60%; and Armenians for approximately 40%;
- Sukko: Russians, plus other ethnic groups (excluding Armenians) account for approximately 75% and Armenians for approximately 25%;
- Supsekh: Russians, plus other ethnic groups (excluding Armenians) account for approximately 50% and Armenians for approximately 50% (Ref. 14.17);
- Gai Kodzor¹⁰: Armenians account for just over 70% of residents, with Russians accounting for around 26%. Other groups include Ukrainians, Yezidy ¹¹ , Greeks and Tatars (Ref. 14.25); and

¹⁰ In 2011, the entire rural district has a population of approximately 5,980 people. Accordingly, Gai Kodzor and Rassvet together account for approximately 80% of the total population of the Gai Kodzor rural district.

¹¹ A Kurdish ethno-religious group with Indo-Iranian roots.

- Rassvet: 60% Armenian, with the remaining 40% being of Russian ethnicity (Ref. 14.71).

Most recent migrants to the Russian Federation (almost 90% in 2010 and 2011) have come from the countries of the former USSR (Ref. 14.26). The regional and local migration profile is similar. In Krasnodar Krai in the first half of 2012 more than half (53%) of migrants came from Uzbekistan and 18% came from Armenia (Ref. 14.15). Migrants from these countries are the main immigrants to the ART Municipal District and Local Communities. They migrate to the area to work in tourism and agriculture and, particularly, construction (Ref 14.27; Ref 14.21).

14.5.5 Economy

14.5.5.1 Gross Domestic and Regional Product Indicators

Russian Federation and Krasnodar Krai

The Russian Federation is among the world's largest economies. It is classified by the World Bank and International Monetary Fund as a developing economy and is heavily dependent on natural resources. Table 14.3 gives information on the GVA¹² (i.e. GDP and GRP respectively) for the Russian Federation and Krasnodar Krai. In 2012, the Russian economy grew by an estimated 3.4% in real terms, down from 4.3% growth in both 2011 and 2010 (Ref. 14.26; Ref. 14.28).

Krasnodar Krai ranks eighth in the Russian Federation by gross regional product (GRP). Data for the region indicates that regional economic growth has been strong (Ref. 14.29).

Table 14.3 Gross Economic Output, Russian Federation and Krasnodar Krai

Level	2006	2007	2008	2009	2010	2011	2012
Russian Federation, GDP (trillion RUB)	26.9	33.2	41.3	38.8	46.3	55.8	62.6
Krasnodar Krai, GRP (billion RUB)	484	648	804	862	1,028	1,230	n/a

Source: Russian Federation data – Ref. 14.28; Krasnodar Krai data (Ref 14.30)

Data on the GVA and GVA per capita for the ART municipal district is not available. However, refer above for information in relation to wage levels in the district.

¹² GVA is a measure of the value of goods and services produced by an area, sector or producer minus the cost of the raw materials and other inputs used to produce them. Unlike GDP, GVA does not include taxes or subsidies on the goods and services. GVA is useful for comparing performance across different areas as it is often difficult to allocate taxes and subsidies sub-nationally.

Table 14.4 Annual GDP / GRP Per Capita (thousands RUB)

Level	2005	2006	2007	2008	2009	2010	2011
Russian Federation	126.0	157.9	196.7	238.9	226.0	316.1	380.3
Krasnodar Krai	73.1	94.9	126.8	156.6	166.5	197.3	235.1

Source: for RF 2010-2011 (Ref. 14.26); For RF 2005-2009 and KK 2005-2011 (Ref. 14.31).

Capital investment flows at the national and regional level grew between 2006 and 2011, with a slight downturn at the national level in 2009 following the global economic crisis of 2008 (Ref. 14.32; Krasnodar Krai data Ref. 14.9).

The ART Municipal District also experienced consistent growth over this period (Ref. 14.9). Investment has been concentrated in three key sectors: tourism, recreation and leisure; residential development; and agriculture (Ref. 14.24). No information regarding capital investment flows was available for the individual Local Communities.

14.5.5.2 Economic Sectoral Composition – Overview

Russian Federation, Krasnodar Krai and Anapa Resort Town

In 2010, the composition of the Russian Federation economy broken down into three overarching sectors (as measured by GDP) were as follows: services (60.6%); industry (35.4%); and agriculture (4.0%) (Ref. 14.26). In 2012, they accounted for 60.0%, 36.1%, and 3.9% of the economy respectively (Ref 14.33) (see Appendix 14.2 Economic Data).

In 2012 and at the next level down, wholesale and retail trade accounted for almost 20% of GVA¹³; while manufacturing accounted for a further approximately 15%. Extractive industries, including oil and gas production, account for more than 10% of economic output (Ref. 14.26). (See Appendix 14.2 for a more detailed proportional breakdown of the contribution made by different economic sectors to the Russian economy). In 2011, the Russian Federation became the world's leading oil producer and is the second-largest producer of natural gas. The Russian Federation holds the world's largest natural gas reserves, the second-largest coal reserves, and the eighth-largest crude oil reserves (Ref 14.34).

For Krasnodar Krai, the economy is dominated by construction (accounting for 19.5% of GVA in 2011); retail and wholesale trade (16.4%) and transport and communications (15.1%). Hotels and restaurants (the closet proxy indicator for the tourism sector) accounted for approximately 2.7% of output (Ref. 14.30). However, this figure would not capture other economic activity associated with tourism such as construction activity, transport, retail, real estate and other

¹³ The full title used by the Russian statistical agency Rosstat is 'wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods'. Hereafter, we refer to the sector as the wholesale and retail trade sector unless otherwise noted.

services. (See Appendix 14.2 for a more detailed proportional breakdown of the contribution made by different economic sectors to the Krasnodar Krai economy). Construction work associated with the 2014 Winter Olympic Games in Sochi, as well as with tourism more generally along the Black Sea coast, is likely to have contributed to the increased importance of this sector in Krasnodar Krai, which has risen from being the fifth largest sector in 2007 to its current strong position in the economy.

At the municipal district level, the ART municipal district administration estimates that the two leading sectors are the tourism sector and the retail and services sector, each accounting for approximately 40% of economic activity. Construction is estimated to account for approximately 10% of economic activity, followed by agriculture (3% to 5%). Fisheries are estimated to account for less than 1% of economic activity in the municipal district (Ref. 14.35).

Local rural district administration officials estimate that tourism accounts for between 40% and 45% of the economy in the smaller, rural Local Communities (i.e. other than the town of Anapa) (Ref. 14.16 and Ref. 14.27). It is likely to account for the greatest share of the economy in Sukko, while some the other Local Communities are more likely benefit indirectly, in particular by way of their residents being employed in tourism sector businesses. For more detailed information on the role that tourism plays in the Local Communities, see Section 14.4.10.

Fisheries

Fishing in the Russian Federation contributed 0.2% to national GDP in 2010, 2011 and 2012 (Ref. 14.26 and Ref. 14.33). The industry production index for the fisheries sector¹⁴ was 98.5 in 2010 and 112.5 in 2011, indicating relatively strong growth in the value of output in the sector in 2011 after a small contraction the previous year (Ref. 14.26). In Krasnodar Krai, the equivalent figure for contribution to GRP was a constant 0.1% in each year from 2007 to 2011 (Ref. 14.30).

Comparable data for the fisheries sector at the ART municipal district level is not collected on the same basis as at the national and regional levels. However, it is estimated by the ART Municipal District administration that in that district in 2012, the sector contributed less than 1% to the municipal district's economic output (Ref. 14.35).

14.5.6 Employment and Livelihoods

14.5.6.1 Employment Trends

At the national and regional levels, the labour market has been recovering in 2010 and 2011 from the 2009 downturn in employment (Ref. 14.36; Ref. 14.14.15). In contrast, the ART municipal district has experienced steady growth in employment in recent years and does not appear to have been as seriously affected by the global financial crisis (Ref. 14.24).

¹⁴ The index is an economic indicator measuring the value of production year on year as recorded for economic activity in the 'Fishing' sector. The index is expressed relative to the previous year in comparable prices at a base value of 100 such that a figure below 100 indicates contraction in the real value of output while a figure above 100 indicates an increase in the real value, or growth, in that sector.

In the Local Communities, the majority of residents work outside their local community. Sukko records the lowest proportion of people working outside their home community; whereas in Varvarovka and Supsekh more than four out of every five people employed work beyond their community (Ref. 14.17). This indicates that these communities are more likely to have strong economic links with the town of Anapa and the job opportunities provided there.

Seasonal jobs in tourism and related sectors are an important source of employment in the whole of the ART municipal district during the peak tourist season, as shown in Table 14.5. It is understood that this increase in seasonal employment opportunities effectively eradicates unemployment (or at least reduces it to very low levels) in the tourism season (Ref. 14.21). The data indicates that the number of seasonal jobs in the municipal district exceeds the number of people employed in regular jobs by almost two-thirds. The municipal district was not able to give information on the type of jobs performed, nor was it able to give information on the proportion of seasonal migrants in seasonal employment. However, jobs lasting less than one month are not accounted for in the regular employment numbers, so the number may include a variety of casual workers on short contracts. A local official in the Supsekh Rural District administration estimated separately that there are an estimated 500 temporary workers in Sukko in the tourist season working in hotels, trading and in other services such as cleaning (Ref. 14.27).

Table 14.5 Annual Seasonal Jobs in Anapa Resort Town Municipal District, 2006-2011

	2006	2007	2008	2009	2010	2011
Seasonal jobs	35,000	49,000	40,000	70,000	95,000	117,000

Source: Ref. 14.24

14.5.6.2 Unemployment

In Russia, unemployment rose in the wake of the global financial crisis to 8.4% in 2009, and has since declined, as shown in Table 14.6. The total unemployment¹⁵ rate has since dropped further to 5.4% in January 2013, which represents a record low for the last two decades (Ref. 14.37).

Table 14.6 Russian Federation, Total Unemployed Rate, 2008-2011

	2008	2009	2010	2011	Jan 2013
Unemployment Rate (%)	6.3	8.4	7.5	6.6	5.4

Source: Ref. 14.38

¹⁵ Total unemployment is measured through a regular labour force survey employing a sampling based methodology (i.e. the rate is estimated by surveying a subset of the population) and refers to the share of the labour force that is without work but available for and seeking employment.

Although a published unemployment rate is not available for Krasnodar Krai, using published statistics on the total number of unemployed and the economically active population (Ref. 14.15), it is estimated that the total unemployment rate in 2010 was 6.8%.

In the ART municipal district, a comparable measure of unemployment is not available. In order to be comparable, this calculation would need to include both registered and unregistered unemployment numbers, but only registered unemployment estimates are available. However, available information provided by local officials in 2012 indicates that unemployment levels are comparatively low, partly due to the strength of the tourism and construction sectors and also due to seasonal employment (Ref. 14.24). In March 2013, local officials suggested that unemployment in the district was the lowest in the whole of the Krasnodar Krai (Ref. 14.21).

In February 2014, local officials at the Anapa Resort Town Municipal District Administration reported that 616 people were registered as unemployed at that time, including 67 registered unemployed people in the Supsekh Rural District Administration (which includes the Local Communities of Supsekh, Varvarovka and Sukko). However, during the busy summer period the number of registered unemployed in ART falls to approximately 100 people due to the creation of temporary seasonal employment opportunities in the tourism sector. The administration reported that some local residents work during the summer, and register as unemployed to receive social security payments outside of the peak tourist season (Ref. 14.39).

The administration also reported some general characteristics of the unemployed in the ART Municipal District; approximately 60 to 70% of registered unemployed are women, nearly 35% are young people (i.e. 16 to 29 years old) and around 10% are of pre-retirement age¹⁶. No specific economic sectors are considered to represent a higher proportion of unemployed. Unemployment is considered a key factor contributing to low income households (Ref. 14.39).

Reliable unemployment rate data for the Local Communities were not available but they are expected to closely reflect the municipal district rates. During the summer tourist season, unemployment levels are reportedly very low in Supsekh Rural District as most people find employment in the hotel, restaurant and general tourism sectors. In mid-2013, during the summer peak season, local officials reported that only one person was registered unemployed in Varvarovka; nine in Sukko; and 58 in Supsekh (Ref. 14.17). Reliable unemployment data or estimates for Gai Kodzor and Rassvet were not available.

14.5.6.3 Migrant Labour

Demand for labour, including that generated by seasonal employment peaks associated with the summer peak tourism season, as well as the growth in construction activity in the ART municipal district that has been occurring since 2006, has resulted in new migration patterns at the local level.

Migrant workers come to the ART municipal district from a number of countries of the former Soviet Union states as well as other Russian regions, to work in construction, tourism

¹⁶ Pre-retirement age is a qualitative and commonly used term in Russia, generally understood by people using it to refer to the 10 years leading up to retirement age (which is 60 for men and 55 for women).

(particularly retail trading during the tourism season) and agriculture. For example, migrant workers from Dagestan are employed annually by Agrifirm Kavkaz. See Section 14.4.6.5 for more information specific to those workers.

Generally, the majority of migrants are men aged up to 30-35 who usually do not bring their families with them. Information on the average duration of stay is not readily available, but it is understood from local officials that workers in the hospitality and tourism sector typically stay for the duration of the peak tourism season before returning home again, and tend to return annually (Ref. 14.39).

Local officials report that the type of jobs performed by migrant workers varies depending on their country of origin. Generally migrants from Uzbekistan are employed in the construction and agricultural sectors, whereas migrants from Ukraine and Moldova are more likely to work in the services sector (Ref. 14.59). However, there is evidence to suggest that local people are also employed in the construction sector (see Table 14.7).

As of January 2014, approximately 2,000 foreign migrants were registered with the ART Municipal District Administration (this number does not include internal Russian Federation migrants). It is thought by local officials that the majority of these workers are from Uzbekistan, Moldova, Ukraine and Tajikistan, and that they have come to the area primarily to work in the construction sector (Ref. 14.39).

14.5.6.4 Employment Brokerage Services

The Anapa Employment Centre in the town of Anapa is a government recruitment agency that has previously worked with the private sector and has some experience of liaising with large companies in regard to brokering employment opportunities for local workers. Although the Centre has experienced mixed degrees of success more recently with companies that have stated that they wish to create up to 500 jobs, as to date, no local residents have been employed by these companies. The Anapa Employment Centre also helps local workers to access employment at health resorts (e.g. maintenance and landscaping work) in the lead up to and during the peak tourist season. This is recognised as a form of 'public work', whereby registered unemployed people are often taken on for this work, but also continue to receive social payments during the period they are undertaking such 'public work' employment. Local residents can be engaged on a public works project for between one to two months, and in 2013, 234 people were engaged in public work (Ref. 14.39).

The Anapa Employment Centre also runs a programme for vulnerable groups. Organisations employing local residents who are considered to be vulnerable (e.g. having a disability) receive compensation (Ref. 14.39). There are also some private recruitment agencies operating in Anapa Resort Town (Ref. 14.39).

14.5.6.5 Employment by Economic Sectors

Russian Federation, Krasnodar Krai and Anapa Resort Town

The main sectors in terms of employment for the Russian population in 2010 include the wholesale and retail¹⁷ sector (17.8% or 12.06 million employed people) and manufacturing and process industries (15.2% or 10.29 million people) (Ref. 14.24). In Krasnodar Krai, manufacturing and process industries are the leading sector for jobs, followed by wholesale, retail and repair (Ref. 14.15).

Table 14.7 shows employment in the ART municipal district for selected economic sectors from 2006 to 2010. The wholesale and retail sector is by far the largest employer but in other regards the employment profile differs from the national and regional picture: there is less dependency on manufacturing and processing, and more on agriculture and hotels and restaurants (reflecting the importance of tourism to the municipal district economy).

While the proportion of employment in hotels and restaurants as a percentage of total employment (approximately 2,600 workers in 2010 or 3.6% of total employment) appears relatively low when compared to other employment sectors and given the estimate by the ART municipal district administration that the tourism sector accounts for as much as 40% of economic output, it is still double the national average (1.8%). Further, the number reflects the annual average number of employees per annum working in a given sector and does not include those employed in small enterprises¹⁸ or those in employment for less than one month (Ref. 14.27).

¹⁷ The full title of this sector is "whole and retail business; repair of vehicles, motorcycles, household equipment"

¹⁸ The definition of a 'small enterprise' is provided in Federal Law N209-FZ of July 27, 2007 *Small and Medium Business in the Russian Federation*. Small and medium enterprises are consumers' cooperatives and business (commercial) organizations, as well as individual entrepreneurs (that operate without creating a legal entity) and farms. Main criteria for identifying small enterprises are: a) the share of governmental bodies, foreign organizations, public and religious associations and other organizations that are not small and medium enterprises should not exceed 25%; b) the average annual number of employees should not exceed 100 persons (incl. 100); c) annual sale proceeds should not exceed 400 million RUR.

Table 14.7 Employment in Anapa Resort Town and Percentage of Total, Selected Sectors

Anapa Resort Town	2006	2007	2008	2009	2010
Total number of workers*	64,800	69,300	70,500	71,500	72,200
<i>Employment by Sector, Percentage of Total:</i>					
Agriculture, hunting and forestry	6.0	5.2	4.7	4.6	4.7
Fisheries	1.1	1.0	1.0	1.0	1.0
Mineral extraction**	1.1	0.3	0.4	0.4	0.3
Manufacturing	5.7	3.6	3.7	3.8	3.7
Electricity, gas and water†	2.2	1.9	2.0	2.1	1.5
Construction	7.3	7.1	7.1	7.0	6.9
Wholesale and retail trade	41.8	45.0	40.0	41.0	42.0
Hotels and restaurants	4.5	3.5	3.4	3.5	3.6
Transport and communication	5.1	3.8	3.8	3.9	4.0
Real estate and renting services	0.5	1.9	2.0	2.0	2.4
Education	5.7	6.5	6.5	6.6	6.4
Healthcare and social services	11.9	12.7	17.9	17.8	16.2
Other community, social and personal service activities	2.3	3.3	3.3	3.6	4.3

Source: (Ref. 14.24)

* As indicated by the number of staff on payroll.

** Mining and quarrying (includes mining of energy and non-energy producing minerals)

† Production and distribution of electricity, gas and water

Local Communities

Data on the breakdown of employment by sector in the town of Anapa is not available. However, given that the town accounts for approximately 40% of the population of the municipal district, the breakdown for the district is likely to be broadly representative of the breakdown by sector in the whole of the Anapa Resort Town municipal district. The main exception to this is likely to be that there will be less of a bias to primary industries such as agriculture and mineral extraction.

Data for employment by economic sector is also not available at the level of the other Local Communities. However, information provided by local officials suggests that in three of the smaller communities (i.e. Varvarovka, Sukko and Gai Kodzor) agricultural sector enterprises, and in particular grape-growing and winemaking enterprises, are the largest employers for people working within those Local Communities. In Varvarovka and Gai Kodzor, such enterprises also account for a majority of jobs within those communities (not including self-employed entrepreneurs and sole traders who may work from home). In comparison, the major employers in Supsekh include enterprises related to construction and manufacturing¹⁹ (Ref. 14.25 and Ref. 14.17). Local officials in the Gai Kodzor Rural District (including both Gai Kodzor and Rassvet) confirmed in early 2014 that a small number of local residents (estimated to be five people) have obtained employment on the construction of the Russkaya compressor station (Ref. 14.18). The town of Anapa is also an employment hub and many residents of smaller nearby rural communities work in the town of Anapa, including in the seasonal tourism industry.

Agrifirm Kavkaz and Kavkaz Winery

There are two firms, with their operations centred on Varvarovka (Agrifirm Kavkaz and Kavkaz Winery), which provide employment for up to approximately 100 people²⁰. This includes approximately 40 to 70 workers cultivating the vineyard fields including during the harvest period. These workers are engaged annually from April until the end of the pruning period, usually in mid-November and are seasonal migrant workers, understood to have originated primarily from Dagestan. The remainder, approximately 30 people, include office staff and other workers (e.g. drivers, etc.) and these employees are local to the area (Ref. 14.40).

Migrant workers employed at the Kavkaz Winery live temporarily in cabins near the vineyards of this firm and the Varvarovka village cemetery. These workers farm the vineyards, harvesting and cutting grapes. A maximum of 45 such workers live in these cabins during the harvesting period (Ref. 14.41).

Another winery based in the Local Communities of similar size, Russkaya Loza (with 1,580 ha) is partly based in Supsekh and partly based in Varvarovka, which employs approximately 50 workers in Supsekh Rural District and a further 7 to 8 in Gai Kodzor Rural District (Ref. 14.17; Ref. 14.25). This vineyard is not directly impacted by land acquisition associated with the Project.

14.5.6.6 Livelihoods

Overview

The majority of employment in Russia is formal rather than informal, i.e. most people are employed in regular, paid positions, rather than pursuing subsistence or other informal livelihoods. Nevertheless, some individuals, particularly those on lower incomes such as

¹⁹ That is, the manufacturing and processing industries sector.

²⁰ Agrifirm Kavkaz is concerned with the cultivation of approximately 400 to 600 ha of vineyard in the Study Area, while Kavkaz Winery is concerned with wine production.

pensioners, undertake additional economic activities to supplement and enhance their incomes (though they are not characterised as subsistence activities). For instance, there is a long tradition in Russia of household plots being used to contribute towards sustaining livelihoods and more recently, to enhance them.

Local Communities

In the ART municipal district, household plots account for 47% of agricultural output (Ref. 14.21 and Ref. 14.42). Many household plots are used to grow cherries, grapes, and other produce. Households use their own produce and also often sell it at local markets (this includes people registered as self-employed entrepreneurs) (Ref. 14.25). It has also been occasionally observed during site visits that some produce is sold along the roadside in Local Communities. It is possible that this activity makes a contribution to livelihoods.

Fishing is also evident and has been observed in Anapa. Based on observations of a small number of people fishing from piers, this is most likely for recreation rather than as a primary means to support livelihoods. However, according to local officials there may be a very small number of instances of fishing (i.e. from piers or the shore) to supplement livelihoods, although the officials were not able to provide any records or specific examples (Ref. 14.21).

It has been observed that local residents of Sukko appear to rent out rooms to visitors in the summer tourism season; presumably to supplement livelihoods (see Section 14.4.10).

Seasonal employment in tourism and the annual grape harvest is also an important source of employment in the ART municipal district (see Section 14.4.6).

14.5.6.7 Income

Gross Average Monthly Wages

In the Russian Federation, the gross average monthly wage in 2010 was approximately 21,000 RUB (Ref. 14.43). In Krasnodar Krai, the gross average monthly wage in 2010 was approximately 16,330 RUB (Ref. 14.15).

In the ART municipal district, the gross average monthly wage in 2010 was 14,000 RUB. The highest monthly wages in the ART municipal district were in the production and distribution of energy, gas and the water sector, followed closely by the transport and communications sector. Workers in the municipal district in the construction sector, and in the agriculture, hunting and forestry sector, received approximately 12,500 and 10,800 RUB per month, respectively, on a comparable basis²¹. The hotel and restaurant sector, which is important to the local economy given the reliance on tourism, is the lowest paid sector with a gross average monthly wage of approximately 8,100 RUB (Ref. 14.15).

²¹ It was not possible to obtain an equivalent figure at municipal district level for workers in the fisheries sector; possibly because of the limited size of the sector in the district. However, at the national level, comparable data for the same year indicated that on average workers in the fisheries sector received an average gross monthly salary over 2.2 times that of workers in the agriculture, hunting and fishing sector. This pattern was also evident in statistics for the preceding five years.

Overall, when comparing the Russian Federation, Krasnodar Krai and ART municipal district across the whole economy, the gross average monthly wages in the ART municipal district are lower than average monthly wages in Krasnodar Krai and the Russian Federation for all sectors apart from agriculture.

Subsistence Level (or Poverty Line)

In 2011, the official subsistence level²² in the Russian Federation was 6,369 RUB per month (Ref 14.44) and in Krasnodar Krai it was 5,931 RUB per month (Ref. 14.15). Nationally, the percentage of the total population with incomes below the subsistence level has fallen over the period from 2008 to 2012 from 13.4% to 11.0% (Ref. 14.45). Regionally, the percentage of the total population with incomes below the subsistence level fell from 17.7% to 12.2% over the same period (Ref. 14.46). At 5,976 RUB per month, the subsistence level calculated for ART is similar to the official subsistence level in Krasnodar Krai but lower than the national subsistence level. This reflects the relatively lower cost of living in rural areas (Ref. 14.24).

No estimate of the proportion of the total population with incomes below the subsistence level is available at the municipal district or local level. However, it is known that average pensions in the Russian Federation, Krasnodar Krai, and Anapa Resort Town in 2010 were between 7,476, 7,116 and 7,130 RUB, respectively. By the following year, 2011, average pensions had risen to 7,728 RUB in Krasnodar Krai indicating that pensioners' incomes are generally comfortably above the local subsistence level. A figure for Anapa Resort Town was not available (Ref. 14.15).

14.5.7 Land Ownership

Two landowners have been identified in relation to Project-related land acquisition to accommodate the permanent landfill facilities, Right-of-Way (RoW) and permanent access road:

1. Agrifirm Kavkaz (which is in turn owned by a residential and resort property development enterprise, 'Fond Yug') owns the majority of the land that is required temporarily or permanently for the Project; and
2. The Federal Forestry Agency (*Rosleshoz*) which is a governmental body under the Ministry of Natural Resources and Environment which administers national and municipal forests in Russia, including designating protected forests and which is also responsible for reviewing proposals for change of status of forestry lands for other uses. The remaining smaller area of land is administered by this agency and is the land within the Right-of-Way between the agricultural fields.

Agrifirm Kavkaz, which is concerned with vineyard cultivation, is technically a separate entity to Kavkaz Winery, which is concerned with wine production. Agrifirm Kavkaz has approximately

²² The subsistence level is based on a calculation which takes into account the cost of a consumer goods basket, including for example food, utilities and household products, as well as mandatory payments and fees (according to RF Federal Law dated 24.10.1997 # 134-FZ "On subsistence level in Russian Federation"). It equates to a poverty line, which can be used to gauge the proportion of people living below a certain income level.

2,000 ha of land in total across the wider area, of which approximately 400 to 600 is planted with vineyard. Agrifirm Kavkaz was acquired by Fond Yug in 2008, primarily for the purpose of residential development. Fond Yug has contracted out the cultivation of the vineyards through Agrifirm Kavkaz (Ref. 14.40).

It is understood that Fond Yug bought Agrifirm Kavkaz and its 2,000 ha land holdings in 2008 with the intention to redevelop much of the land for master-planned residential and resort developments, retaining approximately 400 to 600 ha for use as vineyard. Fond Yug's website states that the company is a residential, resort and leisure real estate developer with a total of US\$500 million under investment (Ref. 14.47).

Fond Yug's marketing materials indicate that the vineyard and winery businesses are valued by Fond Yug primarily for the prestige factor that the winery is able to bestow upon the residential developments, particularly the 'Chateau Club Village' residential development project. This proposed project offers prospective buyers the opportunity to have a small personal vineyard adjoined to their residence, and the expert advice and support of the Agrifirm Kavkaz staff to assist in the production of each resident's own wine (Ref. 14.40).

14.5.8 Land and Marine Area Use

14.5.8.1 Existing Land Uses

The location of the Project Area is described in Section 14.2.1 and the administrative context is further explained in Section 14.5.2.

Land in and surrounding the Project Area is predominantly forested, interspersed with pockets of open land used primarily for agriculture (including vineyards) and the residential, commercial (including tourism-related enterprises) and community land uses and areas of the Local Communities themselves (see Figure 14.1, Figure 14.7 and Section 14.4.3). Further information on agricultural and forest land uses in the Project Area is given below in Section 14.4.8.2. There are also other land uses including military zones, cemeteries, and memorials within or near the Project Area.

Chapter 16 Cultural Heritage identifies the Varvarovka village cemetery, a mixed Armenian and Russian cemetery (RU-TCH-06), approximately 398 m north of the northern pipeline centre-line and close to the Gazprom Invest Road (permanent access road) and 100 m west of the South Stream Transport temporary access road to the microtunnel site. The Varvarovka village cemetery lies on the eastern edge of Varvarovka village, close to the Agrifirm Kavkaz vineyards. The cemetery is extensive and divided into family plots. It includes the common grave of Soviet soldiers and civilians killed in the fighting and executed by the fascist invaders in 1942 and 1943 (National Monument No. 380). **Chapter 16 Cultural Heritage** also identifies other cemeteries and churches in the wider area and provides more information on uses of land relating to Cultural Heritage. Refer to Figure 16.5 in that chapter for cultural heritage receptor locations.

The Utrish Nature Reserve, a state nature reserve covering the northern extent of the Caucasus Mountains, which includes some paths and trails for recreational users, is located approximately 3.5 km to the southeast of the landfall section of the Project.

14.5.8.2 Existing Land Uses within the Project Area

The landfall section of the Project Area can be divided into three parts: the landfall facilities; the buried pipeline (including construction corridor, potential transfer site and permanent pipeline RoW); and the microtunnels.

Landfall Facilities

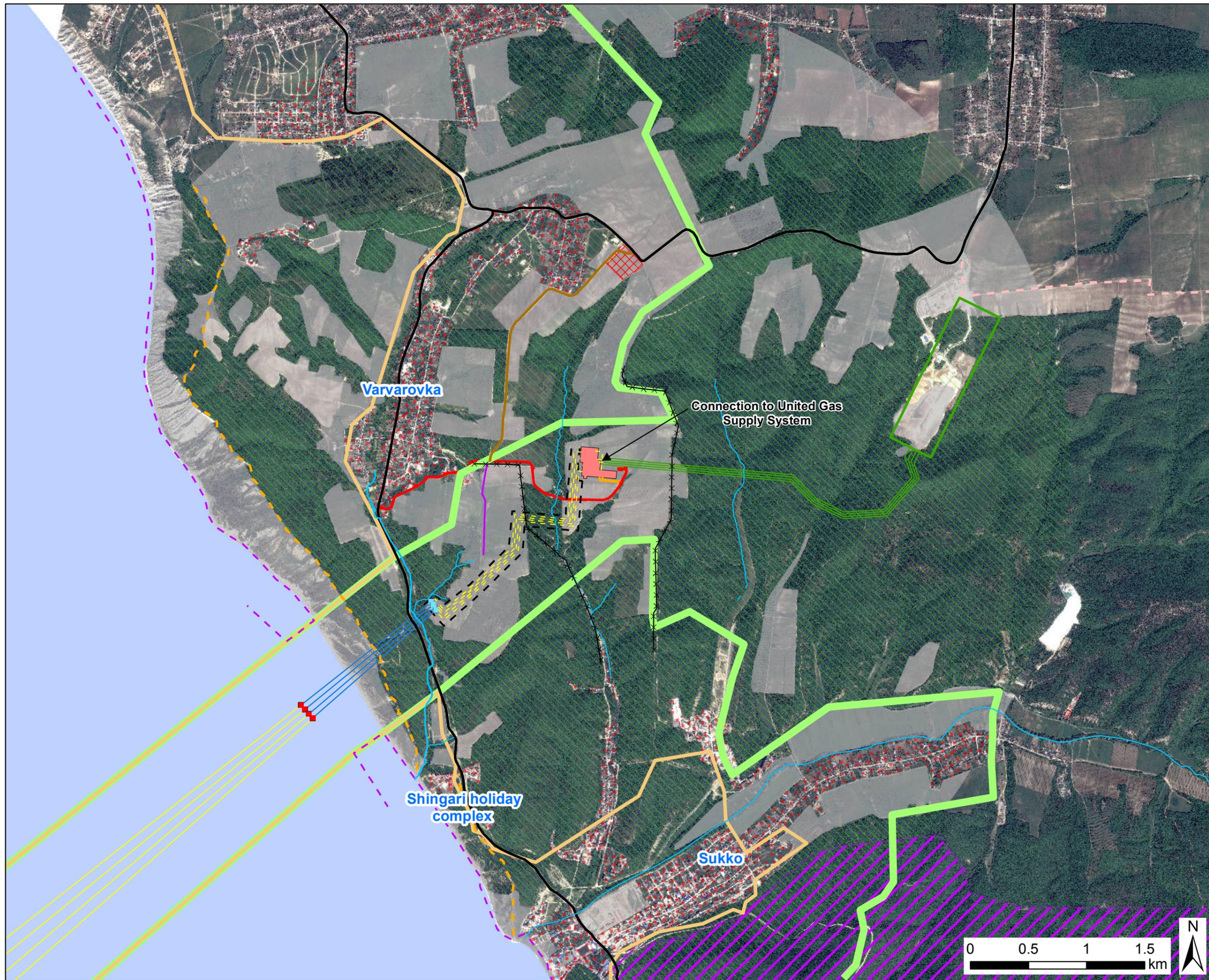
The landfall facilities, and the upstream connection with the United Gas Supply System of Russia, will be located on an existing fallow field. There is no indication that the site is currently used for any commercial or recreational activities; nor that any trails cross the land.

Construction Corridor, Potential Transfer Site and Right-of-Way (RoW)

The construction corridor, including the permanent pipeline RoW for the buried section of the Pipeline, the potential transfer site and the associated temporary construction sites, overlap almost entirely with existing agricultural fields, except for two areas of forest. The main area of forest is an approximately 700 m strip of forest that separates two fields and which will be crossed by the Pipeline construction corridor and RoW. There is another much smaller area of forest at the southern end of the RoW that falls within the boundary of the microtunnel construction site and which is within the landholdings of Agrifirm Kavkaz. There is no evidence that either section of forest that falls within the construction corridor is commercially managed or used either by the respective owners or by any third party for economic or commercial purposes.

Figure 14.8 shows the existing land uses (agricultural fields, uncultivated scrub and forest) underlying the proposed construction corridor and temporary construction areas, including whether the fields are lying fallow, or contain mature or recently planted vineyard.

Plot Date: 18/02/2014
File Name: I:\5004 - Information Systems\46369082_South_Stream\MXDs\Report Maps - Russia\Russian ESIA\2\Chapter 14 Socio-Eco\Figure 14-7 General Land Use Patterns within 4km of the Project.mxd



LEGEND

Sanitary Protection Zone

- The boundary of the first area of sanitary protection zone (exclusion zone)*
- The boundary of the second area of sanitary protection zone (limitation zone)*
- The boundary of the third area of sanitary protection zone (monitored zone)*

Power lines (mapped within a 1km radius of Project)

Rivers (mapped within a 1km radius of Project)

Main roads

Coastal path

Land use within 4km

- Built Environment
- Forest
- Open Land

Boundary of the state nature reserve "Utrish"

Russian Sector of South Stream Offshore Pipeline

- Proposed landfall section pipelines
- Landfall facilities
- Proposed microtunnels
- Proposed offshore pipelines
- Microtunnel entry shaft
- Microtunnel exit pit
- Construction corridor
- Permanent access road to be constructed by SSTTBV
- Temporary access road constructed by SSTTBV
- Varvarovka bypass road (used by Project during construction only)
- Transfer site

United Gas Supply System

- United Gas Supply System pipelines
- Russkaya compressor station
- Permanent access road to be constructed by Gazprom Invest
- Gazprom Invest temporary bypass road to be utilised by SSTTBV

* An application to make these the revised boundaries of the sanitary-mountain protection district is currently awaiting approval from the Federal Government.
Projection: Lambert Conformal Conic

Revision Details	By	Check	Check Date	Suffix

Purpose of Issue: For Information



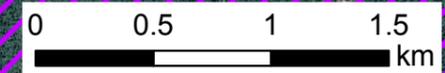
Project Title: SOUTH STREAM OFFSHORE PIPELINE PROJECT

Drawing Title: GENERAL LAND USE PATTERNS WITHIN 4KM OF THE PROJECT

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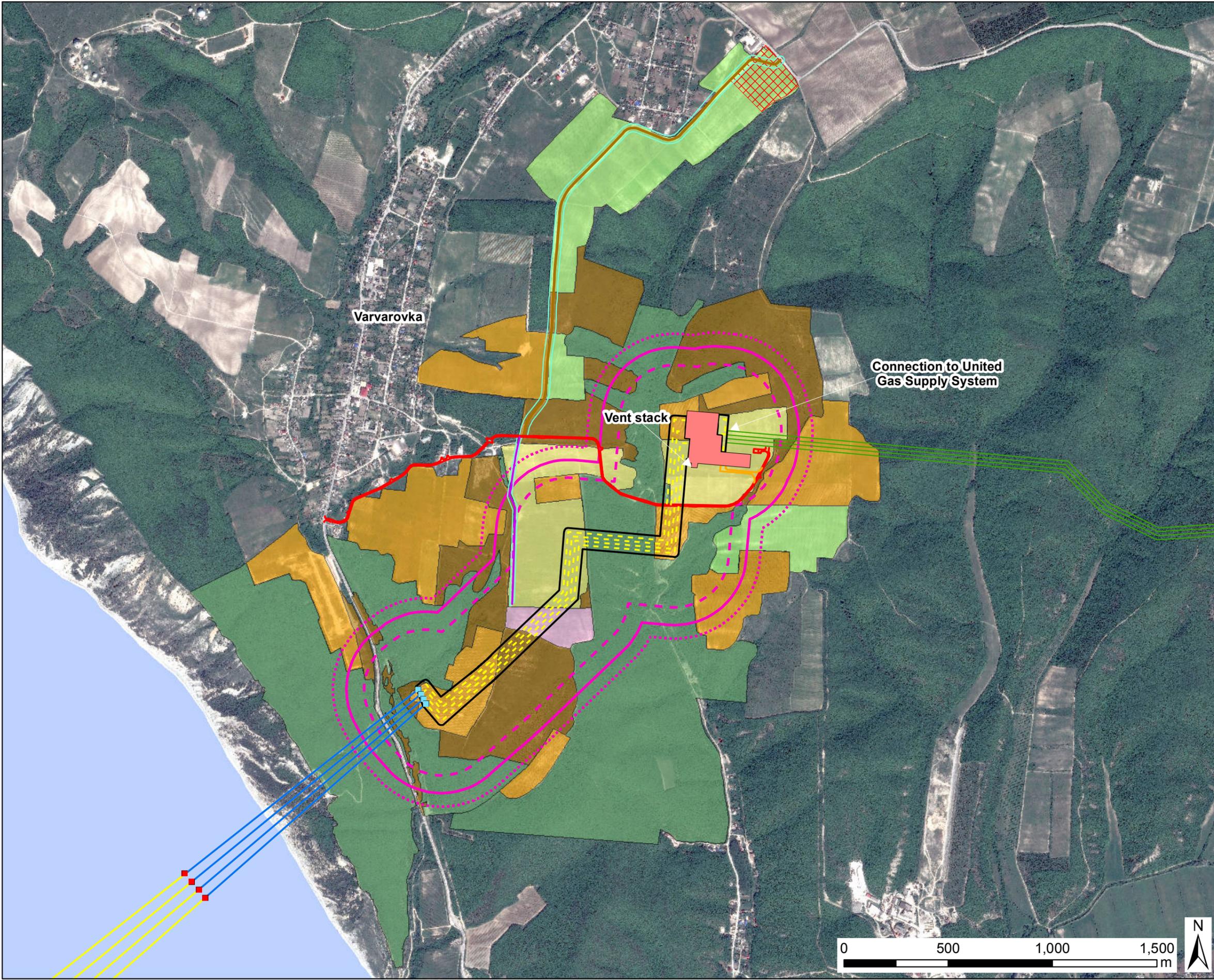
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Plot Date: 13 Mar 2014
 File Name: I:\3004 - Information Systems\46369082_South_Stream\MXDs\Report Maps - Russia\Russian ESIA v2\Chapter 14 Socio-Ec\Figure 14-8 Existing Land Uses within and adjacent to the project area.mxd



LEGEND

Land use (adjacent to Project)

- Productive vineyards
- Fallow field
- Forest
- Mature vineyard (abandoned)
- Recently planted vineyard (abandoned)
- Shrubs/uncultivated

Safety Exclusion Zones

- C- and E-class: no isolated buildings (1-2 levels), dachas, agricultural farms
- B-class: no cities, settlements, apartments of 3 levels or more, no developments/buildings with less than 100 people
- A-class: no airports, railways station, no developments/buildings with population of more than 100 persons

Russian Sector of South Stream Offshore Pipeline

- Proposed landfall section pipelines
- Landfall facilities
- Proposed microtunnels
- Proposed offshore pipelines
- Right-of-Way
- Microtunnel entry shaft
- Microtunnel exit pit
- Permanent access road to be constructed by SSTTBV
- Temporary access road constructed by SSTTBV
- Temporary construction area for road construction
- Varvarovka bypass road (used by Project during construction only)
- Transfer site

United Gas Supply System

- United Gas Supply System pipelines
- Permanent access road to be constructed by Gazprom Invest

Projection: Lambert Conformal Conic

Revision Details	By	Check	Check Date	Suffix

Purpose of Issue
 For Information

Client
South Stream
 Offshore Pipeline **ENERGISING EUROPE**

Project Title
SOUTH STREAM OFFSHORE PIPELINE

Drawing Title
EXISTING LAND USES WITHIN AND ADJACENT TO THE PROJECT AREA

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Drawing Number
Figure 14.8



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Historically, the cultivated fields, owned by Agrifirm Kavkaz, that fall within the Project Area were planted with vineyards; however, the land is now a mixture of fallow fields, scrub, and abandoned vineyard. The exception to this is the proposed potential 5.38 ha transfer site and the land within the temporary construction area for the Varvarovka Bypass Road. This land is currently productively used as vineyard but it is also within the confines of a proposed luxury residential development known as Chateau Club Village, the plans for which would retain as much of the vineyard as possible with the exception of sites for the construction of luxury residential homes (see Section 14.4.8.3 for further detail on this proposed development).

Agrifirm Kavkaz has indicated that the majority of the planted vineyards within the construction corridor, potential transfer sites and RoW have not been maintained over the last two to three years. This includes a range of mature and young (i.e. recently planted) vineyards (Figure 14.9). The young vineyard appears to have been planted in the past 24 to 30 months on previously fallow land along the route of the Pipeline in the landfall section.

Areas of shrub or uncultivated land adjoin the southernmost-affected field containing the mature vineyard.

Figure 14.9 Abandoned Mature Vineyards near the Landfall Section



Microtunnels

The entry shafts to the microtunnels are located near the south-western edge of an agricultural field containing a mature but abandoned vineyard. The microtunnels then pass under a very short section of existing mature but abandoned vineyard, shrub and uncultivated land, forested

land, coastal cliffs and the sea bed where they emerge onto the sea bed in the nearshore section (discussed under Marine Uses below). The microtunnels also pass under the Varvarovka-Sukko Road and a cliff top edge walking trail (the Mountains of the Caucasus trail). For more detail about this trail see Section 14.4.10.

14.5.8.3 Future Land Use

Anapa General Development Plan

The Anapa General Development Plan²³ (Ref. 14.14) contains plans and development proposals for the Anapa Resort Town municipal district over the next 20 years, including proposals for the expansion of several towns and villages in the municipal district to accommodate forecasted population growth.

In particular, the Anapa General Development Plan makes provision for significant increases in population, and the physical expansion of the urban and residential area of the town of Anapa, Supsekh, Varvarovka (see Figure 14.10 which has been taken from the Anapa Resort Town General Development Plan, most recently issued with amendments in November 2013), Gai Kodzor and Sukko. For Rassvet, it makes provision for a more modest increase in population (ca. 15%), with the provision of some additional facilities. The Anapa General Development Plan does not set out any timetable for implementing the plan.

In relation to land use near the Project, the Anapa General Development makes provision for an increase in the area of Varvarovka from approximately 200 ha to just over 600 ha over the plan period to accommodate a corresponding increase in population from approximately 2,000 to approximately 8,000 people over the plan period. This increase would be achieved by re-designating existing agricultural fields, forest and scrub areas mainly to the south of the existing limits of the village including land owned by Fond Yug, to residential development zones. This would include development of an urban residential extension or satellite to Varvarovka on the south side of the Pipeline alignment to the immediate north of Shingari. Part of this area overlaps with the outermost Safety Exclusion Zone during the operational life of the Project (i.e. between 345 m and 410 m from the outermost pipelines); however, the Anapa General Development Plan allows for 'cottage development' which is permissible within the development restrictions applicable within the outermost Safety Exclusion Zone²⁴.

The plans in the Anapa General Development Plan are aspirational and thus there is uncertainty as to when the development proposals will be fully realised. However, given the overlap between the proposed developments by Fond Yug and the future residential extensions to Varvarovka (see below), it is likely that some developments will proceed over the short to medium term. Figure 14.10 shows the existing and designed (i.e. future proposed) urban limits of Varvarovka.

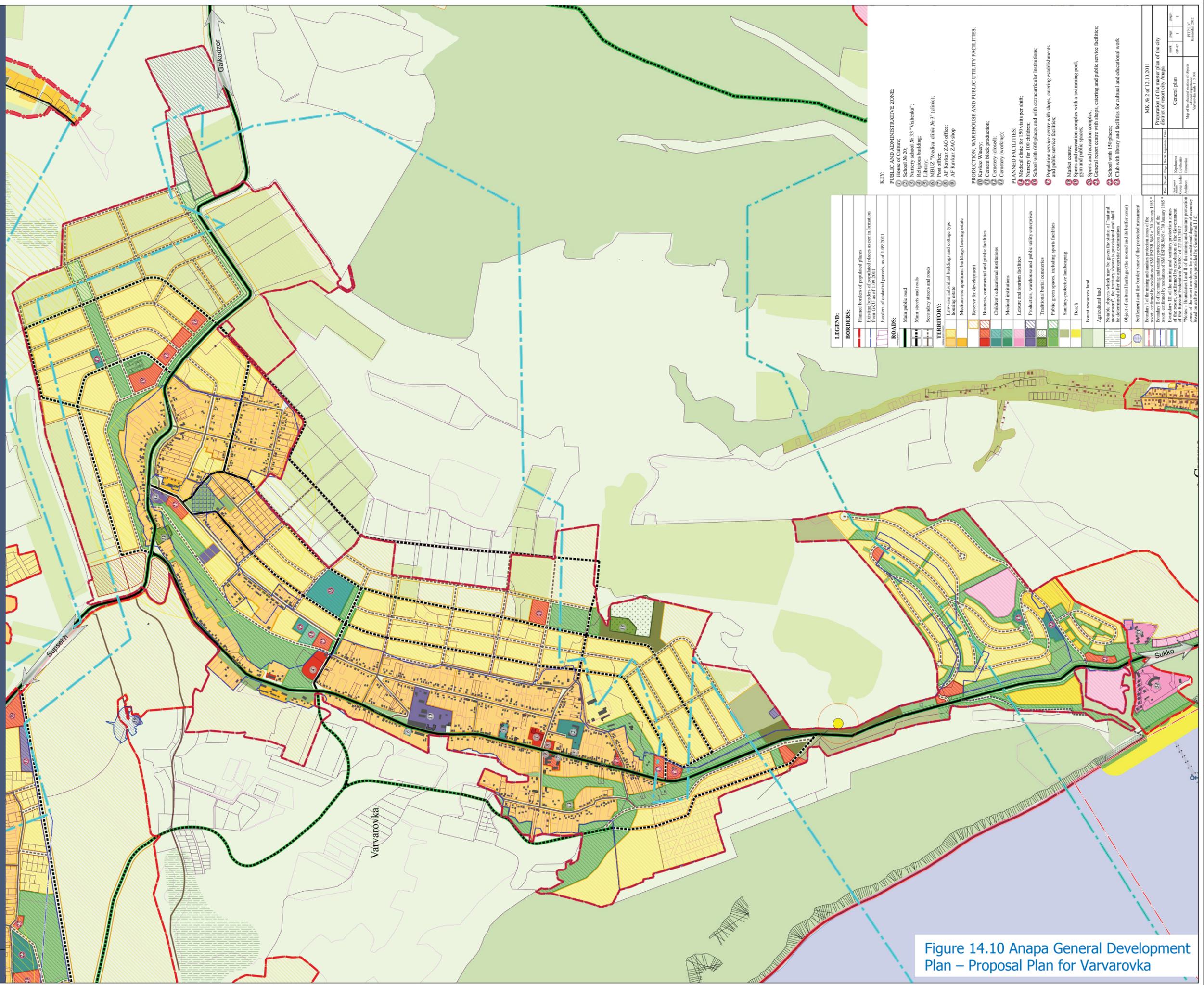
²³ Full title: 'Master Plan of Resort-City Anapa City District, Volume III - Materials to substantiate the general plan of Anapa city district in relation to settlements'.

²⁴ Onshore, to be put in place during the Operational Phase.



**MAP OF THE PLANNED LOCATION OF OBJECTS OF LOCAL IMPORTANCE
VARVAROVKA SCALE 1 : 5 000**

**GENERAL PLAN
MUNICIPALITY OF THE CITY DISTRICT
RESORT CITY ANAPA**



LEGEND:

BORDERS:

- Planned borders of populated places
- Existing borders of populated places as per information from GKU as of 1.09.2011
- Borders of cadastral parcels, as of 1.09.2011

ROADS:

- Main public road
- Main streets and roads
- Secondary streets and roads

TERRITORY:

- Object of cultural heritage (the mound and its buffer zone)
- Medium-rise apartment buildings and cottage type housing estate
- Reserve for development
- Business, commercial and public facilities
- Children's educational institutions
- Medical institution
- Leisure and tourism facilities
- Production, warehouse and public utility enterprises
- Traditional burial cemeteries
- Public green spaces, including sports facilities
- Sanitary-protective landscaping
- Beach
- Forest resources land
- Agricultural land
- Scalable objects which may be given the status of "natural monument", the territory shown is provisional and shall be determined after the appropriate examination
- Object of cultural heritage (the mound and its buffer zone)
- Settlement and the border zone of the protected monument
- Boundary I of the mining and sanitary protection zones of the resort, confirmed by resolution of SM KRSKR №43 of 30 January 1985 *
- Boundary II of the mining and sanitary protection zones of the resort, confirmed by resolution of SM KRSKR №62 of 19 January 1985 *
- Boundary III of the mining and sanitary protection zones of the resort, confirmed by resolution of the Government of the Russian Federation №1187 of 22.10.2012 *
- Sanitary-protective zones of the resort are shown for a conditional degree of accuracy based on archive materials provided by Geominfo LLC.

KEY:

PUBLIC AND ADMINISTRATIVE ZONE:

- House of Culture;
- School № 20;
- Nursery school № 33 "Vishenka";
- Religious building;
- Library;
- Medical clinic, № 3' (clinic);
- Post office;
- AF Kavkaz ZAO office;
- AF Kavkaz ZAO shop

PRODUCTION, WAREHOUSE AND PUBLIC UTILITY FACILITIES:

- Kavkaz Winery;
- Cement block production;
- Cemetery (closed);
- Cemetery (working);

PLANNED FACILITIES:

- Medical clinic for 150 visits per shift;
- Nursery for 100 children;
- School with 600 places and with extracurricular institutions;
- Sanitation service center, with shops, catering establishments and public service facilities;
- Market centre;
- Sports and recreation complex with a swimming pool, gym and public spaces;
- Sports and recreation complex;
- General resort centre with shops, catering and public service facilities;
- School with 150 places;
- Club with library and facilities for cultural and educational work

MK, № 2 of 12.10.2011		Preparation of the master plan of the city district of resort city Anapa	
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100	100	100	100

Figure 14.10 Anapa General Development Plan – Proposal Plan for Varvarovka

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Current Development Proposals

There are several development proposals affecting land within and around the Local Communities. Table 14.8 sets out proposed investment projects in the Local Communities together with the cost of each investment and the expected construction duration.

Table 14.8 Investment Projects Currently Under Development in the Local Communities

Investment Projects	Total Capital Investments (RUB)	Project Construction Duration*
Expansion of Shingari Holiday Complex	450 million	On hold, pending available funds. Commencement date not known.
Construction of children's amusement park with aqua park, Sukko	2.8 billion	2012 to 2019

Source: (Ref. 14.24)

* Project construction duration is estimated based on best available information. Despite the dates shown, some projects may experience delays and so the dates shown should be taken as a guide only.

In addition to the projects currently under development shown in Table 14.8, Fond Yug plans to implement several investment projects in Varvarovka and the surrounding area. These include several residential projects (see below), a plan to construct an electrical substation to serve Fond Yug's residential developments (Ref. 14.47) and a plan to widen the main road through Varvarovka (Ref. 14.17). There is also a proposal by another winery based in Gai Kodzor to construct a wine-tasting facility in Gai Kodzor (Ref. 14.25).

Table 14.9 sets out residential projects that are proposed. Of these, 'Sunny Hills', 'Reserved' and 'Utrish' are all more than 2 km from the Project.

Of the Fond Yug proposed developments, the site of the proposed Lesnaya Polyana housing development is located northwest of the microtunnel entry pit just beyond the outermost operational exclusion zone (Exclusion Zone 3 / A-class) as shown in Figure 14.11. Lesnaya Polyana is divided into approximately 160 plots, varying in size from 600 m² to 1,700 m² (Ref. 14.48). In October 2012, the development was on hold with no date set for construction to start; however, as of March 2013, construction of an access road and site levelling had been carried out. Prospective buyers could reserve a land plot and it is understood that approximately 1.5 ha worth of plots have been sold as of October 2013. As of February 2014, the internal street has been made and the site has been supplied with electricity, while water is in the process of being supplied also. Construction of housing is planned to start at some point in the next two to three years (Ref. 14.49).

The resort-residential project 'Anapolis' is located south of the Pipeline, overlapping in part with the outermost operational exclusion zone (although in this zone, the Anapa GDP allows for 'cottage development', which is permissible within the development restrictions applicable within the outermost onshore Safety Exclusion Zone 3²⁵).

The 'Chateau Club Village' development is located on the north-eastern edge of Varvarovka just outside of the officially designated boundary or urban limit of the community. (It is presumed that the development, although residential, is permissible despite being outside of the official boundary / urban limit of Varvarovka, as it is essentially comprised of small vineyards rather than being a dense residential development). The development has been placed on hold for the duration of the construction of the Project as an agreement has been concluded with the developer (Fond Yug) to use the road through the site as a temporary access road (i.e. for the Varvarovka bypass road) (Ref 14.49).

Table 14.9 Residential Development Proposals in the Local Communities

Investment Projects	Location	Area	Status*
Townhouse project – 'Lesnaya Polyana' ('Clearing in the Woods') (Fond Yug)	Southern extension to Varvarovka	16.5 ha	Under construction following temporary hold. Estimated date of possible first occupation ca. 2016 to 2017 or later
Resort-residential project 'Anapolis' (Fond Yug)	South of Varvarovka and north of Shingari Holiday Complex	66.7 ha	Development of design document; scheduled for completion ca. 2018
Private residential and vineyard project – 'Chateau Club Village' (Fond Yug)	North-eastern edge of Varvarovka (but outside of the officially designated boundaries of the community)	69.0 ha	Has undergone construction of some internal infrastructure including the first part of the access road for the development; but is now on hold until completion of construction of the Project

Continued...

²⁵ Onshore, to be put in place during the Operational Phase.

Investment Projects	Location	Area	Status*
Townhouse project – ‘Zapovedny’ (‘Reserved’)	Sukko	11.5 ha	Access road has been built; plan to sell land plots before constructing houses
Residence development – ‘Utrish Residence’	Sukko	13.6 ha	Under construction (ca. 2010 to 2015)
Townhouse project – ‘Solnechnye Holmy’ (‘Sunny Hills’)	Supsekh	34.8 ha	n/a

Sources: ‘Lesnaya Polyana’ – Ref. 14.50; ‘Zapovedny’ – Ref. 14.51; ‘Utrish Residence’ – Ref. 14.52; ‘Solnechnye Holmy’ - Ref. 14.53, as well as (for Fond Yug sites) Ref. 14.40; Ref. 14.47; Ref. 14.49.

Complete.

* Project construction duration is estimated based on best available information. Despite the dates shown, some projects may experience delays and so the dates shown should be taken as a guide only.

14.5.8.4 Existing Marine Area Use

In the marine section of the Project Area, fishing and commercial shipping are the principal socio-economic activities.

Fishing

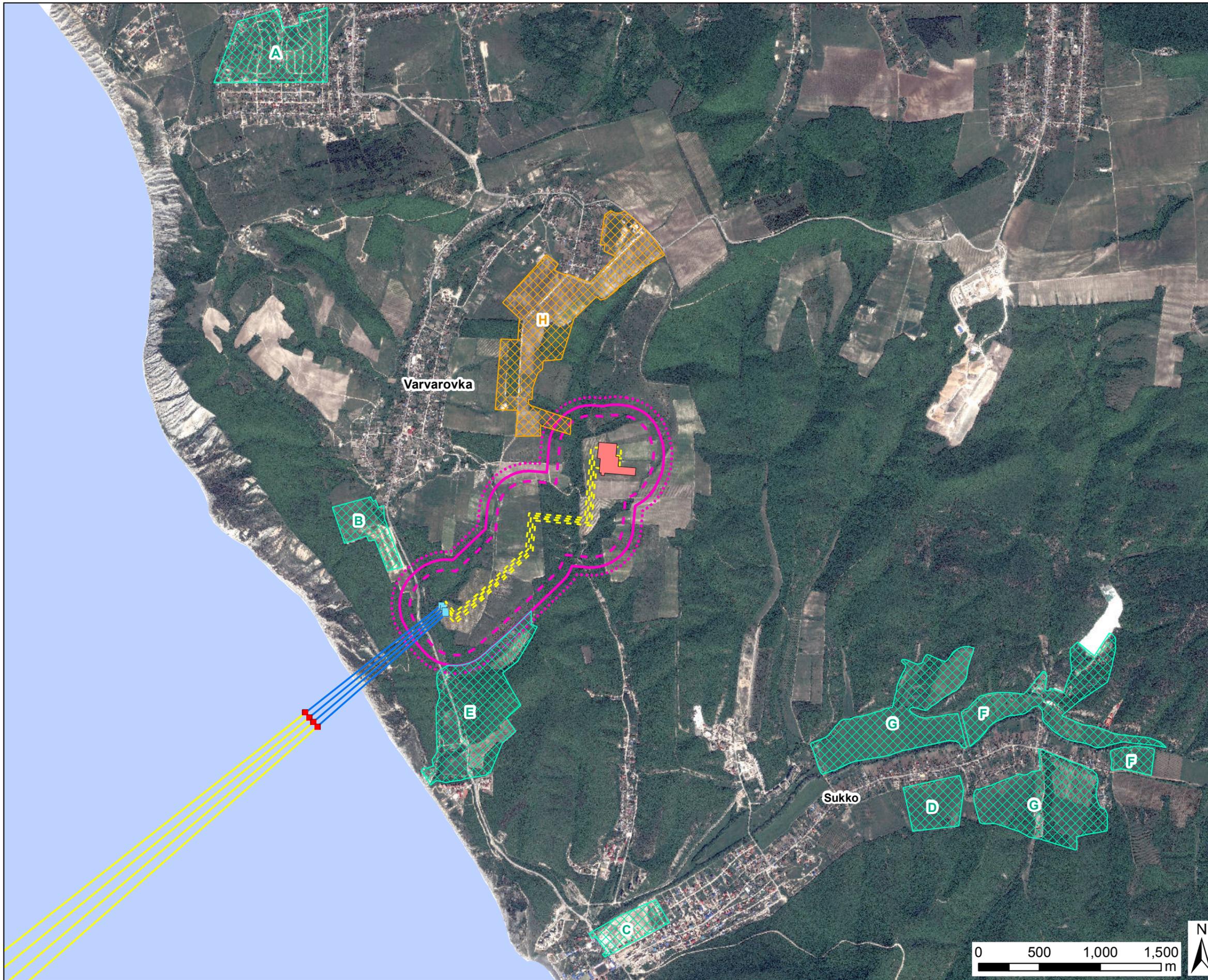
Most commercial fishing occurs in waters out to a depth of approximately 100 m. These waters are located within the 12 NM territorial water limit. Fishing generally occurs in the nearshore section, and shallower regions of the offshore section; the majority of the offshore section of the Project Area is not used for fishing.

Further detail in relation to fisheries – including fishing activities, grounds and the people who rely on this industry – within the Project Area is provided in Section 14.4.11 and Appendix 14.1.

Shipping Routes

Numerous shipping routes traverse and intersect across the Black Sea, connecting all the Black Sea countries. The Pipeline will cross several designated commercial shipping routes as well as routes used by passenger ferries that travel between Russian ports, mostly catering to summer season tourist visitors.

For further information on shipping routes, see Appendix 9.1.



LEGEND

- Proposed residential developments (site boundaries shown are approximate)
- Proposed residential development (estimated position and extent based on illustrative, not to scale drawing. Precise boundaries not known. Boundaries may differ considerably from those shown)
- A - Townhouse project - 'Solnechnye Holmy' ('Sunny Hills')
- B - Townhouse project - Lesnaya Polyana ('Clearing in the Woods')
- C - 'Residence development' - 'Utrish Residences'
- D - Townhouse project - 'Zapovedny' ('Reserved')
- E - Resort/Residential District - 'Anapolis'
- F - Children's Entertainment Park
- G - Resort/Residential District - 'Gornoye Ozero'
- H - Chateau Club Village Development

Russian Sector of South Stream Offshore Pipeline

- Proposed landfall section pipelines
- Landfall facilities
- Proposed microtunnels
- Proposed offshore pipelines
- Microtunnel entry shaft
- Microtunnel exit pit

Safety Exclusion Zones

- C- and E-class: no isolated buildings (1-2 levels), dachas, agricultural farms
- B-class: no cities, settlements, apartments of 3 levels or more, no developments/buildings with less than 100 people
- A-class: no airports, railways station, no developments/buildings with population of more than 100 persons

Projection: Lambert Conformal Conic

Revision Details	By	Check	Date	Suffix

Purpose of Issue: For Information

Client: **South Stream**
Offshore Pipeline ENERGISING EUROPE

Project Title: SOUTH STREAM OFFSHORE PIPELINE

Drawing Title: SITE OF PROPOSED DEVELOPMENTS

Drawn: AH	Checked: RW	Approved: MW	Date: 13 Feb 2014
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Drawing Number: Figure 14.11

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Sub-Sea Cables

A number of subsea telecommunication cables pass through Russian territorial and EEZ waters; the offshore pipeline route will cross six cables, four of which are telecommunications cables, while the other two serve unknown purposes and are understood to be out of service. The routes of these subsea cables are illustrated in Figure 5.34 within **Chapter 5 Project Description**. Chapter 5 also contains further information in relation to the cables, their owners and operators, the crossing agreements that will be put in place and the techniques used to safely lay the pipelines where they cross the cables.

Recreational Activities

There is some recreational use of the sea (e.g. swimming, diving) near the Project Area at Sukko beach and within nearby waters (see Section 14.4.10.2).

Oil and Gas Licence Area Exploration Activity

Rosneft OAO, a Russian oil and gas company, has licences for oil and gas exploration concessions off the coast of Krasnodar Krai in the Black Sea. The company's concession blocks in the Black Sea off the Russian coastline include the Tuapse Trough, West Chernomorsky and the South Chernomorsky offshore areas (Ref. 12.16). Figure 18.3 in **Chapter 20 Cumulative Impact Assessment** shows these concession blocks.

According to Rosneft's 2012 Annual Report (Ref. 14.54), the Tuapse Trough has a potential recoverable resource estimated at approximately 1.2 billion tonnes of oil equivalent and that 3D seismic work totalling approximately 4,200 km² was completed in 2012, whilst 3D seismic data obtained earlier have been processed. The West-Chernomorsky area has an estimated recoverable resource equal to approximately 1.4 billion tonnes of oil equivalent within a block area of approximately 9,000 km². Rosneft has carried out seismic works to study the area and has identified six promising formations. Rosneft press releases (Ref. 14.55) report that two exploration wells are to be drilled in 2015 to 2016 in line with license obligations. The South-Chernomorsky area has a recoverable resource of approximately 0.47 billion tonnes of oil equivalent, whilst the area has been subject to 2D seismic surveying in 2012.

South Stream Transport has met with Rosneft to discuss potential interactions between their oil exploration activities and the Project. However, further information detailing Rosneft's exploration locations and programme are not available at the time of writing.

14.5.8.5 Future Marine Area Use

Plans for future development are understood to include two new telecommunication cables: one between Myskhako (City of Novorossiysk) and Cape Utrish, and the other between Cape Utrish and Cape Zhelezny Rog. No route-specific information was available at the time of writing.

Apart from this, there are no known proposals to develop new uses or activities, or to intensify existing uses and activities, in either the nearshore or offshore sections of the Project.

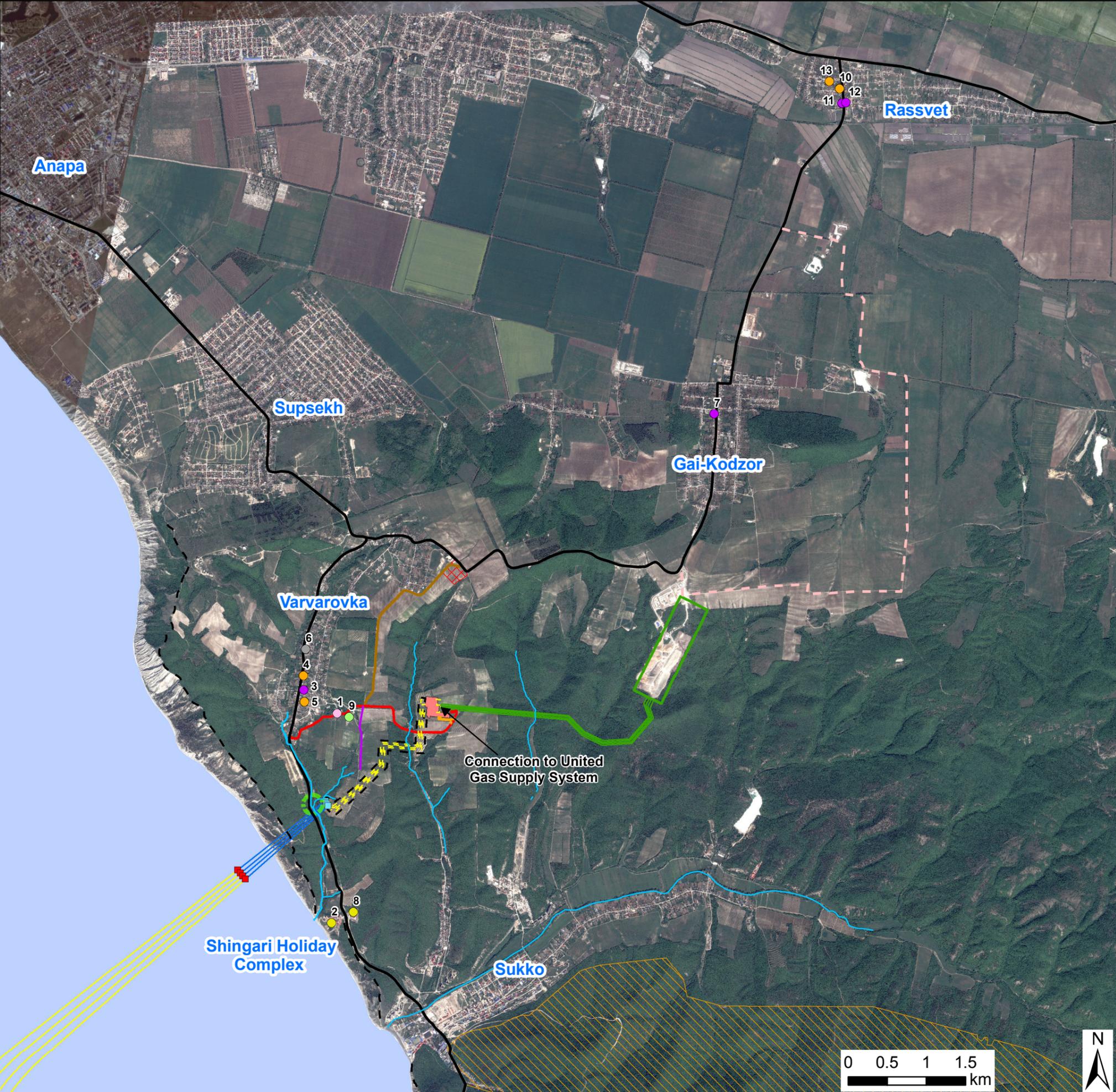
14.5.9 Social Infrastructure and Services

The town of Anapa is the primary hub in the Anapa Resort Town municipal district for services and facilities. The town's social infrastructure is more developed than that of the surrounding rural communities within the ART municipal district and includes community and leisure centres, libraries and museums. All households have electricity and mains water and gas supply. The Local Communities also have a range of community facilities including community centres and post offices. Further information in relation to housing, utilities and educational services follows below. For information on health infrastructure serving the municipal district and Local Communities, see **Chapter 15 Community Health, Safety and Security**.

Figure 14.12 shows the social and recreational infrastructure within and near to the Local Communities surrounding the Project.

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File Name: I:\5004 - Information Systems\46369082_South_Stream\MXDs\Report Maps - Russia\Russian ESIA v2\Chapter 14 Socio-Ec\Figure 14-12 Social, Tourism and Recreational Infrastructure within the Local Communities.mxd

- Key to social infrastructure on plan**
1. Improvised Settlement
 2. Shingari Holiday Complex
 3. Community centre 'Solnechnaya'
 4. Vishenka Kindergarten, Varvarovka
 5. School, Varvarovka
 6. Kavkaz (company)
 7. Armenian Cultural Centre
 8. Don Holiday Complex
 9. Varvarovka village cemetery
 10. Rassvet Kindergarten
 11. Rassvet Post Office
 12. Rassvet Community Centre
 13. Rassvet School



LEGEND
Social infrastructure (mapped within a 2km radius of Project)

- Business
- Cultural heritage
- Education
- Improvised settlement
- Recreation
- Social services

Rivers (mapped within a 1km radius of Project)

- Coastal path (Mountains of the Caucasus Trail)
- Main roads
- ▭ Protection area for burial mount
- ▭ Boundary of the state nature reserve "Ulrich"

Russian Sector of South Stream Offshore Pipeline

- Proposed landfill section pipelines
- ▭ Landfall facilities
- Proposed microtunnels
- Proposed offshore pipelines
- Microtunnel entry shaft
- Microtunnel exit pit
- ▭ Construction corridor
- Permanent access road to be constructed by SSTTBV
- Temporary access road constructed by SSTTBV
- Varvarovka bypass road (used by Project during construction only)
- ▭ Transfer site

United Gas Supply System

- ▭ Russkaya compressor station
- United Gas Supply System Pipelines
- Permanent access road to be constructed by Gazprom Invest
- Gazprom Invest temporary bypass road to be utilised by SSTTBV

Projection: Lambert Conformal Conic

Revision Details				By	Check	Date	Suffix
Purpose of Issue				For Information			
Client							
Project Title							
SOUTH STREAM OFFSHORE PIPELINE PROJECT							
Drawing Title							
SOCIAL, TOURISM AND RECREATIONAL INFRASTRUCTURE							
Drawn	Checked	Approved	Date				
DH	CP	AD	29 May 2014				
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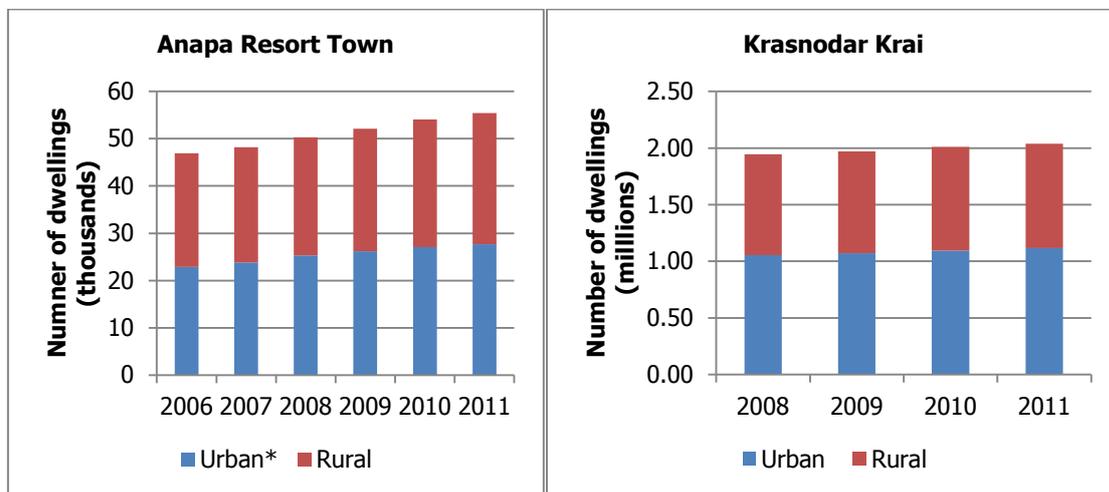
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14.5.9.1 Housing

Figure 14.13 shows that the number of dwellings reached almost 2.04 million in Krasnodar Krai municipal district in 2011. It also shows that the number of dwellings in the Anapa Resort Town municipal district reached 54,400 in 2011, evenly divided between the urban district (town of Anapa) and the 10 rural districts.

Thus, from 2006 to 2011, the total housing stock grew by approximately 18% in Krasnodar Krai and approximately 40% in the ART municipal district level, i.e. more than double the growth rate at the regional levels. The considerably higher rate of growth at the municipal district level is evidence of a construction boom related to the strong rates of growth as a result of inward migration and the development of local tourism.

Figure 14.13 Number of Dwellings, Rural and Urban



*Town of Anapa
Source: (Ref.14.15)

Field observations indicate that most houses in the Local Communities are well built and maintained. An example of housing typical in the area is shown in Figure 14.4.

Figure 14.14 Typical Housing in the Local Communities (Examples from Gai Kodzor, Varvarovka, Varvarovka from afar, and Supsekh; left to right, top and bottom)



On average, house prices are higher in the city of Krasnodar than in the ART municipal district; however, the price of apartments is lower in Krasnodar (Ref. 14.56). In the ART municipal district, the average house price is 45,000 RUB per square metre. Houses in the town of Anapa itself can cost up to 15 million RUB (Ref. 14.21). Prices in the Local Communities are variable.

Location and amenity play an important role in influencing retail house prices as well as rental prices. Property prices rise closer to the town of Anapa, and also depending on the level of amenity. Supsekh, which is relatively well supplied, and as the closest Local Community to the town of Anapa, commands relatively higher prices for rent. At the other end of the scale, Varvarovka, which is more distant and has few amenities, is the cheapest Local Community in the Supsekh Rural District area in which to rent or buy property (Ref. 14.16, Ref. 14.21, and Ref. 14.27).

Rental demand is strongest during the tourist season, which runs from May to September, peaking in June, July and August, when it is near capacity. There is lower demand for rented properties outside the tourist season in all Local Communities.

14.5.9.2 Community Relations

All local officials interviewed agreed that community relations, within and between communities, in the area are generally harmonious and that the area is considered to be a safe and pleasant

place to live. The local officials also stated that there are no tensions related to migration and that the various ethnic groups are well integrated (Ref. 14.16, Ref. 14.21, and Ref. 14.27).

14.5.9.3 Utilities

The ART municipal district has a lower standard of utility infrastructure than either the Krasnodar Krai or the Russian Federation as a whole. However, improvements are occurring, and increasing numbers of households are being connected to a mains water supply and the sewerage network.

There is considerable variation amongst the Local Communities with respect to utility provision. All households in the Local Communities have electricity supply. For example, all households in Supsekh and Gai Kodzor have mains water supply compared with 80% in Varvarovka, and only 50% of households in Sukko; the remaining households obtain water from wells on their property (Ref. 14.16 and Ref. 14.27).

Very few households in the Local Communities are connected to public sewers and most households rely on septic tanks. The exception is Supsekh, where approximately 50% of households are connected to the public sewer system, compared to approximately 10% of in Sukko and no households in Gai Kodzor and Varvarovka (where all households are understood to be served by septic tanks) (Ref. 14.16 and Ref. 14.27).

All households in Supsekh, and 75% of households in Gai Kodzor, are provided with piped gas supply. The gas supply has recently been expanded in Supsekh; between 2009 and 2012, an additional 5 km of gas pipelines were installed so that the whole community is supplied with gas (Ref. 14.27). Varvarovka and Sukko, however, do not have piped gas. Residents of these communities would like to be connected to the mains gas supply, and have expressed this wish during public consultations in these communities (see 14.2.2 and **Chapter 6 Stakeholder Engagement**).

14.5.9.4 Education

All the Local Communities have nursery and primary schools, as well as “general” schools that educate children up to age 15. Gai Kodzor and Supsekh each have post-15 high schools.

The public tertiary education system within the ART municipal district offers a wide range of courses with a vocational or technical focus, including construction and engineering. There are no reported skill shortages in the local area (Ref. 14.21).

14.5.10 Tourism, Recreation and Leisure

14.5.10.1 Anapa Resort Town

As noted in Section 14.4.5.2, tourism is a major contributor to the economy of the ART municipal district, accounting for approximately 40% of the ART economy (Ref. 14.35). The two main centres for tourism and tourism infrastructure, including accommodation, in the area are the town of Anapa and, to a lesser extent, Sukko.

Some 4.5 million tourists visited ART in 2012, including 3.5 million in the tourist season (May to September). Tourism is developing rapidly and from 2008 to 2012 the number of tourists coming to Anapa increased more than fourfold (Ref. 14.21).

The ART municipal district has numerous premises to accommodate tourists including sanatoriums, hotels, holiday camps and private houses and apartments for rent. The larger businesses are based in the town of Anapa, and the town is a key focus for tourist activity and accommodation within the municipal district and has a high number of hotels, restaurants and associated infrastructure to support the tourism economy. Smaller-scale facilities are more commonly found in the surrounding communities, including in particular within Sukko (Ref. 14.21). Sukko is the main focus for tourism activity amongst the Local Communities due to its location on the coast behind Sukko beach and its therefore well-developed tourist infrastructure and services including recreation centres, fishing and horse riding facilities. The population of Sukko expands to approximately 12,000 during the peak of the tourist season from July to August (Ref. 14.27).

Information gathered during interviews indicates that Varvarovka and Gai Kodzor do not have commercial holiday accommodation or recreational facilities, nor do local families within these two communities rent out their premises to tourists, as neither community is easily accessible to the seaside (Ref. 14.17 and Ref. 14.25). The population of Supsekh increases by approximately 1,000 during the tourist season; however, this reportedly consists mostly of temporary workers employed in tourism services in the ART who stay there while working in tourism services in the Anapa Resort Town and particularly the town of Anapa itself. Similarly, a small number of people (precise numbers are not known) are also understood to lodge in Varvarovka (Ref. 14.17).

Chapter 17 Ecosystem Services presents information in relation to the municipal district's designation as a health resort town in 1957. As a result, health resort complexes are critical to the area's appeal as a tourism destination and there are apparently in excess of 150 health resort institutions (including 44 recreation facilities for children), approximately 250 hotels, and more than 2,000 vacation rental properties in the sector (Ref. 17.15).

Tourism, Accommodation and Recreation Facilities

Figure 14.12 shows the public, social and recreational infrastructure within and near to the Local Communities surrounding the Project.

In the ART municipal district, the number of beds available in tourist accommodation facilities rose by 62% over the five years to 2011 to a total of 162,000 beds, an indicator of the growth of the tourism sector in ART. The majority of this growth occurred in hotels, where the number of beds approximately doubled. There are many (approximately 200) large-scale facilities including sanatoria, holiday camps and children's camps (the majority of which operate in the summer season only). There are approximately 350 smaller businesses (i.e. up to 50 rooms), as well as more than 4,000 small private accommodation rentals such as houses, apartments or single rooms (Ref. 14.21).

Tourist accommodation facilities in Sukko include over 300 hotels; seven health resorts, sanatoria and health improvement centres; and three children's and tourist camps (Ref. 14.17). During a field visit to the area in August 2012 at the height of the tourist season, it was

observed that local residents of Sukko also appear to rent out rooms to visitors; which is likely to help supplement livelihoods for those households.

Hiking

Varvarovka, Sukko and Supsekh are part of the "Mountains of the Caucasus" tourist hiking route. The route begins in Supsekh, bypasses Varvarovka (running over the cliff top and hill that the microtunnel will pass underneath) and passes through Sukko to the Bolshoi Utrish SPNA, where a waterfall is the final destination (Ref. 14.56).

Local Beaches

Sukko has a public beach that is easily accessible (Figure 14.15). It is the principal and only easily accessible public beach between the town of Anapa and the Utrish SPNA and is popular with both tourists and the residents of the Local Communities. The beach is a focal point for a number of summer activities for residents and tourists alike, including swimming, sunbathing and family activities.

In addition to Sukko Beach, two other beaches have been identified in the Project Area:

- The beach in front of the Shingari Holiday Complex is mostly used by guests of the Shingari and Don holiday complexes (Section 14.4.3.3), as well as a few local residents or tourists. This beach is accessible by steps from Shingari, and via a path that runs along the outside edge of the Shingari Holiday Resort grounds; this path is used by guests staying at Don to access the beach. This beach and the Shingari Holiday Complex are shown below in Figure 14.16; and
- Adjoining the Shingari Holiday Complex's beach is a natural beach in the Varvarovka Rift. This beach is located more than a kilometre from the nearest road. Although it is a public beach, it is not widely used as it can be reached only on foot. It is used infrequently by local residents.

Figure 14.15 Beach in Sukko (Showing Views to Sea and Inland from Northern End of Beach)



Figure 14.16 Shingari Resort and View of the Beach from the Resort



14.5.10.2 Tourism and Recreation Activities

Land-Based Activities

There are approximately 40 companies that organise excursions and other activities for tourists in the ART municipal district. Facilities include diving, yachting and horse riding (Ref. 14.21). There are also tourist attractions such as a dolphin park and an "African village", both in the town of Anapa, and the Bolshoi Utrish nature reserve south of the town of Anapa (Ref 14.27).

Horse riding takes place in and around the Local Communities, including around Sukko, Supsekh (Ref. 14.57 and Ref. 14.58) and around Varvarovka (Ref. 14.56 and Ref. 14.59). There is a business based in Varvarovka, with approximately 30 horses, that offers horse riding tours for both adults and children on at least three different routes (depending on the abilities of the rider) including a route used for novice riders that traverses the Agrifirm Kavkaz fields in the direction of a lake north of Sukko. The business is at its busiest during the summer, when it has approximately 20 customers per day, although the business will operate during winter if there is customer demand; weather conditions permitting. In the summer, it is understood that horse riding in Sukko and Varvarovka is generally more popular with holiday makers.

The horse riding route that traverses Agrifirm Kavkaz land is used for novice riders and children, who make up the majority of the clients for the business. It is possible that the route through the Agrifirm Kavkaz fields may cross areas that may be affected by Project construction activities. South Stream Transport has met with the operator of this business to discuss the Project and potential overlap with horse riding routes; however, at this time, the operator was unable to identify the precise routes and further discussions are planned (Ref. 14.59).

Chapter 16 Cultural Heritage confirms that among local monuments, there is extensive tourist interest in Krasnodar's Bronze Age dolmens, some of which are subject to tourist pilgrimages and offerings (Ref. 16.109). Internal tourism is also linked to local festivities and cultural heritage sites. There is a spring in northern Varvarovka, known as St. Barbara's Source, and an annual procession takes place on the Feast of Theophany (Epiphany / Feast of Lights / Feast of the Manifestation, 19 January). Attendees include local parishioners and pilgrims from further afield (Ref. 16.114; Ref. 16.115). Further information on cultural heritage sites, and intangible cultural heritage such as local celebrations and festivals, is presented in **Chapter 16 Cultural Heritage**.

Water-Based Activities and Attractions

In addition to recreational activities such as swimming and fishing, the coast is also used occasionally for activities including paragliding, jet skiing and diving.

There is a sunken barge named Gordipiya located near the mouth of the Sukko River (location coordinates N 44°46 'E 37°22'), which is a locally known dive site. The wreck itself is in relatively poor condition, as most things of value and interest have been looted from the site, although a field observation in summer 2013 indicated that it is a relatively popular local diving attraction.

Figure 14.18 shows that the location of the wreck is outside of the proposed 3 km marine safety exclusion zone during construction.

In Sukko, special recreational programmes for children are operated by the children's health improvement camps, such as 'Energetik' and 'Smena'. These recreational programmes include trips out to sea on motorboats, diving, and trail walking (Ref. 14.60). Paragliding was also observed to be taking place from a hill in Sukko (south from the landfall section of the Project) with the flying trajectory being out to sea. Paragliding is understood to be an informal recreational activity rather than a business (Ref. 14.57). Information about the identity of the people and groups paragliding is not known (Ref. 14.17); however, it is likely that at least some of the activity is engaged in by tourists visiting the area.

Figure 14.17 The Bow of the Sunken Barge 'Gordipiya'



14.5.11 Fisheries

14.5.11.1 Industry Overview

Over the past 40 to 50 years, there have been important changes in the Russian Black Sea fishery. For example, annual Soviet Union Black Sea catches reached a maximum in the mid-1970s to mid-1980s, averaging 65,000 to 68,000 tonnes (t) (this included catches from Black Sea ports that are no longer in the Russian Federation since the break-up of the Soviet Union). However, a combination of factors such as pollution, the effects of invasive species, expanding coastal development, and the deterioration of the fishing fleet, onshore infrastructure and facilities following the break-up of the Soviet Union, have resulted in a reduced fishing industry and catch volumes (Ref. 14.61). The Russian catch in 2003 was 21,000t, which is a notable increase from a low point of approximately 700t in the 1990s. This rapid increase was predominately due to the introduction of new trawling technology. Catch has subsequently declined and in 2012 had fallen to just under 4,000t, around a fifth of the Total Allowable Catch (TAC) of 21,000t (Ref. 14.61). The species composition of the catch has also altered due to the environmental changes in the latter 30 years of the 20th century (Ref. 14.62) (refer to **Chapter 12 Marine Ecology** for more information on the historical ecological changes to the Black Sea).

14.5.11.2 Fisheries within the Project Area

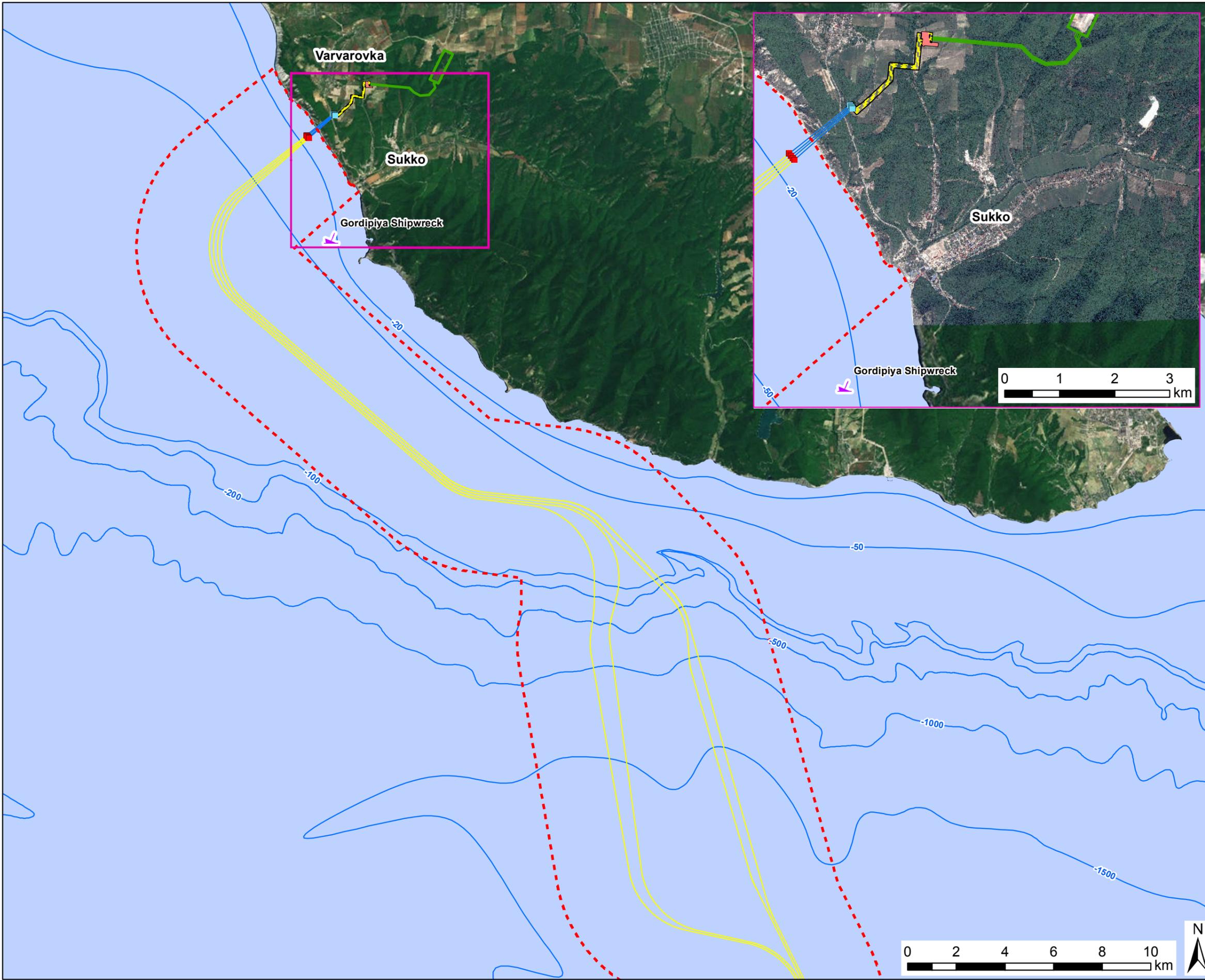
An analysis of the fisheries within the Study Area of the Project has been completed, including information on fishing fleets and companies that fish within the Project Area, catch levels and types, as well as commercially important fish stocks and their migration routes (see Appendix 14.1).

Fishing Areas

There are two main fishing areas recognised by the Azov Research Institute of Fisheries: (i) the Kerch-Taman zone, the more northerly zone that extends along the coast from the Kerch Strait to Cape Utrish; and (ii) the Caucasus zone, the more southerly zone that stretches from Cape Utrish south to the mouth of the Psou River, near the border with Georgia. The Kerch-Taman zone encompasses the entire nearshore section of the Project Area (Ref. 14.61). The Caucasus zone, which is predominantly fished by vessels south east of Cape Utrish, overlaps with part of the offshore section. These zones are approximately equal in area, but different in biological resources. Of the two zones, the most productive is the Kerch-Taman zone.

The main fishing ports are the town of Anapa in the Kerch-Taman zone and Novorossiysk (the largest) and Gelendzhik in the Caucasus zone. Russian Black Sea fishing activity is limited to internal and territorial waters of Russia, within 12 NM of the coast (Ref. 14.61).

Plot Date: 05 Mar 2014
 File Name: I:\9004 - Information Systems\46369082_South_Stream\MXDs\Report Maps - Russia\Russian ESIA\Chapter 14 Social\Figure 14.18 Offshore construction phase approximate 3km safety exclusion zone.mxd



LEGEND

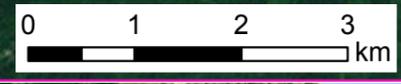
- Approximate 3km offshore construction safety exclusion zone
- ▼ Shipwreck diving site (plotted based on approximate location coordinates N 44°46' E 37°22')

Russian Sector of South Stream Offshore Pipeline

- Proposed landfall section pipelines
- Landfall facilities
- Proposed microtunnels
- Right-of-Way
- Proposed offshore pipelines
- Microtunnel entry shaft
- Microtunnel exit pit

United Gas Supply System

- Russkaya compressor station
- United Gas Supply System pipelines
- Isobaths



Projection: Lambert Conformal Conic

Revision Details	By	Check	Date	Suffix

Purpose of Issue: For Information

Client: **South Stream**
Offshore Pipeline ENERGISING EUROPE

Project Title: **SOUTH STREAM OFFSHORE PIPELINE**

Drawing Title: **OFFSHORE CONSTRUCTION PHASE APPROXIMATE 3KM SAFETY EXCLUSION ZONE**

Drawn DH	Checked RW	Approved MW	Date 05 Mar 2014
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Within the Kerch-Taman zone, there is an area known as the 'Anapskya Bank' or 'Anapa Bank' which is designated²⁶ as an important fishing ground. GIS analysis indicates that the Anapa Bank is approximately 695 km² of which the Project Area accounts for around 0.6%. Fishing is seasonally restricted, trawl fishing and fishing with stationary nets with a cell size of more than 50 mm is forbidden. Since 2011, sections of the Anapa Bank area have been made available for sprat and anchovy trawling under the Russian Fishery Regulations (Ref. 14.61; and Ref. 14.63). The regulations state:

- Bottom trawling (using any gear) is prohibited over the Anapa bank, in waters less than 40 m;
- Fishing for sprat is permitted between July and September annually in water depths of more than 40 m; and
- Fishing for anchovy is permitted from the beginning of October until the 15 March annually at water depths of more than 20 m.

More information on the Anapa Bank common fish species, fishing activity and fishing restrictions is provided in **Chapter 12 Marine Ecology** and Appendix 14.1.

There are also a number of fixed traps and nets in place close to the coast to target migrating fish such as mullet, they are normally serviced by smaller vessels (<5 m). There is also a mussel farm approximately 4 km to the south, currently producing around 15 tonnes of mussels on an annual basis (see Appendix 14.1).

Fishing Fleet

The Fisheries Study (Appendix 14.1) has found that the Russian fisheries industry in the zone of influence is relatively small; e.g. in Krasnodar Krai it contributed 0.1% of regional GDP in 2009/10. The study has further identified that the importance of fishing in the region has declined in recent decades, partly due to the invasion of the predatory comb jelly *Mnemiopsis leidyi* and the consequent ecosystem-wide changes affecting most of the Black Sea, and also in part due to the demise of the USSR.

The majority of the vessels use pelagic or surface gears to catch anchovy. The most common are purse seines²⁷ which are permitted within the entire Russian Black Sea territorial waters. Trawl nets are also commonly used although only midwater trawling is permitted; the nets must not come into contact with the seabed. There is no pair trawling recorded in the Russian sector of the Black Sea. Some vessels are also equipped to use passive gear, either as their primary or secondary gear type. This will normally consist of a fixed bottom net and will be used to target bottom species such as turbot and rays (Ref. 14.64, Ref. 14.65 and Ref. 14.66).

²⁶ The Anapskaya Bank was initially designated in 1986 by Decree of the Ministry of Fisheries of the USSR. The area where fishing was prohibited was reduced by the Resolution of the Scientific Fishery Council of the Azov and Black Sea Basin in 1999. In 2011 the fishing ban was further reduced and it now merely consists of seasonal restrictions to enable the replenishment of fish stock.

²⁷ A purse seine is a very long net, which falls as a curtain from a floating head rope, that is used to surround shoals of open water fish. After encirclement, the bottom rope is pulled tight to trap the fish in the 'purse'. It never comes into contact with the sea bed.

Accordingly, both the size of the fleet and the number of companies active in the Russian Black Sea has declined. For example, the number of enterprises involved in capture fishing and located in the northern half of Krasnodar Krai's Black Sea coastline²⁸ has declined from 19 in the period between 2003 and 2006 to 14 in the period between 2007 and 2010. The decline in the number of enterprises has been accompanied by a decline in the number of operating vessels from 30 to 21 over the same period (Ref. 14.61).

In addition to the decline in the number of vessels and companies, the condition of fishing fleet vessels and onshore reception and processing facilities has suffered from underinvestment and the vessels and onshore facilities are generally old and have not been renovated or replaced by modern equipment. The lack of investment is due to the poor financial state of the fisheries sector since the early 1990s. However, catches have been higher in past years compared to the 1990s (Ref. 14.66).

Commercially Important Species

Anchovy (*Engraulis encrasicolus*) and sprat (*Sprattus sprattus*) are the most important species in the fishery, comprising 28% and 25% of the Russian Black Sea catch respectively; red mullet (16%) and whiting (12%) are also significant. Anchovy spawns in the Sea of Azov in the summer months and migrates to the Russian and Georgian shores of the Black Sea as waters cool until the following spring. Thus, in the Black Sea territorial waters of Russia, anchovy form commercial concentrations during the cold season from October to April. Commercially exploitable populations of sprat are found in Russian Black Sea coastal waters from April until September (Ref. 14.61).

From data collected by the Project during meetings with the Zao Moresky Club, Bolshoy Utrish; as of 2013, the commercial species with the highest value per tonnage caught were farmed mussels and turbot which were valued at 300,000 RUB (approximately £5,000). Mulletts were 100,000 to 150,000 RUB (approximately £1,600 to 2,500), and horse mackerel, piked dogfish, thornback rays and pontiac shad were valued between 30,000 and 40,000 RUB (approximately £500 to £620) (Ref. 14.4).

Research into fish stocks has found that species diversity declines with depth. For example, a study in 2010 recorded 64 distinct species at depths of less than 25 m (i.e. the continental shelf), whereas in deeper water (50 to 85 m) only eight species were recorded. This finding reflects the known wider characteristics of the Black Sea where the nearshore areas are species-rich in comparison to the deeper offshore waters (see **Chapter 12 Marine Ecology**).

The concentration of Russian Black Sea fishing activity and effort reflects this species gradient, as most commercial fishing occurs in nearshore waters out to a depth of approximately 100 m.

²⁸ This includes the stretch of coastline between the Kerch Strait and Arkhipo-Osipovka, a town located at the approximate mid-point of Russia's (and Krasnodar Krai's) Black Sea coastline. This stretch of coastline includes the town of Anapa and the ports at Novorossiysk and Gelendzhik (which are over 50 km and 80 km from the location of the microtunnel exit pits) respectively.

14.5.11.3 Fishers Operating in the Project Area

The nearshore section of the Project Area is located within the Kerch Taman zone encompassing the Anapa Resort Town (ART) municipal district.

As set out in Table 14.7, there are approximately 1,000 people working in the fisheries industry in the ART Municipal District. The number of people employed in the fishing industry along the northern half of the Russian Black Sea coastline as a whole is relatively small consisting of two large companies employing up to 100 people, three medium-sized companies employing up to approximately 30 fishermen in the case of the largest company and nine smaller companies (typically comprising a few smaller vessels and fishing brigades using passive gear such as set nets and traps) which may have only as many as 15 employees (see Appendix 14.1).

In order to collect data regarding the companies and their owners and employees, invitations were sent to all fishing companies that are known to fish in the marine Project Area, i.e. in the Anapa municipal district. Of the five companies invited to participate in an interview, three responded positively:

- OOO RAM, Anapa;
- RPK Briz, Anapa; and
- Zao Morskoy Club, Anapa.

Meetings took place in March, August and October 2013 and the data obtained from the interviews is provided below.

RPK Briz Fishing Company

RPK Briz Fishing Company has an office in Varvarovka and stated that they are one of approximately eight companies that are located between the Temryuk area and Novorossiysk, which operate in the area where the Pipeline will be constructed. The company has been operating since 1998 and employs approximately 30 people. They operate one vessel (17 m) in deeper waters and three smaller vessels in coastal waters. The offshore vessel is a bottom trawler and uses both trawl gear and fixed nets. As bottom trawling is banned, the gear used is for trawling in the mid-water, from around 40 m to a maximum depth of 100 m. This vessel also uses fixed nets further offshore.

The majority of their catch is anchovy, with other significant catches including sprat and red mullet. The company previously owned three vessels but this was reduced to one. Traps are used in the nearshore area and all fish caught is processed (smoking, salting, freezing) onsite.

The fishing grounds used by RPK Briz Fishing Company extend from the Strait of Kerch southwards to Sochi, depending on where the fish are. The fixed traps are located between Mali and Bolshoi Utrish. Some fishing is carried out along the proposed Pipeline route (Ref. 14.2).

OOO RAM Fishing Company

OOO RAM Fishing Company, with an office in the town of Anapa, has been operating since 1996 and employs 15 people. The company owns three vessels and leases two (ranging from 4.5 to 15 m). The smaller vessels are used for nearshore nets and the larger vessels are trawlers that

trawl in the mid-water depth as bottom trawling is banned. The main species caught is anchovy, as well as sprat and red mullet. Previously, sprat was the main species caught, but the company indicated that stocks of sprat have declined since 2008. The fish are processed onsite and then sold onto wholesalers regionally and nationally. Fishing also takes place along the coastal area (Ref. 14.3).

ZAO Morskoy Club

ZAO Morskoy Club, based at Utrish, has been operating for nine years and was previously a fishing cooperative. There are 15 fishermen working from the club, for whom the work is their only source of income. In addition to the fishery there is also a small marina with approximately 100 vessels, directly employing between 15 and 50 staff within the marina (yacht repair, etc.) in addition to the captains and crew employed by the owners of the vessels. They operate seven vessels (one 15 m vessel and six 9 m vessels), all of which are over seven years old.

The majority of their catch is red mullet, while other significant species caught include horse mackerel, turbot, piked dogfish and flathead mullet. The fish are caught in traps as they migrate and the high season runs from May to the end of November. They operate five different types of traps, including nearshore and floating (offshore) traps, within a designated and permitted area. The traps remain in the same positions every year, as the migration path of the fish is the same every year. The company's designated permitted area extends between the Sukko River to the lighthouse in Bolshoi Utrish, and no further than 5 km from the shore. Fish are not processed on site but are loaded onto trucks and sold wholesale.

Since 2006, the Club has also owned and operated a mussel farm. Mussels are harvested all year and are sold to a wholesaler in Moscow. The company indicated that there is no bottom trawling off the coast of the ART municipal district as this activity is banned (i.e. within the waters of the Anapa Bank up to 40 m water depth). The company does not consider that fish catches have changed over the past nine years (Ref. 14.4).

14.5.12 Vulnerable Groups

14.5.12.1 Identification of Potentially Vulnerable Groups

IFC PS 1 on Assessment and Management of Environmental and Social Risks states that it is necessary to identify individuals and groups that may be differentially or disproportionately affected by the Project because of their disadvantaged or vulnerable status. Individual or group vulnerability is a pre-existing characteristic that is independent of the Project and may be reflected by factors such as disability, language, culture, gender, and social status. It may also be exhibited by a low level of access to key socio-economic, social or environmental resources or a limited ability to adapt to change. Therefore, vulnerable individuals and groups may be more susceptible to adverse impacts or have a more limited ability to take advantage of beneficial impacts.

Vulnerability is also an important factor in stakeholder engagement as certain groups of people may have less access to information and decision-making processes. For example, low income households may not have access to computers and internet sources, and may have difficulty travelling to consultations.

Using this guidance and in collaboration with two social protection bodies in Supsekh and Gai-Kodzor and the Anapa Resort Town Municipal District administration, potentially disadvantaged or vulnerable groups have been identified in the Local Communities. These are: children; elderly or retired people; disabled or chronically ill people; migrants involved in seasonal work; households with incomes below the subsistence level, and commercial sex workers.

Although there are significant numbers of non-Russians in the ART municipal district, particularly Armenians (but also Ukrainians, Uzbeks and others), evidence from the socio-economic baseline study indicates that they are integrated into the socio-economic and socio-political life of the area, even though they may maintain specific cultural practices (Ref. 14.27 and Ref. 14.33). These minorities are not, therefore, considered to be vulnerable for the purposes of this assessment.

The six groups are described below in relation to their potential vulnerability and their presence in the Local Communities. This analysis considers both the potential for differential or disproportionate impacts of the Project, and potential vulnerabilities in terms of stakeholder engagement (including access to information and participation in decision-making processes). It is important to note that vulnerability is described in the context of the Project, although these groups may also be challenged by other aspects of vulnerability.

The sensitivity or vulnerability of these groups has been considered, where relevant, in the assessment of potential socio-economic impacts in Section 14.6. Other assessments (e.g. Chapter 15 Community Health, Safety and Security) have also considered the vulnerability of these groups. With respect to stakeholder engagement, these groups (and their limitations) have been, and continue to be, considered in the planning of stakeholder engagement activities, including the disclosure of information and the locations of and access to consultation events. Further details are provided in **Chapter 6 Stakeholder Engagement**.

Children

Children, especially those below the age of 15, may be specifically vulnerable to impacts related to changes in environmental conditions; children are generally considered to be more sensitive in comparison to adults, particularly with regard to effects on their learning capabilities related to noise from sources such as road traffic (Ref. 14.67) and to effects on health arising from air pollution (Ref. 14.68) (**Chapter 9 Air Quality** notes that very young children are more likely to be adversely affected by changes in air quality than adults). School age children are also particularly vulnerable as pedestrians to increased levels of traffic and impacts on traffic safety, for example when walking to and from school, especially if unaccompanied by an adult. The interests of children may not always be represented in stakeholder engagement and decision making processes.

Children are present in all of the Local Communities within the Study Area, although precise information on the number of children within each Local Community is not available. However, children are likely to be concentrated in and around kindergartens and schools, as well as community centres and recreational or leisure facilities such as children's holiday camps. If any kindergartens and schools are located on or near to roads that will be used by construction traffic, then children attending those schools may be at increased risk of exposure to potential traffic safety dangers.

Elderly

Elderly people may be challenged to cope with changes in the surrounding environment as a result of deteriorating physical and/or mental capacity. For example, **Chapter 9 Air Quality** notes that, in general the elderly are more likely to be adversely affected by changes in air quality than middle aged adults. These challenges may also affect the ability of elderly residents to participate in consultation and decision-making processes, not least in terms of physical accessibility to consultation venues, and a typically lower use of computer-based media.

Additionally, elderly or retired people are also likely to be more constrained financially, due to the prevalence of fixed incomes. However, since 2009, the average pension in the ART municipal district has exceeded the official subsistence level (Ref. 14.15). This coincides with an official increase in the state pension designed to improve the economic wellbeing of pensioners across Russia.

Within the Study Area, elderly residents²⁹ in the Local Communities of Varvarovka, Supsekh and Sukko account for between 15 and 19% of the population depending on the community (equating to over approximately 300, 1,600 and 600 people respectively) (Ref. 14.17).

Disabled or Chronically Ill

Disabled or chronically ill people, which may include individuals who lack physical mobility or who have mental health issues, may experience difficulties participating in consultation processes and decision making.

Data on the number of disabled or chronically ill people within the Local Communities was not available, with the exception of Rassvet and Gai Kodzor (both located within the Gai Kodzor Rural District Administration). The Gai Kodzor Rural District Administration reports that there are approximately 500 people (out of total population of approximately 6,000) living with some kind of disability in the district (Ref. 14.18).

Migrant Workers

Seasonal migrant workers, particularly those working on a seasonal basis in the agricultural or tourism sectors, are generally likely to have lower incomes and less access to resources. They may also have lower levels of resilience to unexpected events, depending on their personal circumstances including in their home communities. In particular, they may be sensitive to a loss or reduction in employment opportunities. As non-residents, their interests may not be represented in local decision making, and it may be difficult to engage these groups due to the seasonal (and often unofficial) employment status.

Seasonal migrant workers in the Study Area include workers from Dagestan who are employed on an annual basis by Agrifirm Kavkaz to work in the vineyards (Ref. 14.40). Seasonal migrant workers are also employed generally within the tourism sector in Anapa Resort Town (Ref. 14.24; Ref. 14.39). However, this will not be true of all companies in the tourism sector,

²⁹ Defined by the relevant local rural district administration as women aged over 55 and men aged over 60.

e.g. Shingari Holiday Complex reports that most of its seasonal employees during the peak tourism season are drawn from the local area, including the town of Anapa (Ref. 14.19).

Low Income Households

Low income households have fewer financial resources to rely on and are less likely to have savings and/or access to credit, which in turn can make them vulnerable to environmental changes and economic fluctuations. They may also face limitations to accessing information, for example due to limited access to computers and/or the internet, limited transportation options, and financial or time constraints that limit their ability to actively engage in stakeholder consultation. This group is likely to include households with pensioners, unemployed (or underemployed) persons, and people employed seasonally or in low-income occupations. It may also include households with children, seasonal migrant workers and disabled or chronically ill people.

In the Local Communities, low income households are likely to include pensioners and unemployed persons. It may also include households with children; persons employed part time, seasonally or in low income occupations; seasonal migrant workers (see above) and disabled / chronically ill people. People working in the fishing industry (particularly artisanal or small-scale operations) may also have low or variable (and unreliable) incomes.

Commercial Sex Workers

In the context of major construction or resource development projects, commercial sex workers are often vulnerable to the transmission of communicable diseases, including sexually transmitted diseases, particularly from migrant workers if they engage in unprotected sex. They are also likely to have low or unreliable incomes and may have limited social networks and resilience to cope with change. Additionally, people who are deprived, suffer from drug or alcohol addiction and/or suffer from mental illness are particularly susceptible to sexual exploitation.

Precise numbers of commercial sex workers in the Local Communities is unknown; baseline studies, including information from local authorities, have indicated that prostitution is not an issue in this family-focused resort area. However, as noted in **Chapter 15 Community Health, Safety and Security** relatively high numbers of commercial sex workers would not be unexpected for the port towns, or in communities spanning or close to major roads such as the M25. Additionally, Chapter 15 has identified that there are relatively high levels of syphilis observed in the ART municipal district that may be due to, amongst a number of other factors, to the presence of commercial sex activities.

14.5.12.2 Stakeholder Engagement with Vulnerable Groups

Stakeholder engagement in Russia began in 2010, when consultation was held in the Krasnodar region, including the town of Anapa, in relation to the Preliminary EIA (during the Feasibility Phase). Since then, South Stream Transport has carried out consultation in relation to both the EIA and the ESIA.

Stakeholder engagement efforts have been adjusted to ensure the participation of vulnerable groups as far as possible, and to ensure access to engagement and consultation methods.

Representatives from local education and health care facilities, local pensioners associations and representatives of community centres for local youth groups and school directors (inviting local youth to participate) were directly invited to public consultation sessions during the Scoping Report engagement stage. Efforts have also been made to disclose information in a variety of ways so as to be accessible to all groups. For example, printed copies of reports have been provided in central community locations, as well as electronic copies on the internet; announcements have been made in local newspapers, and through posters in local shops, bus stops, and other community locations; information has been hand-delivered to schools and pensioner groups; and open meetings have been held in potentially affected Local Communities.

For further information on engagement with stakeholders and vulnerable groups see **Chapter 6 Stakeholder Engagement**.

14.5.13 Baseline Summary and Key Findings

This section provides a summary of key findings and observations arising from the preceding baseline in respect of the ART municipal district and each of the five Local Communities.

14.5.13.1 The Anapa Resort Town Municipal District

The main observations arising from the baseline in relation to the ART municipal district are as follows:

- The ART municipal district includes the Local Communities of the town of Anapa, Gai Kodzor, Rassvet, Supsekh, Sukko and Varvarovka;
- The ART municipal district is a designated 'resort town' which provides for a regime of measures intended to safeguard the district's important tourism attraction features;
- Tourism is the most important industry in the ART municipal district and visitor numbers and accommodation facilities have displayed continuing strong growth over recent years;
- The municipal district has experienced rapid growth in population over the last few years (ca. 9%) compared to the wider Krasnodar Krai region and the Russian Federation;
- The municipal district's strong population growth rate has been driven by high birth rates, lower death rates and higher net in-migration, as well as its relatively strong economy;
- Armenians and Ukrainians make up the largest minority ethnic groups. Uzbeks are emerging as another minority ethnic group and there is evidence pointing to their importance as workers (seasonal and permanent) in the tourism and construction sectors;
- The ART municipal district administration estimates that the two leading economic sectors are the tourism sector and the retail and services sector. Agriculture is estimated to account for 3% to 5% of economic activity within the municipal district, while the fisheries sector is estimated to accounts for less than 1%;
- The growth in population and the tourism sector appears to have been associated with and/or led to changes in a number of other socio-economic indicators; and
- Overall, growth in a number of different indicators points to changing social conditions and economic growth in the district that appears to be driven by the growth of tourism.

14.5.13.2 The Local Communities

A summary of key findings and observations is provided for each Local Community (in alphabetical order).

Town of Anapa:

- Has the largest population of any community in the municipal district, accounting for approximately 40% of the ART municipal district's residential population;
- Is the centre of tourist activity and accommodation within the municipal district and has a large number of hotels, restaurants and associated infrastructure to support the tourism economy;
- Is the primary hub in the municipal district for services and facilities. The town's social infrastructure is more developed than that of the surrounding rural communities within ART municipal district. All households have mains water and gas supply; and
- Is also an employment hub for many residents of the nearby rural communities.

Gai Kodzor:

- Is located 3 km north-east of the Project Area and 4 km north-east of the Project landfill facilities;
- Is a relatively small community of approximately 3,370 residents;
- Has an approximately 70% Armenian population, a much higher proportion than average in the ART area;
- Has an Armenian community centre, a school, and various shops, located along the main road running through the community; and
- Has relatively good utility provision compared with the other Local Communities. Most households have mains water and 75% of the community is supplied with gas.

Rassvet:

- Is located approximately 4 km north of Gai Kodzor, on the construction access route from the ports;
- Is a small community of approximately 1,400 residents;
- Is flanked on the north by route M25, and adjoined to two other smaller separate communities; one to the west (Tarusin) and to the east (Zarya);
- Falls within the Gai Kodzor Rural District Administration area;
- Nearly 60% of Rassvet population is Armenian, 40% is Russian; and
- Rassvet community does not have a disproportionate number of any of the vulnerable groups: children, elderly, disabled, etc.

Sukko:

- Is located approximately 3 km to the south east of the Project Area, with a small part of the community located within 2 km of the Project;

- Is the only rural district Local Community that is located on the coast, and the Sukko beach is a well-known tourist and public recreational facility in the area;
- Is also bordered to the south by the Utrish SPNA;
- Is the focus of tourism in the Local Communities due to its beach and well-developed tourist infrastructure and services; and
- Has poor utilities provision relative to the other Local Communities, with only 50% of households being supplied with piped water and only 10% being connected to public sewers. Further, no households in Sukko have piped gas.

Supsekh:

- Is located more than 4 km to the north of the landfall section construction site;
- It has a population of approximately 8,760 people and accounts for approximately 6.0% of the population of the ART municipal district;
- Is located close to the town of Anapa and a large proportion of its employed residents work within the town of Anapa;
- Has more developed utilities infrastructure than the other Local Communities: all households have mains water and gas;
- Is not a centre for tourism accommodation although some seasonal workers do reside here during the peak tourism season; and
- Is viewed as a desirable place to live on account of its well-developed infrastructure and proximity to Anapa town, reflected in local house prices.

Varvarovka:

- Is the Local Community located closest to the Project Area;
- Is a relatively small community of approximately 2,300 residents;
- Is not a centre for tourism accommodation although it is used as a base by seasonal workers as accommodation is relatively cheap compared with the town of Anapa;
- Has relatively poor utility provision compared with the other Local Communities, for example, no households in the community are connected to the public sewer system or have piped gas;
- Increases only slightly in population during the tourist season: by an estimated 150 people, comprised of seasonal migrants who stay in the community while working in the ART area;
- Is home to the Kavkaz Winery, a grape producer and wine maker that owns some 80% of the land that will be affected by the Project; and
- Is also the headquarters for Briz, one of two small commercial fishing organisations in the Anapa Resort Town municipal district.

14.6 Impact Assessment

This section identifies and assesses the potential impacts on the existing socio-economic environment arising from Project-related activities. Information within **Chapter 5 Project Description** and the baseline socio-economic characteristics (Section 14.4) have been used to assist the evaluation of the potential impacts and their significance.

14.6.1 Impact Assessment Methodology

This chapter examines the impacts associated with the Project, including economic, community, Project workforce and transportation-related impacts. The methodology specific to socio-economics presented in this section builds upon the general assessment methodology summarised in **Chapter 3 Impact Assessment Methodology**. The methodology has been adjusted specifically in relation to effects on socio-economics arising from the construction and operation of the Project. The Project components and activities for each phase, as relevant to the assessment of socio-economic impacts, are summarised in Section 14.6.1.1. The criteria for the assessment (magnitude and receptor sensitivity) are defined in Section 14.5.1.2, and notes on the methods applied in the assessment are described in Section 0.

14.6.1.1 Project Activities

The Project Description is presented in **Chapter 5 Project Description**. The elements of the Project that are relevant to socio-economics are set out below.

Construction and Pre-Commissioning Phase

Construction of the Project will create employment opportunities and also increase demand for goods and services from construction, port services, and other sectors. However, the majority of the employment opportunities created by the Project will require highly specialised skilled labour, and it is anticipated that these jobs will be filled by the Contractors' existing workforce or specialised sub-contractors from outside the local area. As such, the workforce is expected to consist primarily of non-local workers. Workers employed on the marine sections of the Pipeline (offshore and nearshore) will be accommodated on the construction vessels, whilst workers on the landfall section are likely to be lodged in nearby towns and villages.

Construction of the landfall section including the landfall facilities, pipeline corridor, microtunnels, and temporary and permanent access roads will also require both temporary and permanent land access and/or acquisition. Affected land includes areas currently characterised as forest and vineyard. During construction, access to the construction corridor will be restricted for safety reasons.

Construction of the nearshore and offshore sections of the Project will be based from the pipe-lay barge, supported by a number of other vessels. A safety exclusion zone will be established around the construction vessel spread; this zone is expected to extend 3 km up to 600 mbsl from the pipe-laying barge and 2 km beyond that depth, wherein vessels and activities not related to Project will be restricted.

Roads within or near to the existing Local Communities – including Varvarovka, Rassvet and Gai Kodzor – will be used as access routes for construction traffic to transport equipment and materials to and from the landfall construction site. A bypass road will be constructed along the north eastern side of Varvarovka as part of the Project and used by construction traffic to avoid construction vehicles travelling through the centre of Varvarovka during the Construction and Pre-Commissioning Phase. Also a part of the Project, consisting of a temporary access road, will be constructed a short distance to the east of the Varvarovka village cemetery

Although it is anticipated that there will be no marshalling yards located on the Russian coast, it is likely that the contractor will use the Port of Novorossiysk for some of the activities listed below during the Construction Phase of the Project, including: temporary storage of pipe and other plant, equipment and supplies; load out of pipe to the landfall section via road transport; as a base for supply vessels; re-fuelling and maintenance of construction vessels; and as a base for crew-change vessels travelling to the nearshore and offshore construction spread.

Construction-related activities on land and at sea, including road traffic and marine vessel movements, could result in amenity effects (e.g. changes in air quality, dust, noise, vibration, water quality, and changes to views) which may be noticeable to people in the area and affect the quality of the surrounding environment as they experience it, including residents of Varvarovka and Rassvet, the Shingari and Don holiday complex businesses, as well as people visiting the broader Anapa Resort Town municipal district for the purposes of tourism and recreation.

Construction works within the landfall section of the Project are expected to last 27 to 30 months. Works within the nearshore section will overlap with the latter period of the landfall section construction and are expected to last for approximately 15 months, and the majority of the construction works within the offshore section are expected to last for approximately 30 months or 2.5 years. For further detail on the construction schedule see **Chapter 5 Project Description**.

Operational Phase

Once constructed, the landfall facilities will remain for the duration of the Operational Phase and will comprise the landfall facilities containing buildings and monitoring equipment. The construction corridor will be reinstated; the pipelines will be buried and the corridor will be revegetated. A permanent RoW will be in place; trees and other deep-rooting vegetation will not be permitted to grow within the RoW, but outside this area the land will be reinstated to its former uses.

Operational safety exclusion zones will also be established, and will place certain conditions on the use and development of land in relation to agriculture and construction within 410 m of the two outermost pipelines, although the area will still be accessible. At sea, a safety exclusion zone will also be established (500 m either side of the Pipeline) wherein seabed intrusive activities (e.g. bottom trawl fishing) will be prohibited.

Relevant Activities by Project Phase

For each Project activity, Table 14.10 indicates whether the activity has the potential to give rise to a socio-economic impact within the landfall, offshore or nearshore section of the Project. This

represents an initial screening of potential interactions; the potential impacts are further considered and described beginning in Section 14.5.2.

Table 14.10 Screening Matrix – Project Activities and Potential Socio-Economic Impacts

Phase	Project Activity	Landfall	Offshore	Nearshore
Construction and Pre-Commissioning	Mobilisation of survey vessels to and from site and vessel movements within survey corridor		✓	✓
	Anchoring of pipe lay vessel during S-Lay pipe-lay (30-600 m max water depth)		✓	✓
	Vessel operations waste and wastewater generation		✓	✓
	Delivery of pipe and other supplies (including crew change) to pipe lay vessel by supply vessel		✓	
	Compressor operation			✓
	Dredging of trench using dredging vessels (dredging technique depends on seabed conditions) and storage of dredged materials adjacent to trench			✓
	Night time working (use of flood lights)	✓	✓	✓
	Use of power generation sets (for example diesel generator)	✓	✓	✓
	Delivery of construction materials	✓		
	Fencing off of landfall facilities and construction areas	✓		
	Land clearance, grading, top soil stripping	✓		

Continued...

Phase	Project Activity	Landfall	Offshore	Nearshore
Construction and Pre-Commissioning	Use of temporary pre-fabricated facilities (i.e. portakabins, portaloos, etc.)	✓		
	Delivery / removal of temporary pre-fabricated facilities (i.e. portakabins, portaloos, etc.) and pipeline construction materials (pipe sections, welding material, etc.)	✓		
	Vehicle and plant operations on site	✓		
	Land acquisition / Temporary land use	✓		
	Employment of contractors (and related issue/impact of importing workers)	✓	✓	✓
	Employment of a Project workforce	✓	✓	✓
	Consumption of construction equipment and materials and other supplies and services	✓	✓	✓
	Construction of landfall facilities, pipeline installation and access roads	✓		
Operational (including Commissioning)	Mobilisation of vessels to and from pipeline locations and vessel movements along pipeline		✓	✓
	Physical presence of pipeline on seabed		✓	✓
	Clearance of vegetation from permanent Right-of-Way over pipeline.	✓		
	Employment of workforce	✓		

Continued...

Phase	Project Activity	Landfall	Offshore	Nearshore
Operational (including Commissioning)	Imposition and maintenance of landfall section exclusion zones	✓		

Complete.

14.6.1.2 Socio-Economic Impact Assessment Criteria

Identification of Potential Receptors

Two broad categories of potential receptors that have been identified with respect to the potential socio-economic impacts of the Project are:

- Those that would be affected economically or financially (including workers, businesses, residents, landowners, land users, and users of utilities and telecommunications); and
- Individuals and groups within the local communities that could be affected either socially or in terms of their physical and mental well-being, or in terms of their recreational amenity.

Receptors and resources may vary by the type of impact, and different impacts may affect different receptors. A receptor may be an individual, household, group or organisation, or a community. Receptors may be affected by changes in the environment, or by changes to things such as land use, land ownership, transportation, livelihoods, incomes, community values, or the enjoyment of natural areas.

Accordingly, receptors which could experience a socio-economic impact in one or more of these ways as a result of the Project are identified and described in Table 14.11 which shows the key receptors in respect to economic and community related impacts.

Table 14.11 Receptors by Impact Type

Impact type	Receptors	Applicable Phase	
		Construction	Operation
Economic-related impacts	Existing labour force within the municipal district and further afield	✓	
	Existing businesses within the municipal district and further afield	✓	✓
	Fishers and fishing companies	✓	
	Shingari and Don Holiday Complexes	✓	
	Varvarovka horse riding business	✓	

Continued...

Impact type	Receptors	Applicable Phase	
		Construction	Operation
Economic-related impacts	Local Communities including agricultural (vineyard) and tourism sector workers	✓	
	The Anapa Resort Town tourism sector	✓	
	The Russian government and taxpayers		✓
Community-related impacts	Local Communities (related to recreational facilities)	✓	✓
	Recreational beach and water users	✓	
	Varvarovka village cemetery visitors	✓	✓
	Residential occupants (related to amenity impacts)	✓	✓

Complete.

Receptor Sensitivity Criteria Tables

The concept of sensitivity attempts to reflect the degree of response to a change in baseline conditions by a receptor. This degree of response may range from being very susceptible to change (and having little resilience) to being able to absorb or adapt to change (being very resilient).

Within the socio-economic context, receptor sensitivity is difficult to define as it varies significantly within and between individual receptors for any given impact. The degree of sensitivity of a socio-economic receptor is based on an individual's abilities to adapt to changes and maintain their livelihood and well-being (i.e. resilience) and, in situations where an impact may result in a loss or reduction of access to a resource, their ability to access an alternative resource that provides the same service (e.g. a livelihood / employment, recreation, etc.). Sensitivity is not uniform. For example, not all fishing communities are equally vulnerable, and within a community, different individuals may have different levels of sensitivity. Sensitivity can also refer to 'vulnerability'.

In this assessment, sensitivity represents a stakeholder's resilience or capacity to cope with change. There are a range of variables that can influence a stakeholder's sensitivity and should be considered:

- Age, gender, race, religion;
- Land rights and ownership;
- Employment / unemployment / income;
- Livelihood strategies (and livelihood alternatives);

- Location / isolation;
- Public services, e.g. health access and quality;
- Access to, and use of, natural resources including water;
- Food security;
- Education / skills;
- Health or disability;
- Support networks; and
- Marginalisation (e.g. degree of access to services and formalised rights).

When considering impacts on people, sensitivity is typically a complex interaction of some or all such factors. In order to facilitate a comparison of impacts for the purposes of the ESIA, a series of criteria attempting to capture these elements have been established based on professional judgement and Good International Industry Practice. Table 14.12 outlines the criteria for evaluating sensitivity from negligible to high. The sensitivity of receptors will be considered in the context of each individual impact, although only certain criteria may be applicable depending on the type of receptor being assessed.

Table 14.12 Socio-Economic Receptor Sensitivity

Sensitivity	Criteria
Negligible	A receptor with plentiful capacity and means to adapt to a given change and maintain / improve quality of life or that would not be affected in any material or noticeable way by a given change
Low	A receptor with some capacity and means to adapt to a given change and maintain / improve quality of life.
Moderate	A receptor with limited capacity and means to adapt to a given change and maintain / improve quality of life.
High	An already vulnerable receptor with very little capacity and means to adapt to a given change and maintain / improve quality of life.

Magnitude of Impacts

The magnitude of an impact is a measure of the degree of change in the baseline environment as a result of the Project. This baseline could refer to a diverse range of factors (i.e. financial, physical or emotional).

The dimensions affecting the magnitude of an impact are set out in **Chapter 3 Impact Assessment Methodology** and include the duration, frequency, reversibility and extent of an impact. The determination of impact magnitude for adverse impacts is also based on a scale of negligible, low, moderate and high.

The quantification of impact magnitude (e.g. economic appraisals) depends on the availability of adequate data and is not readily applicable across all impact types. The criteria presented in Table 14.13 include a set of qualitative descriptions that characterise different levels of impact magnitude from negligible to high which reflect the dimensions set out in **Chapter 3 Impact Assessment Methodology** and which have been developed based on professional judgement and Good International Industry Practice. For beneficial impacts, the beneficial nature of the impact has been noted but the magnitude of the impact has not been assessed using the same scale; instead, a qualitative description of the benefit is provided.

It is also noted that impacts and outcomes associated with the Project may be either direct or indirect. However, these characteristics, while important to recognise and understand in terms of the application of mitigation measures, do not affect impact magnitude and are not directly considered in the socio-economic impact magnitude criteria.

Table 14.13 Socio-Economic Impact Magnitude

Magnitude	Criteria
Negligible	An impact that is unlikely to have a measurable or noticeable effect on the wellbeing of people so that the baseline conditions will be materially unaffected.
Low	An impact that is likely to affect a small number of people (with number depending on the local context) and which is likely to be temporary (up to two years) and reversible.
Moderate	An impact that is likely to affect a moderate number of groups and/or people or businesses (with number depending on the local context) and which may or may not be reversible.
High	An impact that is likely to affect large numbers of groups and/or people or businesses (with number depending on the local context) irrespective of both time-scale and reversibility.

14.6.1.3 Impact Assessment Methods

Determining Impact Significance

The significance of potential adverse socio-economic impacts has been assessed by taking into account the magnitude of each impact (including their extent, duration, frequency and reversibility) along with the sensitivity of the relevant receptors, as outlined in Table 14.12 and Table 14.13. For beneficial impacts, the beneficial nature of the impact has been noted but the magnitude of the impact and the sensitivity of the receptor has not been explicitly identified, although the context of the potential benefit is discussed. As outlined in **Chapter 3 Impact Assessment Methodology**, the significance matrix provides basic guidance for the determination of impact significance; however, the resulting significance level is also checked against the descriptive definitions for each significance level (**Not Significant**, **Low**, **Moderate**, or **High** significance). The significance is interpreted on the basis of professional judgement and expertise, and adjusted if necessary.

Identifying Mitigation and Assessing Residual Impacts

As described in **Chapter 4 Analysis of Alternatives** and **Chapter 5 Project Description**, the Project design process has incorporated a number of design principles and measures to avoid or reduce adverse impacts. These are defined as design control measures. As a result, to the extent practicable, the Project design has minimised land acquisition, particularly land acquisition from good quality agricultural land. In the case of temporary facilities, the Project design has made maximum use of land likely to cause minimum economic displacement. This chapter has assessed impacts based on the Project design that has already incorporated these design control measures.

Within the respective impact assessment sections below for each phase of the Project, following the initial pre-mitigation impact assessment, a set of receptor-specific mitigation measures and other Project enhancement measures have been identified. These are explained in detail below.

Following assessment of the mitigation measures, the overall significance of the impacts, taking into account the mitigation measures, has been reassessed to arrive at the residual impact. The reassessment has applied the same methodology used to undertake the original pre-mitigation assessment.

14.6.2 Impact Assessment: Construction and Pre-Commissioning

This section identifies the potential socio-economic impacts and risks associated with the Construction and Pre-Commissioning Phase. For those effects where potentially significant pre-mitigation impacts are assessed in Section 14.5.2.1, potential mitigation measures have been identified in Section 14.5.2.2. This is followed by a residual impact assessment, the results of which are set out in Section 14.5.2.3. There are several potential impacts that were 'scoped out' and therefore not assessed for the Construction and Pre-Commissioning Phase and they are described below.

Impacts Considered and Scoped Out

The following potential socio-economic impacts were identified in relation to the Construction and Pre-Commissioning Phase of the Project. However, considering the Project description and the understanding of the baseline socio-economic characteristics presented in Section 14.4, the potential for these impacts to occur has been scoped out for the reasons described below.

Recreational Boating

It is considered that recreational boats (and other non-commercial vessels) will not be impacted by the Project given their ability to easily navigate around the vessel spread during construction of the nearshore and offshore sections. Information on restricted areas will be provided to the relevant authorities to inform navigation charts for marine stakeholders identifying marine exclusion zones through the Construction and Pre-Commissioning Phase.

Commercial Shipping

The Project Area is crossed by shipping routes, as set out in Appendix 9.1. However, due to the small area occupied by the construction spread (and the associated restrictions on navigation in

the vicinity of the construction spread, as described in **Chapter 5 Project Description**) and the movement of the spread at approximately 2.5 km per day, it is expected that shipping routes will not be affected as the pipe-laying spread can easily be avoided.

Cliff Walking Trail

Although **Chapter 13 Landscape and Visual** has assessed the potential for adverse visual impacts for the cliff walking trail (also known as the “Mountains of the Caucasus Trail”), these visual impacts will be temporary and short term and, given the way in which the trail is used, it is not considered that these impacts would impair the use or enjoyment of the trail for recreational purposes.

Economic Displacement as a result of Land Acquisition

To the extent practicable, the Project design has minimized land acquisition, particularly land acquisition from good quality agricultural land. In the case of temporary facilities, the Project design has made maximum use of land likely to cause minimum economic displacement.

However, land will still be required for permanent facilities (e.g. the landfall facilities and permanent access roads) and will be leased from the owners for the lifetime of the Project. Land to be used temporarily will be leased from the owners for the duration of the construction activities. Two landowners are affected in this way: a privately owned land parcel is owned by the Russian development company, Fond Yug, whereas the state-owned land is held by the Russian Federal State Forestry Fund.

The Project will secure leases for the land required to construct and operate the Project by way of negotiated settlement in accordance with South Stream Transport’s Land Acquisition Plan (covering policy, approach and plan for land acquisition), which includes provision for leasing land and which has been drafted in accordance with Russian legislation and the objectives of IFC PS5, applying the higher of the two standards wherever they are not consistent. The Plan provides for compensation based on a valuation mechanism conducted in accordance with the objectives of IFC PS5 or national legal requirements, whichever is the greater.

There is no provision under Russian Federal law for compulsory purchase in Russia. As such, South Stream Transport cannot expropriate land to make it available to the Project. South Stream Transport must reach an agreement with land owners to acquire or temporarily use land (e.g. by leasing) through negotiated settlement. Any financial impacts on the landowner identified as part of the land acquisition process will be taken into account as part of the negotiated settlement undertaken according to the Project Land Acquisition Plan and national regulations. Further details on the approach to land acquisition for the Project can be found in the Project Land Acquisition Plan, the principles of which are provided below:

- The Project avoids physical displacement and minimises economic displacement by routing and siting its facilities such that no residences are impacted by either direct footprint or buffer areas;
- The Project seeks to enter into negotiated settlements with affected landowners and land users wherever possible;
- Losses are compensated at replacement value;

- Affected people have access to a fair grievance mechanism, including a first tier of internal grievance review by the Project, with the opportunity for aggrieved individuals to resort to independent review of the grievance if a suitable resolution has not been agreed; and
- Vulnerable people, who may be more affected than others by the land acquisition process, will be identified and specifically assisted if and as needed.

Accordingly, it is considered that, as land will be acquired from the two land owners by way of negotiated settlement, within the context of a legal system that does not sanction expropriation or other compulsory procedures, any economic displacement impacts on the respective land owners will be identified and compensated accordingly as part of the negotiated settlement.

Economic Displacement as a result of change in Land Use – Forest Land

Approximately 3.7 ha of forested land will need to be cleared to allow for construction. While the original land use will be restored after construction where possible, approximately 2.1 ha of this cleared area will no longer be forested as trees and other deep-rooting vegetation will not be permitted to grow about the buried pipelines. The remainder of the land, required only during the Construction Phase, will be able to be replanted with trees.

The affected forested land is owned by the Russian Federal State Forestry Fund. Based on information at the time of writing, there is no indication that this land is commercially managed or used (either by the owner or by any third party) for economic or commercial purposes.

As per the Project Land Acquisition Policy, a negotiated settlement with the land owner will be reached, in accordance with Russian Federal law. Any impacts on the landowner identified as part of the land acquisition process will be taken into account as part of the negotiated settlement undertaken according to the Project Land Acquisition Plan.

Accordingly, it is not considered that there would be any economic impacts associated with either the permanent or temporary change of use of the land needing to be acquired.

14.6.2.1 Assessment of Potential Impacts (Pre-mitigation)

The following potential socio-economic impacts are assessed below:

- Economic impacts:
 - Employment generation;
 - Increased demand for goods and services;
 - Potential for Reduced business revenues:
 - Commercial fishing;
 - Shingari and Don holiday complexes;
 - Anapa Resort Town municipal district tourism industry; and
 - Varvarovka horse riding business.
 - Economic displacement of agricultural workers.
- Community impacts:
 - Reduced recreational amenity of Sukko and Shingari beaches;

- Reduced amenity for visitors to the Varvarovka village cemetery;
- Reduced cultural and aesthetic value of landscape; and
- Reduced residential amenity for residents of Varvarovka.

Employment Generation

At the peak of construction, the Project will employ approximately 2,000 people on the construction of all three sections (landfall, nearshore and offshore). The estimated peak labour numbers during the Construction and Pre-Commissioning Phase for each Project section are presented in Table 14.14, although each Project section peak will not occur simultaneously.

Table 14.14 Estimated Labour Levels during the Construction Phase

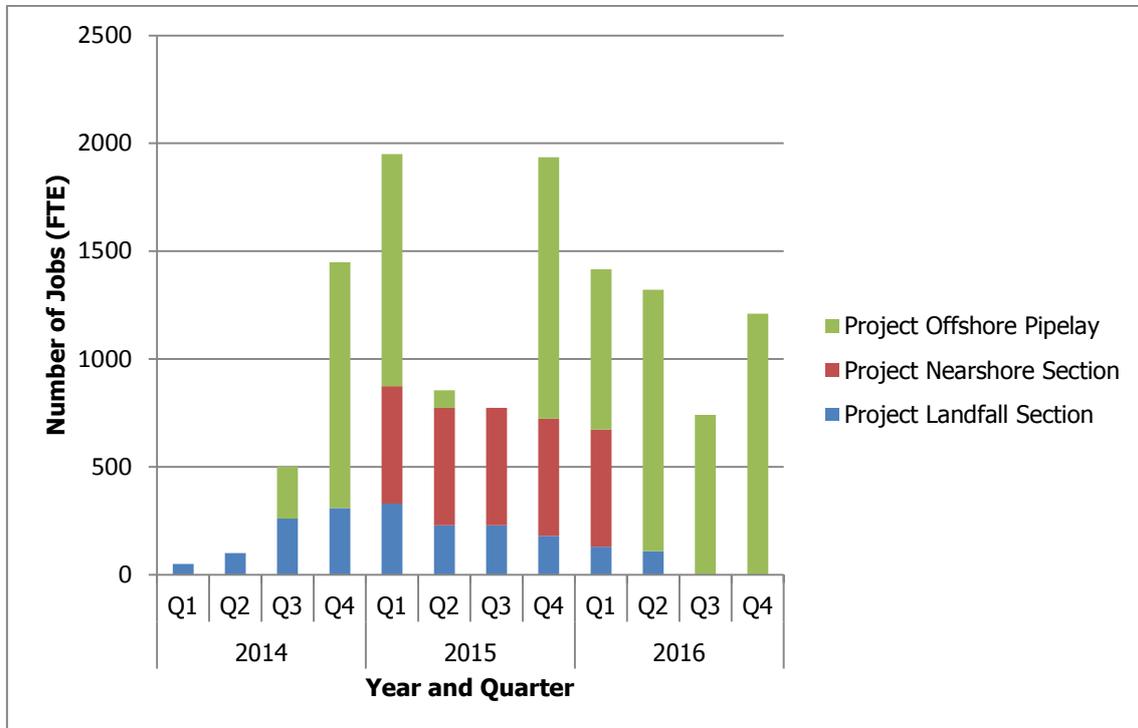
Project Section	Peak Labour Numbers
Landfall	330
Nearshore	544
Offshore	1,211

Most jobs on the Project will be relatively short or medium-term, lasting between several months and up to approximately two years, although a portion of the jobs may last throughout the Construction and Pre-Commissioning Phase. Figure 14.19 shows the anticipated profile of direct employment for the Project during construction. The figure demonstrates how employment will vary as construction progresses.

The construction of the landfall section will generate an estimated 330 temporary jobs during the peak of construction over a two quarter period (i.e. around the fourth and fifth quarter of landfall section construction activity). This estimate includes approximately 115 unskilled jobs (i.e. approximately 35% of jobs). Managerial and skilled jobs associated with the landfall section construction activity are likely to be filled by non-local workers brought on by the Contractor (i.e. approximately 215 jobs). However, it is possible that local workers will be hired to fulfil the unskilled and semi-skilled jobs; however, hiring will be at the discretion of the construction Contractor.

The construction of the nearshore and offshore sections will generate an estimated maximum of approximately 1,750 temporary jobs during the peak of construction approximately half way through the total construction programme. Given the specialised and technical nature of the offshore construction, it is expected that the Contractor will entirely provide the workforce for all nearshore and offshore construction and that few, if any, local people will be employed for this work.

Figure 14.19 Anticipated Profile of Direct Employment for the Project during the Construction and Pre-Commissioning Phase



Source: URS Analysis

Notes: The number of jobs shown per quarter and per section is an estimate; and does not indicate that employment will last for the entirety of the quarter concerned (i.e. the full three month duration).

In addition to any potential direct construction employment generated by the Project itself, through the construction Contractor, there will be an increase in local employment arising from indirect and induced effects of the construction activity. Indirect employment includes the procurement of goods and services from local companies which could generate jobs with these companies. Employment growth may therefore arise locally by way of indirect or supply linkage employment multiplier effects. The beneficial impacts of an increase in demand for goods and services are covered in the assessment of Increased Demand for Goods and Services below, including the use of the port at Novorossiysk. Additionally, part of the income of the construction workers and suppliers will be spent within the Local Communities and throughout the municipal district, generating further employment by way of induced employment multiplier effects³⁰.

³⁰ The scale of the multiplier effects will depend on the size of the strength of internal local (both Local Community and ART municipal district) supply linkages and also the degree of income leakage that occurs from the area beyond its boundaries. It is considered that the ART municipal district is likely to have medium supply linkages based on the size and nature (i.e. sectoral composition) of its economy. However, it has not been possible to identify a quantitative multiplier by which to estimate the scale of indirect and induced employment that would be generated locally.

In summary, it is estimated that up to approximately 30% of the landfall section employment, or approximately 115 jobs, could be available to local workers, including workers from the Local Communities. However, local hiring will be at the discretion of the construction Contractor (as employment will not be directly with South Stream Transport). Although the number of local hires is likely to be limited (up to approximately 115 jobs), the Construction Phase will be likely to result in a short term and temporary, **Beneficial** economic impact for Local Communities as a result of the increase in available job opportunities.

An increase in job opportunities, albeit limited, in the Local Communities is a potential benefit of the Project. However, there is also the potential for negative sentiment to be generated within the community in relation to the employment of non-local labour. Specifically, this may arise in relation to:

- Unfulfilled local employment expectations and resentment between local people who are employed by the Project and those whose applications were unsuccessful, and between local and non-local workers if local people perceive that foreign workers are receiving better pay or conditions for the same job;
- Unfulfilled skill development and training expectations as the positions to be filled by workers local to the area are likely to be unskilled (or potentially semi-skilled) and short-term, and training of local workers associated with the Project – if it occurs – will be limited to the training required for these unskilled (or potentially semi-skilled) positions; and
- Increased tensions within the local communities over access to jobs and due to the presence of non-local workers in the area.

Enhancement and mitigation measures related to the benefit of local employment, potential expectations related to this and the potential for negative sentiment, are described in Section 14.5.2.2.

Increased Demand for Goods and Services

The Project will require the procurement of materials and equipment from locations in Krasnodar Krai, Russia and outside of Russia, resulting in a direct increase in the demand for goods and services. Therefore, the Project may result in opportunities for local suppliers and contractors to seek sub-contractor roles and/or supply materials and equipment to the Project and in Russian suppliers winning contracts to supply equipment (such as plant and construction vehicles) and materials, assuming they can meet the required Project specifications. At the time of writing, decisions regarding the supply of steel pipe are still under discussion. It is anticipated that the pipe to be used for the installation may come from pipe mills in Europe, Russia, Japan, and/or India. Accordingly, there is a good probability that pipe mills in Russia will supply at least some of the pipe required for the Project.

Based on the availability of existing suppliers, it is anticipated that contracts for construction activities, materials and shipping services that are fulfilled within Krasnodar Krai and Russia are likely to be from national businesses, with the possibility of some concentration within Krasnodar Krai.

Accordingly, the types of businesses that are likely to see an increase in demand for goods and services as a result of the project are:

- Construction material and equipment suppliers;
- Accommodation suppliers in the town of Anapa;
- Support services suppliers such as transport, catering and cafés / restaurants, cleaning and security; and
- Port-related businesses that serve the port of Novorossiysk, including shipping businesses, associated with the use of the port for the transport of materials, supplies and workers.

Additionally, there will be a requirement to accommodate the non-local Project workforce. **Chapter 5 Project Description** states that such workers will be lodged in nearby communities (i.e. not in a workers camp setting). This assessment assumes that they will lodge in the town of Anapa, given the broader and larger availability of accommodation options there compared to the much smaller Local Communities. It is estimated that, at the peak of construction activity in the landfall section up to 115 jobs will be unskilled / semi-skilled and potentially hired locally; this means that a peak of approximately 215 jobs would be filled by non-local workers needing accommodation in the area.

Local accommodation suppliers are likely to benefit from the demand for accommodation of the incoming workforce. This increased demand is expected to persist, at varying levels, for approximately two years. It is not expected that the number of non-local workers likely to lodge within Local Communities will be high enough to have any significant adverse impact on accommodation, food or other markets given the relative size of the municipal and regional markets, and the prominence of tourism in the area. Several million tourists visit the area annually, and no adverse impacts on housing, tourism, and leisure infrastructure or other markets are anticipated.

Demand for shipping services is likely to be limited, as many of the vessels required for the Project will be specialised and sourced internationally. However, there is likely to be demand for vessels to supply food, waste disposal and crew change services which could be sourced from the region's ports. Additionally, the use of the ports will provide an economic stimulus for any port that is used and port-related services and supply chain businesses that will benefit in turn.

Considering all of the above, the increased demand for goods and services amongst national, regional and municipal district / local businesses will be a temporary but **limited** and **Beneficial** contribution to the economy.

Potential for Reduced Business Revenues

Commercial Fishing Businesses

The Fisheries Study (see Appendix 14.1) examined the three potential risks to fisheries industry target species, as well as the potential for impacts on fisheries, that could arise as a result of construction of the nearshore and offshore sections of the Project. This study concluded that it is unlikely that there will be any distinguishable impact on the resource (i.e. fish stocks) or on the commercial fishing industry in general (individual employment or local business impacts) due to construction of the Project in the nearshore and offshore sections. A discussion of the key findings of the study follows below.

Potential impacts on fish and fishing could arise from construction activities through increased sedimentation, potential disturbance to fish due to noise and light, and the temporary establishment of a marine safety exclusion zone wherein access for vessels and activities unrelated to the Project will be restricted. The Fisheries Study has considered these potential impacts and concluded that there is unlikely to be any distinguishable impact on the resource (i.e. fish stocks) or on catch levels.

Sediment modelling (Appendix 12.2) was undertaken for all seabed intervention activities, such as dredging. The modelling showed that there will be some disturbance of sediment from dredging activities however the plume generated during dredging activities, disperses rapidly over 4 to 5 days from the activity ceasing and concluded that it will not be at an intensity or duration that would influence either the fish or the fishing. Underwater noise modelling (Appendix 12.3 UW Noise) was undertaken specifically for the Project which showed that sound levels generated by Project activities in Russia are insufficient to cause mortality or injury to fish. In addition, noise will only affect a localised group of individual fish over a short time period. Light from night-time works may affect fish, either by direct attraction or through alterations in the distribution of planktonic prey. However, the extent of the impact is limited to the immediate vicinity of the Project vessels. As such, the magnitude of impact on commercial fisheries is considered to be negligible (consistent with the conclusions reached in Appendix 14.1).

The 3 km-radius safety exclusion zone that will be in place around the pipe-lay vessel spread during construction of the nearshore and offshore sections will overlap with an area of fishing grounds. The safety exclusion zone will restrict navigation and fishing within the zone. However, the safety exclusion zone will only take up a small part of the existing fishing grounds at any one time, and will move with the progress of the pipe-lay vessel. In any given area, the safety exclusion zone will only be present for a short period (i.e. a few days during construction of the exit pits, and approximately 9 to 10 days per pipe-lay process from the exit pit to the edge of the fishing grounds at ca. 100 m water depth). Therefore, any fluctuations in effort and catch should be within, and indistinguishable from, normal annual variations.

Small scale commercial fishing companies are known to operate in the vicinity of the Project Area, in the Anapa district and could potentially fish within the Project Area (see Section 14.4.11). These fisheries companies include RPK Briz and OOO Ram which operate between one to three vessels and employ 15 to 30 people.

Given the information provided in Appendix 14.1 regarding the limited extent and duration of potential impacts, it is very unlikely that there would be a distinguishable impact, significant or otherwise, on any Russian fisheries, including the small scale commercial fishing companies operating in the ART area. Accordingly, the magnitude of impact on commercial fisheries is considered to be negligible.

Given the reliance of the fishing industry on the availability of fish stocks to support industry revenues and the livelihoods of workers in the fishing industry, the sensitivity of the commercial fishing industry is assessed as moderate.

Given the negligible magnitude of impact and the moderate receptor sensitivity, the impact on commercial fishing businesses in the Local Communities and those from the wider Krasnodar

Krai region will be **Not Significant**. This is consistent with the definition of a Not Significant adverse impact in Table 3.4 in **Chapter 3 Impact Assessment Methodology**, which states that “any impacts are expected to be indistinguishable from the baseline or within the natural level of variation”. Accordingly, no impacts on livelihoods of those working for commercial fishing businesses are expected.

Shingari and Don Holiday Complexes

If customers of the Shingari and Don holiday complexes are deterred from staying at the two complexes by impacts such as noise, dust or impacts on the seascape, then the businesses could in turn suffer deterioration in trade. For this reason the overall effect on amenity, as it would be experienced by guests at the complexes is relevant and is considered below.

Assessments have been undertaken to assess potential impacts related to air quality, dust, noise, vibration, changes to views and changes in water quality. For further information, refer to the respective Construction and Pre-Commissioning Phase impact assessments within Appendix 12.2, **Chapter 9 Air Quality**, **Chapter 10 Noise and Vibration**, and **Chapter 13 Landscape and Visual**. The following points summarise the residual impact findings of those assessments (based on the residual impact conclusions of the assessments, unless otherwise stated).

The air quality and noise and vibration assessments have not identified significant adverse residual impacts specifically in relation to Shingari and Don holiday complexes during the Construction Phase. However, the noise impact assessment has identified the potential for residual Low significance impacts during the Pre-Commissioning Phase on several receptors, including Shingari and Don holiday complexes. This impact is associated with the cleaning, drying and gauging of the Pipeline, and will last for 20 days and nights. The assessment is arrived at on the basis of impacts that will be experienced by residents during the night time.

The visual impact assessment (**Chapter 13 Landscape and Visual**) identified a potential adverse impact of moderate significance on the visual amenity for recreational visitors to the seashore, including the private beach in front of the Shingari and Don holiday complexes³¹. Shingari and Don holiday complexes are the only tourism accommodation businesses specifically identified in the visual assessment with the potential to be directly affected due to their proximity to the nearshore section of the Project during construction activities.

In this case, the impact is related to the temporary presence of non-recreational vessels (i.e. the nearshore and offshore construction vessels) in the waters off the coast; at their closest, during the construction of the microtunnel exit pits, these vessels will be over 1 km away³². The impact will be temporary and short-term as the construction vessels, in particular the pipe laying barge, will only be visible to visitors at Shingari and Don holiday complexes for a few

³¹ These are the only two businesses identified in the visual impact assessment; the customers of which would be directly impacted by the Project. Therefore, it is not considered that there would be significant impacts on any other tourism related businesses.

³² The landscape assessment takes account of two activities that will lead to this impact: firstly, the transfer of materials and equipment by vessel to the pipe-laying spread, and second, the operation of marine construction vessels.

days (or a week at most) during construction of each pipeline. With regard to the timing of the impact, it is potentially likely to occur on a single occasion during the main summer peak period, when occupancy of the holiday complexes would be at its highest.

Chapter 13 Landscape and Visual confirms that potential views inland towards the landfall section are prevented by the intervening coastal landform and woodland and so would not affect the visual amenity of visitors to the holiday complexes.

The Sediment Dispersion Study (Appendix 12.2) has modelled the dispersion of sediment plumes that could arise from construction in the nearshore section. This has shown that sediment is dispersed from each proposed dredging and disposal operation, a process that lasts 1.3 days per pipeline operation. Dredging activity could affect the quality of the water at the beach in front of the holiday complexes for short periods of time under certain conditions depending on the prevailing currents and the level of sediment suspension in the water. However, the modelling indicates that, even in a worst case scenario, any sediment plume impact on the beach would be minor and concentrated in any one area for less than 3 to 5 days per pipeline dredging activity. Accordingly, the potential that increased sediment in seawater would detrimentally affect guests at the holiday complexes is limited as the occurrence of any sediment plume will be limited in extent, dependent on tides, highly localised and occur over a very short term, with any impacts (if occurring) only lasting several hours or a few days at most.

The Shingari and Don holiday complexes are relatively small resorts that provide guests with use of a relatively private beach. The potential for adverse visual or water quality impacts on beach users could conceivably reduce the amenity experience of guests staying at the holiday complexes. This could in turn lead to reduced business revenues (e.g. if the company faces reduced bookings or needs to offer rate reductions as compensation). It is considered that this is unlikely given that both resorts mostly provide services for corporate groups and that individuals and families staying at the resort are less likely to have paid personally for their stay as many are organised under the corporate booking arrangement (see Section 14.4.3.3).

Impacts could potentially extend beyond the Construction and Pre-Commissioning Phase of the Project if guests are deterred and do not return for future trips. However, the limited duration of construction works in waters closest to the holiday complexes will in turn limit the duration of any impacts; as noted above, impacts on both views and the turbidity of the water are not expected to last more than a few days. As such, it is considered that the magnitude of impact on the Shingari and Don holiday complexes from a potential downturn in trade, due to visual and water quality effects on guests would be short term and of low magnitude.

Any construction vessels viewed from the beach would be seen in the context of commercial vessels on the existing shipping lanes and the impact of construction activity is unlikely to be of an extent which could prevent the holiday resorts from attracting and retaining guests. These changes are very short term (no more than a few days duration) and are not expected to cause hardship, degradation, or impair the function and value of the resource / receptor. However, given the importance of the holiday complexes' setting and the private beach to the holiday complexes' appeal to prospective guests, the sensitivity of the holiday complex to any adverse effects which might deter holiday makers from staying at Shingari and Don holiday complexes is considered to be moderate.

Given the low magnitude of impact and the moderate sensitivity, the overall impact significance will be **Low**.

Anapa Resort Town Tourism Sector

If tourists were deterred from visiting or staying in the Anapa Resort Town municipal district (and the tourist facilities of the town of Anapa and Sukko) by noise, dust or impacts on views, then the local tourism sector could in turn suffer deterioration in trade. For this reason the overall effect on the area's amenity, as it would be experienced by tourists, is relevant and is considered below.

Other chapters have assessed the potential impacts of:

- Sedimentation affecting water quality along the coast (i.e. increasing the turbidity of coastal waters) as a result of construction in the nearshore section;
- Decreased air quality, including increased dust levels as a result of construction activity in the landfall section;
- Increased noise and vibration; and
- Changes to views

For further information refer to the respective construction impact sections within Appendix 12.2, **Chapter 9 Air Quality**, **Chapter 10 Noise and Vibration**, and **Chapter 13 Landscape and Visual**. Following is a summary of the residual impacts and conclusions of these assessments.

The Sediment Dispersion Study (Appendix 12.2) has modelled the dispersion of sediment plumes that could arise from construction in the nearshore section. This has shown that sediment will be dispersed from each proposed dredging and disposal operation, a process that lasts 1.3 days per pipeline operation. Dredging activity could affect the quality of the water at the nearby beaches for short periods of time under certain conditions depending on the prevailing currents and the level of sediment suspension in the water. However, the modelling indicates that even in a worst case scenario, any sediment plume impact along nearby beaches will be minor and concentrated in one area for less than 3 to 5 days per pipeline. Accordingly, it is considered that the risk of increased sediment in seawater detrimentally affecting the enjoyment of the beach for recreation will be limited; the occurrence of any sediment plume at the beach will be dependent on tides, highly localised and occur over a very short term, with any impacts (if occurring) only lasting several hours or a few days at most. **Chapter 9 Air Quality** and **Chapter 10 Noise and Vibration** do not identify any significant residual impacts on tourism areas or activities in the vicinity of the landfall or nearshore sections.

Chapter 13 Landscape and Visual identifies impacts of a moderate residual significance on a number of receptors. In each case, the visual impact assessment states the impacts will be temporary and short term. While these impacts may temporarily reduce the aesthetic value of the area, which could affect the enjoyment of some recreational activities for some people, they are unlikely to be of an extent which alter visitors' use of any recreational or tourism resources in the area.

In regard to scuba diving, **Chapter 17 Ecosystem Services** identifies that there is a potential risk to scuba dive operators if sediment dispersal reduces seawater quality and clarity at diving spots used by diving tour operator businesses off the coast from Sukko. However, the extent of sediment blooms are likely to be small and of short duration (a matter of days). Alternative dive sites are also available and, as such, the significance of any impacts on divers and dive operators are likely to be low and easily avoidable. Further, while there is one dive site (the Gordipiya barge) located close to the nearshore section of the Project although the site lies outside of the safety exclusion zone and access will not be restricted. Therefore, there are unlikely to be impacts on scuba diving (commercial or recreational).

The concentration of the tourism sector in the town of Anapa and Sukko, with further attractions in the Bolshoi Utrish Nature Reserve, all places that are at some distance from the Project Area, means that visitors to the area are unlikely to experience any significant adverse impacts on their use or enjoyment of the area due to the Project's construction. Accordingly, it is unlikely that the construction activity associated with the Project could restrict the ability of any individuals or businesses to derive a livelihood from tourism. As such, it is considered that the magnitude of the potential impact on the tourism sector due to construction of the Project will be low.

Given the importance of the tourism sector to the local economy and the value placed on the quality of the local environment by local tourism operators, the sensitivity of the tourism sector to any adverse effects which might deter tourists from visiting the area is considered to be moderate.

According to the matrix, given the low magnitude of impact and the moderate sensitivity, the overall pre-mitigation impact significance of the Project on the tourism sector will be **Low**.

Potential for Reduced Business Revenues (Varvarovka Horse Riding Business)

The operator of a horse riding business in Varvarovka has indicated that a novice trail riding route runs through the lands owned by Agrifirm Kavkaz. However, the operator was unable to indicate the precise route, and it has not yet been confirmed if this route overlaps with the Project Area. If the route crosses the construction corridor or any of the construction areas, access will be restricted during the period of construction, and the business will need to find a suitable alternative (beginning in Varvarovka and following a route that stays off the roads and stays in quiet, open country).

As it has not been possible to confirm the exact alignment of the novice route used by the horse riding business, the remainder of this assessment is based on a worst-case scenario, whereby it is assumed that the novice horse riding route will be severed during the Construction and Pre-Commissioning Phase. If this happened, the horse riding business would be directly impacted for the duration of this Phase, a period of approximately 15 months. The impact would most likely be temporary and reversible; although depending on the exact route used by the horse riding business and its intersection with the RoW and associated maintenance access roads; some minor adjustments to the route in the Operational Phase may be required. Overall, the magnitude of impact would be moderate.

Given that the novice route is only one route used by the horse business, and that there are other routes that the business may be able to utilise; the sensitivity of the receptor is considered to be moderate.

Taking this potential worst-case scenario into account, and given the moderate magnitude of impact and moderate sensitivity of the receptor; the potential impact significance is assessed as **Moderate**.

Economic Displacement of Agricultural Workers

Approximately 71 ha of land will be taken up (including temporary land use agreements) at the commencement of construction of the Project, including approximately 4 ha of forested land, 8 ha of meadows or shiblyak³³, and 54 ha of agricultural land. The remainder of land is used for existing roadways. This impact assessment considers the potential that land take associated with the Project could result in a loss of productive agricultural areas (i.e. productive vineyards), which could in turn trigger a loss of employment for the people who work these lands. As noted in Section 14.4.7, the vineyards in the Project Area belong to one owner, Agrifirm Kavkaz, owned in turn by a commercial residential development company, Fond Yug. Any potentially affected workers are employed by these owners.

Of the agricultural land that will be affected by the Project land take:

- In total approximately 11.8 ha of confirmed productive vineyards will be removed from productive use due to the Project, including 4.6 ha of vineyard within the potential transfer site³⁴, and 7.2 ha within the temporary construction area for the Varvarovka Bypass Road:
 - The majority (10.1 ha) of this removal will be temporary and limited to the duration of the construction works in the landfall section of the Project: a period likely to be for up to two years. Once construction is completed, it will be several years until mature, productive vineyards can be re-established on the land; however, during this time the replanting of vineyards will also require labour; and
 - The remaining 1.7 ha of currently productive land will be permanently lost due to road widening for the Varvarovka bypass road. However, these productive vineyards fall entirely within the proposed Chateau Club Village residential development; as such, without the influence of the Project, these vineyards would likely be sold to buyers within a number of individual plots after the completion of construction of the Project.
- The remainder of the agriculturally designated land is currently comprised of scrub, fallow fields and currently non-productive (apparently derelict) vineyards that have been abandoned for at least two to three years:
 - Of this land, approximately 7.0 ha will be permanently transferred to non-agricultural land uses in association with the landfall facilities; and

³³ Evergreen and deciduous scrub and short trees.

³⁴ The total area of the Potential Transfer Site is 5.38 ha. The difference between the total area and the figure cited for the area of confirmed productive vineyard that would be lost is due to the alignment of the Varvarovka Bypass Road through the Optional Transfer Site; accordingly that area is accounted for under the figure cited for the bypass road.

- A further approximately 23.8 ha of land will fall within the permanent RoW, which will include provision for a small service track for the purposes of pipeline maintenance and inspection (accessible by 4x4 vehicles only). After construction, vegetation within the RoW will be reinstated, and access to the RoW will not be restricted by the Project. However, it is unlikely that vineyards will be replanted within the RoW, although seasonal crops may be established³⁵. As a result, the RoW land is likely to be removed permanently from productive use for a vineyard, but still available for other agricultural uses. The track could also be used by agricultural vehicles to facilitate access through and around the fields / vineyards.

Accordingly, although the majority of the affected 54 ha of designated agricultural land has been used for viticulture in the past, less than one quarter of this area is currently in productive use. It is further understood that there is sufficient land under production, with related tasks that can be undertaken, on the land cultivated by Agrifirm Kavkaz to ensure that the land take from the Project would not result in the displacement of workers, as activities and workers would be absorbed elsewhere in the vineyard. The total area of vineyard currently under cultivation by Agrifirm Kavkaz is 416 ha, whereas the area of productive land affected by Project land take amounts to only 11.8 ha, i.e. less than 3% of the area of vineyard currently under cultivation, not including other non-productive and fallow land nearby owned by Agrifirm Kavkaz . Other areas of vineyard owned by Agrifirm Kavkaz were abandoned (i.e. removed from active cultivation) two to three years ago; at this time workers moved to focus on other areas of the overall vineyard property and were not displaced as a result of the change³⁶.

Considering the total area of Project-related land take (temporary and permanent); the fact that affected productive land represents less than 3% of the landowner (Agrifirm Kavkaz) holdings; the past experience that has shown that vineyard activities and workers can be adjusted throughout the larger vineyard area; the duration of the impact and the fact that much affected land will be returned to its original use following construction; and the possible conversion of land within the RoW from vineyard to other agricultural purposes, it is not anticipated that there will be any economic displacement of agricultural workers (migrant or otherwise) as a result of the Project. As such, the magnitude of impact associated with the potential for the displacement of agricultural workers as a result of Project land take is assessed to be negligible.

In relation to potential economic displacement, the receptor is considered to be the workers who currently tend the productive vineyards. Although their employment is unlikely to be affected by the Project due to the capacity of their employer (Agrifirm Kavkaz) to utilise them on other areas of land, if an impact were to occur then these workers – particularly migrant

³⁵ According to existing Russian regulations, it is unusual for anything except grass to be allowed to grow over a pipeline within a RoW of this kind. Although, it is understood that a potential precedent exists for replanting vines or other crops over the pipelines, it is considered unlikely that the land owner or manager would replant vines or other long term cultures over the pipelines because of the possibility that they may need to be dug up at any time in the Operational Phase to allow for maintenance of the pipelines, thereby causing substantial disruption. Therefore on balance, it is considered that the land that would remain within the permanent ROW would not be likely to be replanted with vines (even if the precedent can allow for it) but will be able to be planted with seasonal crops.

³⁶ This was confirmed during the meeting with Fond Yug and Agrifirm Kavkaz (Ref. 14. 40) in which it was confirmed that the same workers come from Dagestan each year and that the number of workers had stayed reasonably constant over time.

workers from outside Russia – could face hardship in terms of lost income and livelihood. As such, the sensitivity of the workers employed by Agrifirm Kavkaz (including migrant workers) to a potential loss of employment is considered to be high.

Given the negligible magnitude of impact and the high sensitivity of the receptor, it is assessed that potential economic displacement, as a result of the Project land take and / or changes in land use, is an impact of **Low** significance.

Potential for Reduced Recreational Amenity of Sukko and Shingari Beaches

At its closest point, where it crosses under the shoreline within the microtunnels, the Pipeline alignment would be constructed approximately 3 km from Sukko beach; while the distance between the Pipeline alignment and Sukko beach, if measured looking perpendicular directly out to sea from the shoreline, is approximately 6 km (see Figure 14.18 which shows how the distance of the Pipeline alignment from Sukko beach varies along the Pipeline's route).

From a socio-economic perspective, this assessment is concerned with whether impacts on amenity would materially compromise the ability of Sukko and Shingari beach users to use the beaches. Impacts on the amenity of the beaches may be associated with changes to the seawater at the beach (e.g. increased turbidity, making it less appealing for swimming), as well as changes in the views seen from the beach. These issues have been investigated within other assessment chapters and are summarised below.

Appendix 12.2 has modelled the dispersion of sediment plumes that could arise from construction in the nearshore section. This has shown that dredging activity could affect the quality of the water at the nearby beaches for short periods of time under certain conditions depending on the prevailing currents and the level of sediment suspension in the water. However, the modelling indicates that even in a worst case scenario, any sediment plume impact along nearby beaches would be minor and concentrated in one area for less than 3 to 5 days per pipeline. Accordingly, it is considered that the risk of increased sediment in seawater detrimentally affecting recreational beach users will be limited as the occurrence of any sediment plume will be dependent on tides, highly localised and occur over a very short term, with any impacts (if they occur at all) only lasting several hours or a few days at the absolute most.

Chapter 13 Landscape and Visual has identified a potential moderate adverse residual impact in terms of the view from the seashore, including Sukko Beach and Shingari Beach, as a result of construction activities in the nearshore and offshore sections. This impact considers the fact that people on the beach will be able to see the construction vessels working in the sea, when these vessels are closer to shore. This impact will be temporary and short term, as the marine construction vessels, and in particular the pipe laying barge, will only be visible to beach users for a few days (or a week at most) during the construction of each pipeline; following construction, the impact will cease and beach users will not experience any impacts in relation to the operation of the Pipeline. Furthermore, commercial shipping vessels can often be seen in the shipping lanes off the coast; therefore, the presence of the Project's construction vessels (anticipated to be an average of three vessels at any one time) is not expected to be unique or particularly intrusive.

Considering the inputs from the sediment dispersion and visual impact studies, the potential impact on the recreational amenity of the Sukko and Shingari beaches is expected to be of low magnitude.

The receptor for this impact would be recreational beach users. The nature of the coast in this area means that users of Sukko and Shingari beach have little alternative to those beaches unless they travel over 10 km to the town of Anapa to use the beaches there. However, it is considered that amenity-related visual impacts do not materially compromise beach users' ability to enjoy recreational activities such as swimming, playing, sunbathing, etc. As such, the sensitivity of Sukko and Shingari beach users to amenity-related impacts is moderate. It is noted that recreational beach users are likely to include children staying at the Smena Children's camp. However, it is not considered that they are disproportionately vulnerable given the nature of the impact, compared with other beach users.

Given the low impact magnitude and the moderate sensitivity of the recreational beach users, the overall impact significance is assessed as **Low**.

Reduced Amenity for Visitors to the Varvarovka Village Cemetery

The landfall section of the Project will be constructed approximately 400 m southeast of the Varvarovka village cemetery (a Russian Orthodox and Armenian cemetery). Additionally, the cemetery will be located approximately 10 m south of Gazprom Invest Road and approximately 100 m west of South Stream Transport temporary microtunnel access road. The alignment of the South Stream Transport temporary access road has been designed to avoid running close to the cemetery.

This assessment is linked to the assessment in **Chapter 16 Cultural Heritage** on the Varvarovka village cemetery. However, from a socio-economic perspective, this assessment is concerned with whether impacts on amenity features (including noise and visual quality) would materially compromise the ability of visitors to the cemetery to use or enjoy the cemetery.

Chapter 10 Noise and Vibration has confirmed, in relation to Varvarovka village cemetery (identified as Receptor 13 in that assessment), that there would be no significant residual impact in relation to noise or vibration during the Construction Phase. However, the noise impact assessment has identified the potential for Low residual significance impacts during the Pre-Commissioning Phase.

Chapter 13 Landscape and Visual has identified a short-term Moderate residual visual impact on visitors to the cemetery, as visitors may be able to see construction activities on land and in the sea, including the construction and use of the access road along the northern and eastern boundaries of the cemetery.

Chapter 16 Cultural Heritage, taking account of the results of Chapter 10 and Chapter 13, has assessed that there could be a Low adverse residual impact on the tranquillity of the Varvarovka cemetery.

Given the potential for the Project to give rise to noise, vibration, visual and cultural heritage impacts on Varvarovka village cemetery users, as well as the extent, duration and reversibility of these impacts, the magnitude of impact is considered to be low.

The receptor for this impact would be visitors to the cemetery. Given that users of the cemetery are likely to value and also place significant importance on the existing quality of amenity provided for by the surrounding environment, it is considered that the sensitivity of visitors to the cemetery to amenity-related impacts would be high.

Given the low impact magnitude and the high sensitivity of visitors to the cemetery users, the overall impact significance is assessed as **Moderate**.

Reduced Residential Amenity for Residents in Local Communities

Introduction

The construction of the Project has the potential to affect the amenity of (i.e. the overall quality of the surrounding environment as experienced and enjoyed by) residential receptors in Local Communities. Amenity-related features include issues such as air quality, dust, noise, vibration, and visual impacts. Accordingly, these impacts have been assessed in other chapters of this Report including **Chapter 9 Air Quality**, **Chapter 10 Noise and Vibration**, and **Chapter 13 Landscape and Visual**.

The potential for amenity impacts has been considered for all the Local Communities by having regard to these other chapters. However, a socio-economic residential amenity impact assessment is only considered warranted where there is more than one contributing amenity-related impact (i.e. air quality, dust, noise, vibration and/or visual impact) occurring simultaneously or continuously. Where this is not the case, there is no potential for such impacts to act in combination with one another to impact on residential amenity; the standalone impacts are assessed in their respective chapters.

The air quality, noise and vibration, and visual impact assessments have identified some Low residual adverse impacts and some Moderate residual adverse impacts on residential receptors within the Local Communities (for details, please see **Chapter 9 Air Quality**, **Chapter 10 Noise and Vibration**, and **Chapter 13 Landscape and Visual**). However, there is only one circumstance where two or more amenity-related impacts would be experienced by the same receptor and where that impact would also occur simultaneously or continuously. This is related to the construction and use of the Varvarovka Bypass Road and impacts on residents in North East Varvarovka. Accordingly, consideration of residential amenity impacts in this chapter is solely concerned with that circumstance and follows below.

Reduced Residential Amenity for Residents in North East Varvarovka

The Varvarovka Bypass Road will be constructed immediately to the southeast of residential dwellings in the north-eastern end of Varvarovka. Assessments have been undertaken to examine the likelihood of significant air quality, dust, noise, vibration, and visual impacts of the Project. For further information refer to the respective construction and pre-commissioning effects sections within **Chapter 9 Air Quality**, **Chapter 10 Noise and Vibration**, and **Chapter 13 Landscape and Visual**. Following is a summary of the residual effect findings of those assessments.

Chapter 9 Air Quality does not identify any Moderate or High significance residual air quality impacts on residential receptors at the north east of Varvarovka. With regard to dust from the

Varvarovka Bypass Road, this finding is based on the consideration that the implementation of good site practice and the stringent use of dust mitigation measures throughout all elements of the construction activities would be capable of controlling emissions, to the extent that the effect of any impact will not be significant.

Chapter 10 Noise and Vibration has assessed that there will be a Low adverse residual impact on residential dwellings (at Receptor 4, as identified in that assessment) due to traffic on the Varvarovka Bypass Road during the Construction Phase under Scenario 3 when the greatest road traffic flows will be experienced on the Varvarovka Bypass Road. The assessment has also assessed a Low adverse residual significance impact on the same receptors, together with receptors 1 and 3 at the southern tip and eastern edge (mid-way between the north and south of the community) of Varvarovka respectively, during the Pre-Commissioning Phase. This impact is associated with the pre-commissioning activities required for the Pipeline, and will last for 20 days and nights per pipeline. The assessment is arrived at on the basis of impacts that will be experienced by residents during the night time. It is important to note that this impact will not occur at the same time as the impacts from road traffic flows.

Chapter 13 Landscape and Visual has assessed Moderate significance residual impacts on residents due to disruptive views of the proposed acoustic barrier along the access road and limited views of construction work on the landfall section. In each case, the visual impact assessment states the impacts will be temporary and short term.

Taking account of the potential for the Project to give rise to noise, vibration, and visual impacts on residents in northeast Varvarovka, as well as the extent, duration and reversibility of these impacts, the magnitude of impact is considered to be low.

The receptor for this impact is the residents of Varvarovka. The degree to which amenity impacts will affect the quality of life of residents may vary depending on the nature of the impact. For example, noise impacts (particularly if occurring at night) and air quality impacts, may detract more from the quality of life for residents than noise impacts during the day or visual impacts. Therefore, the overall sensitivity of residents to amenity impacts is considered to be high; particularly in respect to the potential for night time effects. At other times, the sensitivity of residents to amenity-related impacts may be moderate.

Given the low impact magnitude and the high sensitivity of residential receptors, the overall impact on the amenity of residential receptors, based on the potential for significant night time noise impacts, is of **Moderate** significance.

14.6.2.2 Mitigation and Enhancement

Mitigation measures to address adverse impacts and enhancement measures which have the potential to enhance beneficial outcomes of the Project are set out below.

General Measures

Grievance Procedure

South Stream Transport has developed a Grievance Procedure for the South Stream Offshore Pipeline, which will guide the management of grievances³⁷ throughout the Project lifecycle. The Grievance Procedure is referred to in **Chapter 6 Stakeholder Engagement** and further described in the Project Stakeholder Engagement Plan.

The Grievance Procedure will be implemented for the community by South Stream Transport and will ensure that grievances are brought to the attention of the appropriate Project staff and addressed in an appropriate and timely way, following a standard procedure of investigation, analysis, and resolution. It will also ensure that resolutions are documented and communicated to the appropriate stakeholders.

The Grievance Procedure will include recourse to a Compensation Management Framework, to ensure that cases requiring some form of compensation are evaluated consistently and equitably.

Compensation Management Framework

In certain circumstances, where it has not been possible to adequately mitigate for a significant adverse impact by avoiding or minimising the impact, it may be appropriate to provide compensation. In other cases, new or different impacts may arise as the Project progresses, as a result of changing baseline characteristics, third-party actions beyond the control of the Project, and/or changes to the assumptions contained within this assessment. While South Stream Transport will monitor environmental and socio-economic conditions (see "Monitoring" below) and adjust or implement mitigation measures as needed, there may be circumstances requiring compensation, or outright claims for compensation, as a result of impacts that have occurred.

South Stream Transport will develop a Compensation Management Framework to guide the evaluation and determination of compensation measures. The Compensation Management Framework will capture the process and requirements for assessing compensation claims and implementing compensation measures. Compensation measures may include financial compensation or in-kind contributions.

Compensation may also comprise livelihood restoration measures, which will be specifically defined under a separate but related Livelihoods Restoration Framework (below). The Compensation Management Framework will be closely tied to the Grievance Procedure (above). Additionally, a specific component of the Construction Management Plans will also address the issue of compensation, with reference to the Compensation Management Framework and other plans and frameworks as appropriate.

³⁷ A grievance is a formal complaint by an individual (or group) who feel they are, or have been, adversely affected by Project-related activities.

Compensation for economic loss would include circumstances where compensation would be able to mitigate the financial impacts associated with reduced revenues or increased costs to a business or individual that can be reasonably attributed to the construction of the Project. The Compensation Management Framework will ensure that possibly affected people or businesses are appropriately compensated for lost assets or access to assets.

As part of the process of implementing the Compensation Management Framework, South Stream Transport will work with the affected stakeholders in order to identify appropriate compensation or restoration measures.

The framework will set out certain criteria to ensure that compensation is paid consistently and equitably.

Livelihood Restoration Framework

It is not anticipated that the Project will result in any livelihood impacts warranting livelihoods restoration measures. However, the Project will develop a Livelihood Restoration Framework to provide for the possibility that livelihood impacts do occur. This Framework will define the process that will be undertaken to identify the need for specific livelihood restoration measures, and the development of these measures in consultation with affected stakeholders and relevant local agencies. The overall goal will be to ensure that affected livelihoods are restored, at minimum, to pre-impact levels.

Ongoing Stakeholder Consultation

South Stream Transport will continue a programme of stakeholder engagement and consultation throughout the Construction and Pre-Commissioning Phase. These engagement activities will be designed to facilitate dialogue with relevant stakeholders, including those potentially affected by the Project, or who are concerned about or interested in the Project. These activities will allow potential impacts, issues and concerns to be identified early on and addressed in an expedient manner. These activities will also inform stakeholders of upcoming construction activities, as well as Project Activities that have been completed, and provide advance warning of any anticipated changes. Ongoing and future stakeholder engagement activities are described further in the Stakeholder Engagement Plan for Russia.

Community Investment Plan

South Stream Transport will develop a Community Investment Plan to guide community investment initiatives and opportunities for the Project. Although not intended to mitigate or compensate for impacts of the Project³⁸, community investment can offer additional value and benefit to both the Project and local communities and stakeholders, in the form of enhancing or creating socio-economic benefits.

³⁸ The IFC's Strategic Community Investment Quick Guide (2010) stipulates the following: "Community investment is added-value investment. It should not be confused with a company's obligations to mitigate or compensate local communities for environmental and social impacts caused by the project. These issues are addressed separately under IFC's Social and Environmental Performance Standards. Nevertheless, the two are interrelated components of a holistic approach for managing company-community relationships."

As such, South Stream Transport views community investment as a key mechanism to support community development and to establish a mutually beneficial relationship with the Local Communities. Under the Community Investment Plan, South Stream Transport will work with local stakeholders to identify potential community investment opportunities and initiatives. Local stakeholders will also be integrally involved in the design and implementation of such programmes.

Enhancement of Local Economic Benefits

Labour Procurement

Where practicable, South Stream Transport will encourage the use of local labour for the Project including by requiring its contractors to advertise suitable available positions in local and regional media, use local recruitment agencies and engage in other similar activities, so as to provide the opportunity for local people to access employment opportunities created by the Project. Local employment will also be supported by local business contracts that may arise through goods and services procurement (below).

The intention of South Stream Transport to require its contractors, where practicable, to provide the opportunity for local people to seek employment opportunities on the Project, will also assist in addressing the potential for tensions related to unmet employment opportunities. To mitigate further these risks, South Stream Transport will keep communities informed about Project activities; in addition, the Grievance Procedure will provide a means by which the Company will receive and resolve any grievances arising from Project activities.

Goods and Services Procurement

Where practicable, South Stream Transport will encourage the procurement of local goods and services for the Project including by requiring its contractors to advertise suitable available contracts for the provision of goods and services in local and regional media, establish contacts with the local Chamber of Commerce and business associations and engage in other similar activities, so as to provide the opportunity for local suppliers and contractors to seek sub-contractor roles and/or supply materials and equipment to the Project.

Mitigation Specific to Potential Adverse Impacts on Businesses, Livelihoods and Local Communities

Mitigation for Potential for Reduced Businesses Revenues for Commercial Fishing Businesses

The General Measures at the start of this section, Section 14.6.2.2, will apply as appropriate.

Potential impacts on fishing businesses will be mitigated through ongoing stakeholder engagement, the Grievance Procedure, and the Compensation Management Framework, as well as the following measures:

- The coordinates and timing of temporary marine exclusion zones will be communicated to vessel operators through the routine channels of the appropriate maritime authorities; and
- Additional meetings with marine area users (including fishers), as required, to further explain the temporary exclusion zones and address questions and concerns.

Mitigation for Potential Reduced Business Revenues for Shingari and Don Holiday Complexes and Anapa Resort Town Tourism Sector

The General Measures at the start of this section, Section 14.6.2.2, will apply as appropriate.

Plans indicating the Pipeline route and construction phase vessel spread along with timing of construction activities will be provided to the relevant authorities for distribution to local businesses as appropriate, including Shingari and Don holiday complexes.

For visual impacts that have not been avoided through design controls, **Chapter 13 Landscape and Visual** has set out mitigation measures to mitigate visual impacts. Specifically, to mitigate impacts on recreational visitors to the seashore, including the public beaches at Sukko and Anapa, and the private beach at the Shingari and Don holiday complexes, mitigation includes: Phasing construction; avoidance of night-time construction activities as far as practicable; and directional shielding for lighting on vessels, other than navigational lights on vessels.

Additionally, **Chapter 12 Marine Ecology** sets out measures to prevent sedimentation impacts on recreational water users along the coast line.

Mitigation for Potential Reduced Business Revenues for Varvarovka Horse Riding Business

The General Measures at the start of this section, Section 14.6.2.2, will apply as appropriate.

The assessment of the potential for reduced business revenues on the Varvarovka Horse Riding Business has been made on the basis of a worst-case scenario; given that the precise location of the novice route used by the business has not been able to be confirmed at the time of writing. The following mitigation is therefore premised on the basis of the assumption that the route used by the business will be severed for the duration of the Construction and Pre-Commissioning Phase.

The Project will work with the Varvarovka Horse Riding Business to undertake further investigation to check the horse riding route prior to construction to understand whether or not there may be an impact on the horse riding business if the route is not usable during the construction period and, if so, whether mitigation is required.

If access to all or part of the horse riding route is restricted or severed by the Project, South Stream Transport will work with the business owner to identify a suitable alternative. Whether or not an alternative can be found, the Compensation Management Framework and Livelihood Restoration Framework will also apply in the event that impacts on business revenues are evident. South Stream Transport will also engage with the stakeholder prior to and throughout the Construction and Pre-Commissioning Phase to ensure that the stakeholder is informed of Project activities and restrictions, and to understand any concerns the stakeholder may have. The Grievance Procedure will also apply to any complaints related to horse riding and related business impacts.

Mitigation for Potential Economic Displacement of Agricultural Workers

The General Measures at the start of this section, Section 14.6.2.2, will apply as appropriate.

After construction, all land that is not required for permanent aboveground infrastructure in the Operational Phase will be reinstated to a state as near to the original condition as possible or to a form in keeping with the surrounding topography where this is not precluded by risk to integrity of the Pipeline or erosion considerations. All necessary actions will be applied to ensure that reinstated land can function, at minimum, as productively as that prior to land acquisition.

Mitigation for Potential Impacts on the Recreational Amenity of Sukko and Shingari Beaches

The General Measures at the start of this section, Section 14.6.2.2, will apply as appropriate.

Specific to recreational beach users, the Project will provide regular updates to beach users regarding construction activities and schedule, both on land and at sea. Updates and information provided to beach users will also include information about how interested parties can contact South Stream Transport with questions, concerns or complaints.

As set out in respect to the potential for reduced business revenues on Shingari and Don holiday complexes and the Anapa Resort Town tourism sector, **Chapter 13 Landscape and Visual** has set out mitigation measures to mitigate visual impacts. Likewise, **Chapter 12 Marine Ecology** also sets out measures to prevent sedimentation impacts on recreational water users along the coast line.

Mitigation for Potential Impacts on Visitors to the Varvarovka Village Cemetery

Chapter 16 Cultural Heritage presents the mitigation measures to address the moderate adverse significance impact on the tranquillity of cemetery users, including the preparation of a Construction Traffic Management Plan. See Chapter 16 for more detail.

Mitigation for Potential Impact on the Residential Amenity of Residents in Varvarovka

Chapter 10 Noise and Vibration and **Chapter 13 Landscape and Visual** have proposed mitigation to address potential impacts related to noise and visual amenity, respectively, on residential receptors in the north-east of Varvarovka. For noise impacts, this includes the implementation of a three metre high acoustic screen along the boundary of the properties and Varvarovka bypass access road. The visual impact assessment has taken account of the presence of this screen in making an assessment, and has identified the following measures to address the visual impacts, including; the use of suitable vehicles and good vehicle maintenance on a regular basis to reduce visibility of exhaust emissions; removal of acoustic barriers as soon as possible; and the phasing of construction. See Chapter 10 and Chapter 13 for more detail on the mitigation that is proposed.

Monitoring

Monitoring of the socio-economic (and bio-physical) environment will be undertaken in order to ensure that impacts are appropriately managed. An outline of the monitoring that will be undertaken as part of the Project is contained within each of the assessment chapters, including, but not limited to, monitoring of:

- Air quality;
- Noise;

- Landscape and visual amenity; and
- Seabed sediment and marine water quality.

Chapter 22 Environmental and Social Management details the approach that will be taken to monitoring and includes an outline of key monitoring activities. Further information on monitoring including key receptors, monitoring locations and monitoring frequency will be contained within the monitoring program developed for the Project.

Ongoing stakeholder engagement will also serve as a means of monitoring impacts on potentially affected stakeholders, to ensure that the actual level of impact is not greater than predicted. If additional significant impacts are identified and verified, these will be a priority for resolution which will be agreed in consultation with affected stakeholders.

Shingari and Don Holiday Complexes

The results of the relevant monitoring programmes (as measured at relevant monitoring locations) will be communicated to Shingari and Don holiday complexes via the ongoing consultation that will be conducted with the two businesses regarding the Project constructions activities in the nearshore and offshore sections. This will assist with monitoring potential Project impacts and help to determine whether environmental and social changes are attributable to construction activity, and provide a basis for aiding resolution of any grievances.

Sukko and Shingari Beach Users

The users of the Sukko and Shingari beaches are likely to be a diverse, changing and temporary group of stakeholders (a mix of residents, local visitors, tourists from outside the region, etc.) and therefore cannot be specifically contacted. For this group, ongoing stakeholder engagement using communication channels that are likely to reach a diverse range of beach users will be utilised to communicate updates about the Project and activities, relevant monitoring results and ways in interested parties can access further monitoring details, as well as how to contact South Stream Transport with questions or concerns. This will assist with monitoring potential Project impacts and provide a basis for aiding resolution of any grievances.

Land Use and Ownership Monitoring

Monitoring will be undertaken via ongoing consultation with the two affected land owners to ensure that no unexpected land use issues arise during the Construction and Pre-Commissioning Phase. Monitoring will include discussions with Agrifirm Kavkaz to confirm that there is no decrease in demand for labour associated with the Project land take and that Project land take does not preclude use of fields not within the Project footprint.

Community and Local Economy Monitoring

In light of the nature of the Project and existing baseline conditions, the impact assessment has not identified any significant impacts on the Local Communities with the exception of the potential for short term, **Moderate** adverse residual impacts on residential amenity in North East Varvarovka. The impact assessment has also not identified any significant impacts on the

economy within the Local Communities that would require a targeted monitoring programme beyond those already discussed.

Nevertheless, regular social and economic monitoring will be undertaken during the Construction and Pre-Commissioning Phase. The key purpose of the monitoring will be to monitor social and economic conditions in case the Project gives rise to any unanticipated social or economic changes within the Local Communities, and if so, to allow for the early identification of these changes and for further mitigation measures to be implemented, as required.

Monitoring will consist of general socio-economic monitoring in tandem with ongoing stakeholder engagement and will cover the following matters:

- Hiring of workers from the Local Communities;
- Procurement of goods and services from local businesses;
- The number of non-local workers employed on the Project, their accommodation status (including type and location of accommodation) and any noticeable increase in demand for local services and facilities (e.g. health facilities) by non-local workers on the Project; and
- Any incidents of anti-social behaviour or crime, associated with the presence of non-local workers within the Local Communities.

In addition, fish catches are also monitored through the official statistics maintained by the relevant fishing authority, VNIRO; this data will be requested if needed to support discussions with stakeholders and/or the resolution of potential grievances. In addition, the Grievance Procedure and ongoing stakeholder engagement will also serve to monitor impacts and perceptions amongst the Project's stakeholders.

14.6.2.3 Residual Impacts: Construction and Pre-Commissioning

Table 14.15 presents a summary of the potential residual socio-economic impacts arising from the Construction and Pre-Commissioning Phase of the Project. These residual impacts are assessed following the application of the mitigation measures identified above.

Beneficial impacts

The Project will result in a number of **Beneficial** but limited residual impacts, *inter alia*:

- Local and regional businesses will benefit from spending on goods and services (including accommodation and related services). Although limited due to the specialised nature of the Project construction, South Stream Transport will encourage the use of local services and contractors where practicable. The use of local businesses may also generate employment for local residents; and
- Local workers may gain employment with the Project. Although limited due to the specialised nature of Project construction, South Stream Transport will encourage local hiring where practicable, particularly in relation to unskilled / semi-skilled positions for the construction of the landfall section. Local hiring will have added benefits in terms of enhancing household incomes.

High Adverse Impacts

No residual **High** adverse impacts are anticipated.

Moderate Adverse Impacts

One residual **Moderate** adverse impact is anticipated:

- The potential impacts on the residential amenity for receptors in north-east Varvarovka arising as a result of noise and visual impacts acting together. The mitigation proposed to reduce noise impacts, specifically a three metre high acoustic screen, has also taken into account the landscape and visual assessment. Mitigation measures specific to these impacts have been identified has been taken account of in the amenity assessment, and therefore the residual impact assessment remains unchanged. It is important to note that the overlap of noise and visual impacts will be short-term and temporary.

Low Adverse Impacts

Three residual impacts of **Low adverse** significance are anticipated in relation to the following impacts:

- The potential for Economic Displacement of Agricultural Workers working on Agrifirm Kavkaz-managed land owing to the take up of approximately 12 ha of vineyard during construction. Although a Livelihood Restoration Framework will be part of the Project ESMS; it is considered that the residual impact would remain unchanged; owing to the nature of the process required to restore livelihoods to pre-impact levels, should that be necessary. It is important to note that, based on the assessment of impact magnitude, it is not anticipated that there will be any economic displacement of agricultural workers (migrant or otherwise) as a result of the Project. However, the significance of the impact has been arrived at based a cautious assessment that has taken account of the potential vulnerability of workers – particularly migrant workers from outside of Russia – and the hardship they could face in terms of lost income and livelihood, if economic displacement were to occur;
- The impact on the enjoyment by recreational users of Sukko and Shingari beaches due to visual disturbance as a result of the view of construction vessels working in the marine area, and also possibly as a result of suspended sediment in the sea water at the beaches over a short term period. However, it is important to note that this impact will be short-term, temporary, and not out of character as the beach has views of existing Black Sea shipping lanes; and
- The potential impact on the amenity experienced by visitors to Varvarovka village cemetery due to noise and visual disturbance associated with construction of the landfall section of the Project, including that arising from the presence of a temporary access road to be constructed by South Stream Transport near the cemetery. The design control of routing the temporary access road in order to leave a land and vegetation buffer between the road and the cemetery, along with the preparation of a Construction Traffic Management Plan, have contributed to a reduced residual impact on cemetery visitors.

Table 14.15 Summary Table – Construction and Pre-Commissioning Phase Residual Socio-Economic Impacts

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
Landfall and Nearshore construction activities	Employment generation	Economically Active Labour Force in the ART municipal district and within commuting distance of the Project Area	Not identified	Not identified	Beneficial	Where practicable, SST will require contractors to advertise suitable available positions in local and regional media, use local recruitment agencies and engage in other similar activities.	Beneficial
Landfall, Nearshore and Offshore construction activities	Increased demand for goods and services	Businesses in the Krasnodar Krai region and ART municipal district	Not identified	Not identified	Beneficial	Where practicable, SST will require its contractors to advertise suitable available contracts for goods and services in local and regional media, establish contacts with the local Chamber of Commerce and business associations and engage in other similar activities.	Beneficial

Continued...

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
Nearshore and Offshore construction activities	Potential for reduced business revenues (commercial fishing businesses)	Commercial fishing businesses (operational in the Study Area)	Moderate	Negligible	Not significant	Ongoing stakeholder consultation Provision of construction plans to relevant authorities Grievance Procedure (Compensation Management Framework – if necessary)	Not Significant
Landfall, Nearshore and Offshore construction activities	Potential for reduced business revenues for due to construction activity (Shingari and Don holiday complexes)	Shingari and Don holiday complex businesses	Moderate	Low	Low	Ongoing stakeholder engagement Provision of construction plans to relevant authorities Grievance Procedure Compensation Management Framework Sediment prevention mitigation as detailed in Chapter 12 Marine Ecology Visual impact mitigation as detailed in Chapter 13 Landscape and Visual	Not Significant

Continued...

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
Landfall, Nearshore and Offshore construction activities	Potential for reduced business revenues due to construction activity (Anapa Resort Town tourism sector)	Anapa Resort Town tourism sector	Moderate	Low	Low	Ongoing stakeholder consultation Provision of construction plans to relevant authorities Grievance Procedure Compensation Management Framework Sediment prevention mitigation as detailed in Chapter 12 Marine Ecology Visual impact mitigation as detailed in Chapter 13 Landscape and Visual	Not Significant
Landfall construction activities	Potential for reduced business revenues (Varvarovka Horse Riding Business, due to potential severance of horse riding trial(s))	Varvarovka horse riding business	Moderate	Moderate	Moderate	Ongoing stakeholder consultation Grievance Procedure Compensation Management Framework Livelihood Restoration Framework	Low

Continued...

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
Landfall construction activities	Economic displacement of agricultural workers due to Project-related use of existing agricultural land	Local communities, including agricultural (vineyard) workers	High	Negligible	Low	Ongoing stakeholder consultation Grievance Procedure Compensation Management Framework Livelihood Restoration Framework	Low
Nearshore and offshore construction activities	Potential for reduced recreational amenity of Sukko and Shingari beaches	Sukko Beach and Shingari Beach recreational users	Moderate	Low	Low	Ongoing stakeholder consultation Grievance Procedure Sediment prevention mitigation as detailed in Chapter 12 Marine Ecology Visual impact mitigation as detailed in Chapter 13 Landscape and Visual	Low

Continued...

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
Landfall construction activities	Reduced amenity for visitors to the Varvarovka Village (Russian Orthodox and Armenian) Cemetery	Visitors to the Russian Orthodox and Armenian cemetery	High	Low	Moderate	<p>Ongoing stakeholder consultation</p> <p>Grievance Procedure</p> <p>(Mitigation as per Chapter 16 Cultural Heritage):</p> <p>Detailed design routes the microtunnel temporary access road further to the east from the cemetery providing buffer.</p> <p>Preparation and implementation of Traffic Management component of the Russian Landfall CMP and Cultural Heritage CMP</p>	Low

Continued...

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
Landfall section construction activities	<p>Reduced residential amenity for residents in Local Communities due to:</p> <p>Noise impacts from Varvarovka Bypass Road;</p> <p>Noise impacts from Pre-Commissioning of the whole Pipeline; and</p> <p>Views of the acoustic barrier along the access road and limited views of construction work on the landfall section.</p>	Residents of North East Varvarovka	High	Low	Moderate	<p>Ongoing stakeholder consultation</p> <p>Grievance Procedure</p> <p>(Mitigation as per Chapter 10 Noise and Vibration):</p> <p>Noise Barrier to protect properties;</p> <p>Selection of inherently quiet plant; care siting and orientation of plant; use of earth berms and temporary acoustic barriers.</p> <p>(Mitigation as per Chapter 13 Landscape and Visual):</p> <p>Use of suitable vehicles and good vehicle maintenance on a regular basis to reduce visibility of exhaust emissions;</p> <p>Removal of acoustic barriers as soon as possible;</p> <p>Phasing of construction;</p> <p>Avoidance of night-time construction activities as far as practicable;</p>	Moderate

Continued...

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-Mitigation Significance	Enhancement and Proposed Mitigation Measures	Residual Impact Significance
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Directional shielding for lighting;
 Construction fencing and screening;
 Progressive reinstatement of RoW in accordance with the detailed landscape restoration plan following installation of the Pipeline;
 Rehabilitation and re-vegetation as soon as practicable.

Continued...

Not Significant Impacts

The remaining residual impacts have all been assessed as being **Not Significant** and are not considered to be of concern to the Project in accordance with the proposed design controls, mitigation measures, management plans, and stakeholder engagement that will be carried out throughout the Construction and Pre-Commissioning Phase. This includes two **Low** adverse impacts on commercial tourism businesses which it is considered would be successfully mitigated for, if required, through the application of the Compensation Management Framework.

14.6.3 Impact Assessment: Operational Phase

14.6.3.1 Introduction

The following section identifies the potential impacts and risks to socio-economic receptors during the Operational Phase. For those effects where potentially significant pre-mitigation impacts are assessed (Section 14.5.3.2), potential mitigation measures have been identified (Section 14.5.3.3). This is followed by a residual impact assessment, the results of which are set out in (Section 14.5.3.4). There are some potential impacts that were not assessed for the Operational Phase and these are described below.

The Project will not create permanent employment opportunities during the Operational Phase. Therefore, any employment will be limited, occasional and temporary. Similarly, any goods and services required will be occasional and short-term. Therefore, these have not been included in the following assessment.

As demonstrated in the Appendix 14.1, the safety exclusion zones will not result in any adverse significant adverse impacts on fisheries during the Operational Phase. Furthermore, the following management measures have been committed to:

- In addition, as part of the Health and Safety Plan that will be prepared by South Stream, information on the position of the pipelines and the marine area exclusion zones / restricted areas will be provided to the relevant authorities to inform navigation charts for marine stakeholders identifying marine exclusion zones through the Operational Phase.
- The Health and Safety Plan will need to be communicated to fishing vessel operators, particularly any trawling companies, to minimise the risk of any accidents involving fishing boats and vessels.

All land that is required permanently by the Project for the establishment of landfall facilities and a permanent RoW along the Pipeline corridor will be acquired prior to the start of construction. Accordingly, the potential for impacts associated with land acquisition on land use have been considered within Section 14.5.2.

14.6.3.2 Assessment of Potential Impacts (Pre-mitigation)

Increased Demand for Russian Goods and Services (gas) and Increased Government Revenues, Taxes and Royalties

The total current gas pipeline capacity between Russia and Europe is approximately 200 bcm/year, which will increase to 318 bcm/year if South Stream and other new projects are completed. This could in turn lead to an increase in Russian gas production and sales. In this case, the Project would give rise to increased tax revenues for the Russian government of several billion euros annually.

As a result, the Project would, under this assumption, give rise to a **Beneficial** impact in terms of increased government revenues.

Fees are also payable for waste transportation and disposal, government approvals and permits. However, these fees are mainly levied to cover administrative costs and do not represent a net additional benefit to the tax base. Additionally, they are relatively modest in the context of overall government revenues so they will not yield a noticeable beneficial increase in national revenues.

Reduced Property Values

In addition to the permanent RoW (the impact of which has been assessed in Section 14.5.2.1³⁹), three Safety Exclusion Zones around the landfall section of the Project will be in place throughout the Operational Phase for the protection of public health and infrastructure. These zones will be measured from the centreline of the outermost pipelines for areas and encompassing land within three concentric rings surrounding the Pipeline and landfall facilities. These zones will place differing restrictions on land uses, according to distance from the Pipeline and landfall facilities, on the structures and activities that are prohibited within the zones, as follows:

- Exclusion Zone 1: Between 19 and 260 m from centreline of outermost pipeline: C and E-class: no isolated buildings (1-2 levels), dachas, agricultural farms⁴⁰ (covering 166.4 ha);
- Exclusion Zone 2: Between 260 and 345 m from centreline of outermost pipeline: B-class: no cities, settlements, apartments of three levels or more, no developments / buildings with less than 100 people (covering 64.7 ha); and
- Exclusion Zone 3: Between 345 and 410 m from centreline of outermost pipeline: A-class: no airports, railways station, no developments / buildings with population of more than 100 persons (covering 50.1 ha).

³⁹ All land that is required permanently by the Project for the establishment of landfall facilities and a permanent RoW along the pipeline corridor will be acquired during the Construction and Pre-Commissioning Phase.

⁴⁰ It is understood that this relates to buildings but that farming activity, e.g. agriculture, growing vines, etc. will be allowed.

Most of the land that would be included within these zones is agricultural or forest land and accordingly, industrial, commercial or residential development is not permitted. As such, the proposed safety exclusion zones would not constrain the permitted use or development of that land, and there will be no impact associated with the establishment of the safety exclusion zones for the owners or users of that land.

However, the restrictions of the safety exclusion zones could have the potential to reduce land values for private owners of sites upon which existing, proposed or permitted land uses will be precluded by the Safety Exclusion Zones, should such a scenario arise.

A part of the Safety Exclusion Zone 3 to the south of the Pipeline alignment just east of the Anapa-Sukko road, overlaps with a small area of land that falls within the southern extension of Varvarovka allowed for by the Anapa GDP and which is identified as a housing development zone in the Anapa GDP (Ref. 14.14). This land is also within the Anapolis Resort residential project which is proposed for development by Fond Yug. However, the housing zone allowed for by the Anapa GDP allows for 'cottage development' and this type of development is permissible within the development restrictions applicable within the outermost Safety Exclusion Zone 3.

Further, it appears that a very small part of Safety Exclusion Zone 3 overlaps with part of the Chateau Club Village residential and vineyard development. However, it is understood that the development falls outside of the designated boundary (i.e. urban limits) of the Varvarovka community as set out in the Anapa GDP. An illustrative plan of the development available on the development website indicates that, at the most, only one dwelling would be located within the Safety Exclusion Zone 3. Therefore, as with the Anapolis development, it would appear that the proposed development is permissible within the development restrictions applicable within the outermost Safety Exclusion Zone.

Accordingly, the overlap between Safety Exclusion Zone 3 and the land in question that falls within the southeast and northwest extremities of the Project Area will not preclude development as allowed for within the Anapa GDP. Accordingly, there would not be any impact on the land.

On this basis, although the imposition of safety exclusion zones associated with the Operational Phase would be permanent in effect, they would not restrict the development potential of the site as allowed for by the Anapa GDP. Hence, there would not be any impact on land owners.

However, it is understood that the Anapa GDP was recently amended to accommodate the Project and it is possible that the amendments to the plan have reduced the value of the land in question. Additionally, the proximity of the developments to the scheme may reduce the final sale values that the developer is able to achieve. Therefore, the land value may be reduced.

Given the potential for reductions in land value, South Stream Transport will complete a negotiated settlement with the land owner, Fond Yug, in accordance with South Stream Transport's Land Acquisition Plan. The Plan has been drafted in accordance with Russian legislation and the objectives of IFC PS5, applying the higher of the two standards wherever they are not consistent. The Plan provides for compensation, including for any reduction in land values as a result of the Project, based on a valuation mechanism conducted in accordance with the objectives of IFC PS5 or national legal requirements, whichever is the greater. The amount of compensation is being determined by an internationally recognised independent third party

and the scope of work for the valuation has been agreed by both South Stream Transport and Fond Yug. Accordingly, any financial impacts on the landowner identified as a result of the establishment of the safety exclusion zones associated with the Operational Phase will be taken into account as part of the negotiated settlement undertaken according to the Land Acquisition Plan and national regulations. Further details on the approach to compensation for any reductions in property values as a result of the Project can be found in the South Stream Transport Land Acquisition Plan.

Taking account of all factors, it is considered that the magnitude of impact would be low. Given that the scale and geographical breadth of Fond Yug's investments, it is considered that the organisation has low sensitivity. As such, it is assessed that any reduction in land value, if occurring, will have a **Low** adverse significance impact on the receptor.

14.6.3.3 Mitigation and Monitoring

The mitigation recommended in relation to each of the significant adverse impacts is set out below. Enhancement measures, which have the potential to enhance beneficial outcomes of the Project, are also addressed.

General Mitigation and Enhancement Measures

The general mitigation and enhancement measures presented in Section 14.5.2.2 in relation to the Construction and Pre-Commissioning Phase (i.e. the Grievance Procedure; the Project Compensation Management Plan; and ongoing Stakeholder Engagement) will all apply in the Operational Phase. Each measure will be tailored as appropriate to the Operational Phase. Further detail in relation to the Grievance Procedure and stakeholder engagement is provided below.

Grievance Procedure

South Stream Transport will continue to implement the Grievance Procedure throughout the Operational Phase with any necessary revisions to ensure it is appropriate to this phase of the Project. As during construction, the Grievance Procedure will ensure that complaints and grievances are brought to the attention of the appropriate Project staff and addressed in an appropriate and timely way, following a standard procedure of investigation, analysis, and resolution. It will also ensure that resolutions are documented and communicated to the appropriate stakeholders. The Grievance Procedure is referred to in **Chapter 6 Stakeholder Engagement** and further described in the Stakeholder Engagement Plan.

Ongoing Stakeholder Engagement

Information on restricted areas under the onshore and marine safety exclusion zones will be provided to the relevant authorities to inform navigation charts for marine stakeholders identifying marine exclusion zones through the Operational Phase.

As for other groups (and the public), South Stream Transport will continue a programme of stakeholder engagement throughout the Operational Phase. These engagement activities will be commensurate with the level of Project activities and all stakeholders will be informed of any significant upcoming activities and changes, as appropriate. The stakeholder engagement

activities are described further in the Stakeholder Engagement Plan and in **Chapter 6 Stakeholder Engagement**.

Economic Impacts

Mitigation in case of Reduced Land Values

South Stream Transport will consult the Russian authorities and obtain the necessary permits and consents for all activities. As part of South Stream Transport's Stakeholder Engagement Plan, consultation with affected landowners and implementation of the Grievance Procedure will help to ensure a timely and appropriate response to concerns by landowners and that any issues raised are addressed accordingly.

South Stream Transport will complete a negotiated settlement with the land owner, Fond Yug, in accordance with South Stream Transport's Land Acquisition Plan. The Plan has been drafted in accordance with Russian legislation and the objectives of IFC PS5, applying the higher of the two standards wherever they are not consistent. Any financial impacts on the landowner identified as a result of the establishment of the safety exclusion zones associated with the Operational Phase will be included as part of the negotiated settlement. Further details on the approach to compensation for any reductions in property values as a result of the Project can be found in the South Stream Transport Land Acquisition Plan.

Monitoring As set out in **Chapter 22 Environmental and Social Management**, an overarching Operations Management Social Plan and an Employment Plan will be implemented in the Operational Phase. In light of the nature of the Project and existing baseline conditions, the Operational Phase socio-economic impact assessment has not identified any significant impacts and therefore assessment of those issues which would usually be monitored has been screened out. It is not foreseen that any issues would require a targeted monitoring programme beyond those already discussed.

Nevertheless, socio-economic issues and concerns will be monitored through the ongoing stakeholder engagement program and Grievance Procedure, and solutions to issues or grievances will be developed in consultation with affected stakeholders. If the Project does give rise to any unanticipated social or economic adverse changes within the Local Communities, it will allow for mitigation measures to be developed and implemented, if needed.

14.6.3.4 Residual Impacts: Operational Phase

Table 14.16 presents a summary of the potential Operational Phase residual socio-economic impacts arising from the Project following application of the identified mitigation measures.

Beneficial Impacts

The Project will result in the following **Beneficial** residual impacts, *inter alia*:

- Increased government revenues.

Table 14.16 Summary Table – Residual Socio-economic Impacts during Commissioning and Operational Phase

Activity	Impact	Receptor	Sensitivity of Receptor	Magnitude of Impact	Pre-mitigation Significance	Mitigation Measures	Residual Impact Significance
<i>Economic Related Impacts</i>							
Operation of the Pipeline	Increased demand for Russian goods and services (gas) and increased government revenues, taxes and royalties	Russian oil and gas industry	Not identified	Not identified	Beneficial	Not applicable	Beneficial
		National government and Russian taxpayers	Not identified	Not identified	Beneficial	Not applicable	Beneficial
Landfall operational exclusion zones	Reduced property values (due to the Project and creation of Operational Phase safety exclusion zones)	Private owners of sites upon which existing, proposed or permitted land uses will be precluded by the Safety Exclusion Zones	Low	Low	Low	Ongoing stakeholder consultation Grievance Procedure Land Acquisition Plan (covering policy, approach and plan for land acquisition) resulting in negotiated settlement with landholder	Not significant

Adverse Impacts

There would be no residual adverse impacts on receptors as a result of the commissioning and operation of the Project.

Not Significant Impacts

The remaining impacts are all **Not Significant** and are not considered of concern to the Project.

14.6.4 Impact Assessment: Decommissioning Phase

The Project will be decommissioned many years into future⁴¹ and impacts during the Decommissioning Phase depend on the alternatives chosen at that time – preservation of the pipelines in place or complete or partial removal. If the latter option is chosen and construction activities (e.g. excavation, removal of pipeline, land rehabilitation) are carried out or construction equipment is used, then impacts are expected to be similar to those assessed in Section 14.5.2 in relation to the Construction Phase – i.e. generation of employment (beneficial impacts), increased demand for goods and services (beneficial impacts), and impacts on land users (potentially adverse, depending on whether or not productive land uses such as agriculture were disturbed). However, such impacts are likely to be at lower levels and short-term. Assuming that the restriction on areas governing the type and scale of development that can take place on land within certain circumference of the Pipeline are removed, there may be beneficial impacts for land owners associated with the liberalisation of development rights.

A careful record and archive of construction and operation activities will be maintained in a suitable format for future users of such information. It will include any special mitigation measures that were applied retrospectively, in addition to those identified prospectively in this impact assessment. It will also record all unexpected events that occurred during the Construction and Pre-Commissioning and Operational Phases of the Project.

14.7 Unplanned Events

The potential impacts associated with unplanned events are discussed in **Chapter 19 Unplanned Events**.

14.8 Cumulative Impact Assessment

The cumulative impacts associated with the Project relating to socio-economics are assessed in **Chapter 20 Cumulative Impact Assessment**.

⁴¹ The Project Life (i.e. the duration of the Operational Phase) is estimated to be approximately 50 years. As such, decommissioning would take place sometime in the mid to late 2060s.

14.9 Human Rights

Terms to Know – Human Rights

Actual human rights impact	An “actual human rights impact” is an adverse impact that has already occurred or is occurring.
Potential human rights impact	A “potential human rights impact” is an adverse impact that may occur but has not yet done so. Potential impacts are analogous to human rights risks, i.e. the risks that an activity may lead to one or more adverse human rights impacts.
Adverse human rights impact	An “adverse human rights impact” occurs when an action removes or reduces the ability of an individual to enjoy his or her human rights.

According to UN Guiding Principles on Business and Human Rights (Ref 14.69), companies should respect Human Rights in projects and operations by seeking to prevent or mitigate potential Human Rights issues that may be caused directly by a Company’s projects or operations, or by project partners and suppliers. According to IFC Performance Standard 1, *“each of the IFC Performance Standards has elements related to human rights dimensions that a project may face in the course of its operations. Due diligence against these Performance Standards enables companies to address many relevant human rights issues in its project.”* The UN Guiding Principles, the IFC Performance Standards and other International Labour Organisation (ILO) standards are the benchmark for guiding companies in ensuring respect for Human Rights.

Russia is a signatory and party to many International Human Rights Conventions and Legislation which are detailed in **Chapter 2 Policy, Regulatory and Administrative Framework**.

Due to the fact that Human Rights factors are most usually linked with socio-economic factors, this section of the chapter discusses the findings of the Human Rights Due Diligence process.

14.9.1 Due Diligence Process

As previously discussed, the Project is not considered high risk from a socio-economic standpoint and there are no significant socio-economic triggers which would necessitate a Human Rights Impact Assessment separate from the ESIA. However, South Stream Transport undertook a voluntary Human Rights Due Diligence complementary to the environmental and social risks and impact identification process. The Due Diligence process also allows the Project to ensure there is a system in place to proactively monitor potential issues and concerns throughout the Project’s lifecycle.

The goals of the Project’s Due Diligence process were to:

- Identify, prevent, mitigate and account for actual or potential Human Rights impacts;
- Ensure policies and processes to manage Human Rights issues are in place;

- Express commitment to respect Human Rights through a policy endorsed by senior leadership;
- Ensure communication takes place with stakeholders about how issues will be addressed; and
- Ensure a Grievance Procedure is in place to enable Local Communities and other stakeholders to raise any human rights issues.

A Human Rights register was produced which identified the various elements of the Project and their interaction with actual or potential Human Rights impacts. Wherever possible, Human Rights mitigation and monitoring efforts to address these impacts tie into the Project's existing corporate standards, policies, and procedures as outlined in the Environmental and Social Management Plan (ESMP) (see **Chapter 22 Environmental and Social Management**). A summary of the potential impacts and related Project responses are provided below.

The Due Diligence process recognises that the Human Rights risks may change over time as the Project evolves from the Construction and Pre-Commissioning Phase through the Operational Phase into the Decommissioning Phase. As such, the Project's Human Rights Due Diligence is an iterative process whereby business operations and operating context will be examined on a regular basis.

14.9.2 General Policies and Procedures

During the Due Diligence process, all Corporate and Project policies, plans and procedures were reviewed to ensure a commitment from the senior level of management to protect and manage Human Rights. In addition, contractual language was reviewed to ensure that business relationships, including subcontractors and supplier relationships, are bound by the same policies and procedures.

South Stream Transport abides by its Corporate Social Responsibility and Sustainability Policy which outlines the Company's Guiding Principles and commits to applying the principles by: *"respecting internationally recognised Human Rights in our own operations, and promoting the respect of the aforementioned rights with regard to activities assigned to or carried out with Business Partners and in our relationships with stakeholders;"*

In addition, the Company commits to respecting the UN Global Compact Principles which are *"the protection of international human rights; rights to free association, collective bargaining, and employment non-discrimination; protection and preservation of the environment; and elimination of corruption, including bribery and extortion"*.

Corporate commitments are contained in the Health, Safety, Security and Environment (HSSE) and Corporate Social Responsibility (CSR) requirements outlined for all contractors and suppliers. This ensures that respect for Human Rights is part of contractual relationships and adhered to in direct business activities.

14.9.3 Labour and Working Conditions

Workers are an important group of stakeholders who may be subject to a range of direct impacts, potentially both beneficial and adverse, in terms of access to employment, the terms and conditions of that employment, and their health, safety and welfare whilst working on the Project.

Considering the Project has a robust Health, Safety, Security and Environment Integrated Management System (HSSE-IMS), the Due Diligence process did not identify any potential impacts in relation to labour and workforce health and safety. Instead, it focused on five primary themes in regards to Project labour and working conditions which, if not properly addressed, could lead to Human Rights impacts:

- Freedom of association and effective recognition of the right to collective bargaining;
- Measures to support a diverse workforce and prevent discrimination;
- Processes and measures to ensure safe working conditions;
- Recruitment processes are fair and transparent; and
- Sufficient processes are in place to ensure no use of forced, compulsory or child labour (either directly or in supply or processing chains).

In order to mitigate for potential risks and impacts on the Project Workforce, it was determined that the Project will adopt the following policies and practices:

1. Human Resources Policy: The formulation and implementation of a Human Resource Policy addressing all the requirements of IFC PS 02 will mitigate these risks (and potential impacts). The Human Resources Policy will be implemented via South Stream Transport's ESMP (**Chapter 22 Environmental and Social Management**);
2. Working Relationship: The underlying agreements for all working relationships will be documented by South Stream Transport, and its contractors and subcontractors, and communicated to the Project workforce. All workers will be informed about their working conditions and terms of employment and entitlements to wages and other benefits. All workers will be provided with a written contract containing this information in an appropriate language and/or method;
3. Working Conditions and Terms of Employment: South Stream Transport, and its contractors and subcontractors, will respect the agreed working conditions and terms of employment of the Project workforce (including wages and benefits, hours of work, overtime arrangements and overtime compensation, leave for illness, maternity, public holidays and annual leave);
4. Workers Organisations: South Stream Transport, and its contractors and subcontractors, will allow workers to form and join workers' organisations of their choosing and to bargain collectively in accordance with Russian national law;
5. Non-Discrimination and Equal Opportunity: South Stream Transport, and its contractors and subcontractors, will base the employment relationship on the principles of equal opportunity and fair treatment and ensure that no employment decisions (including those related to recruitment and hiring, compensation, working conditions and terms of

employment, access to training, job assignment, promotion, termination of employment or retirement and discipline) are made on the basis of personal characteristics unrelated to inherent job requirements;

6. **Grievance Procedure:** South Stream Transport will ensure that a Grievance Procedure for the Project workforce and contractors is implemented (available either directly via South Stream Transport or via contractors) to allow workers to raise reasonable concerns related to working conditions. South Stream Transport, and its contractors and subcontractors, will inform workers about the procedure when they are hired and (again) when they commence work on the Project site or vessels and ensure that the mechanism is easily accessible. The Grievance Procedure will be supported by an appropriate level of management, and address concerns promptly through an understandable and transparent process providing feedback to those concerned without any retribution. Additionally, the Grievance Procedure will not impede access to other juridical remedies or arbitration procedures; and
7. **Child or Forced Labour:** The minimum age of employment in Russia is 16. In accordance with South Stream Transport's and its contractors' and subcontractors' hazard identification and safety risk management procedures, all parties will ensure that no persons under the age of 18 are employed in hazardous work or in a manner that is economically exploitative, or is likely to be hazardous or to interfere with the child's education or be harmful to the child's health and physical, mental, spiritual, moral or social development. All work of persons under the age of 18 will be subject to an appropriate risk assessment and regular monitoring of health, working conditions and hours of work. Procedures for appropriate risk assessment, regular health monitoring, and for defining working conditions and hours of work for South Stream Transport, contractor and subcontractor employees more generally are addressed in Appendix 15.1 Occupational Health and Safety. South Stream Transport, and its contractors and subcontractors, will not employ forced labour.

14.9.4 Local Communities

To mitigate any potential Human Rights impacts on Local Communities, South Stream Transport has instituted a Stakeholder Engagement Plan as outlined in **Chapter 6 Stakeholder Engagement** which ensures consultation with Local Communities, as well as implementation of a Grievance Procedure to ensure a timely and appropriate response to concerns by Local Communities and that potential impacts are addressed appropriately.

14.9.5 Supplier Engagement

The Due Diligence focused on the fact that Human Rights impacts can be linked to Project activities as a result of the behaviour of parties with which the Project is associated, not only direct impacts caused by South Stream Transport. This is particularly relevant because construction of the South Stream Offshore Pipeline is likely to be undertaken entirely by contractors and subcontractors. It was therefore determined that there could be a potential risk of harmful child labour taking place within the supply chain if not properly managed.

To avoid potential impacts in the supply chain, all mitigation requirements set out above under Labour and Working Conditions will apply to South Stream Transport's contractors, subcontractors, and direct supplier requirements. South Stream Transport will also assess its primary supply chain in relation to this issue on an on-going basis.

14.9.6 Security Provision

The Due Diligence process examined several factors associated with security provision following the guidance as set forth in the Voluntary Principles on Security and Human Rights (Ref. 14.70.) It was determined that a risk of conflict could affect the security environment in a manner that might infringe upon the rights of Local Communities given the history of local security forces in Russia. The track record of public or private security providers in Russia in terms of Human Rights is believed to be weak in the area of training.

In order to reduce the risk of human rights abuses against Local Communities by security forces, whether the security forces are directly employed by the Project, contractors or state security forces, South Stream Transport will ensure training for security forces on escalation of force and protection of Human Rights. Furthermore, South Stream Transport will use its contractual process to ensure that provisions are in place for the conducting of background checks on security staff, as well as monitoring of performance.

Policies, plans and procedures to protect the safety and security of the workforce, community and other Project stakeholders, including provisions for ongoing monitoring and auditing, are documented in the Project HSSE-IMS.

14.10 Conclusions

14.10.1 Summary of Impact Assessment

In terms of economic related impacts, the assessment has identified that the Project will result in limited temporary beneficial economic impacts as a result of additional employment and increased demand for goods and services at the local level during the Construction and Pre-Commissioning Phase. In the longer term, it has also identified beneficial economic impacts at the national level associated with an increase in revenues for both the Russian gas industry and the Russian Federal government, due to the increase in Russian gas exports that the Project will enable.

During the Construction and Pre-Commissioning Phase, there is the potential for **Low** adverse economic pre-mitigation impacts on Shingari and Don Holiday Complexes and the Anapa Resort Town municipal district tourism sector due to potential impacts on the coastal area amenity that may affect customers of tourism businesses in the area, and thereby potentially reduce revenues for tourism-related businesses. However, the implementation of mitigation, including the Compensation Management Framework, would successfully mitigate for financial impacts on any businesses and as a result, it is considered that impacts on any businesses would be **Not Significant**. There is also the potential for a moderate adverse pre-mitigation impact on the Varvarovka Horse Riding Business, in a worst-case scenario if that businesses' access to a riding route is interrupted or severed. However if the worst-case scenario does occur, the application

of mitigation including the Compensation Management Framework and Livelihood Restoration Framework, would reduce the impact significance to **Low** adverse.

The requirement by the Project for land on both a temporary and permanent basis will also result in **Low** adverse impacts due to the take up of Agrifirm Kavkaz vineyards and associated economic displacement of vineyard activity; however it is considered unlikely that there would be any loss of employment as the vineyard operator is likely to be able to redeploy workers to other areas and tasks within the vineyard. The application of mitigation, including the Grievance Procedure and, if applicable, access to the Compensation Management Framework and Livelihood Restoration Framework would apply. However, it is cautiously considered that the residual impact would remain unchanged; i.e. a **Low** residual impact, owing to the vulnerability of the migrant workers and the nature of the process required to restore livelihoods to pre-impact levels, should that be necessary. However, it is important to note that, based on the assessment of impact magnitude, it is not anticipated that there will be any economic displacement of agricultural workers (migrant or otherwise) as a result of the Project.

With regard to community-related impacts, the construction of the Project may result in **Low** adverse residual impacts on the amenity enjoyed by recreational users of Sukko and Shingari beach, and also on the amenity experienced by visitors to the Varvarovka village cemetery. During the Construction and Pre-Commissioning Phase, residents of north-east Varvarovka that are proximate to the Varvarovka Bypass Road would experience noise and visual impacts; giving rise to overall adverse impact on their amenity. Mitigation measures specific for these impacts have been identified in **Chapter 10 Noise and Vibration** and **Chapter 13 Landscape and Visual**. However, given these mitigation measures have been taken account of in the amenity assessment, it is expected that the residual amenity impact would remain **Moderate** adverse, short term and temporary.

During the Operational Phase, there would be beneficial economic impacts at the national level in terms of increased demand for Russian goods and services (gas) and increased government revenues, taxes and royalties. There would not be any adverse socio-economic impacts associated with the Project during the Operational Phase.

With regard to Human Rights, there were no significant adverse potential impacts identified that cannot be mitigated through adherence to policies, plans and procedures, as well as through community engagement. Human rights issues within the supply chain will be monitored on an ongoing basis which is provided for in the Project HSSE IMS. Furthermore, the Due Diligence process recognises that the Human Rights risks may change over time as the Project evolves from the Construction and Pre-Commissioning Phase into the Decommissioning Phase. As such, the Project's Human Rights Due Diligence is an iterative process whereby business operations and operating context will be examined on a regular basis.

14.10.2 Overview of Mitigation Measures

This assessment has set out recommendations for mitigation measures. The measures include:

- A range of construction management and environmental and social management processes and procedures to avoid, or where avoidance is not possible, minimise the potential for

adverse impacts, including amenity-related (e.g. air quality, dust, noise, vibration and visual) impacts;

- Ongoing stakeholder engagement, including regular community liaison, during construction of the Project to inform and update stakeholders about planned construction activities and the construction programme;
- A Grievance Procedure to allow for prompt, transparent and satisfactory handling of grievances raised by stakeholders, including from within the Local Communities and the Project workforce;
- Appropriate compensation mechanisms, including within the Compensation Management Framework, to compensate businesses, land owners, and other potentially affected stakeholders for any reduction in business revenues or economic losses that arise as a result of the Project; and
- Appropriate livelihood restoration mechanisms, if necessary, included within the Livelihood Restoration Framework, to restore livelihoods to their pre-impact status.

14.10.3 Stakeholder Concerns and Community Investment Programme

Stakeholders have expressed a range of concerns related to the construction and operation of the Project, including concerns related to traffic, the environment, and economic opportunities. The mitigation measures described in this chapter (and in the chapters addressing other types of impacts) are intended to minimise or avoid potential adverse impacts of the Project, and to enhance local benefits. South Stream Transport will implement the measures necessary to reduce adverse impacts as much as practicable, and to enhance benefits, throughout the life of the Project.

It is not possible to address all stakeholder perceptions and concerns within the scope of the ESIA Report. Some concerns fall outside the scope of the Project's influence, such as gas supply, community development, and political or regulatory concerns. However, there may be ways in which South Stream Transport can support positive changes and initiatives in Local Communities beyond the immediate scope of Project impacts. To this end, South Stream Transport has a Community Investment Programme, and will work with local stakeholders and agencies to identify potential themes and initiatives for investment. Although potential areas for Community Investment are not included in the assessment of this ESIA Report (i.e. they are not considered to be 'mitigation' measures), they may complement or build upon Project-specific mitigation measures, as well as existing programmes and initiatives in the Local Communities. Community Investment activities will be developed and implemented in consultation and partnership with the relevant stakeholders.

14.10.4 Conclusions

The mitigation measures identified are intended to systematically avoid and reduce the potential for adverse impacts associated with the Project, or where this is not possible to compensate for adverse impacts on receptors. Assuming that the mitigation measures suggested in this assessment are successfully implemented, it will be possible for the Project to mitigate

significant adverse effects associated with the Project to the degree that all adverse impacts after mitigation would be **Low** or **Not Significant** with the exception of short term and temporary impacts on the amenity of residents in North East Varvarovka with a **Moderate** impact.

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