

REPORT N° 70017146--001

MAKINSK POULTRY FARM PROJECT

SOCIAL AND HEALTH IMPACT ASSESSMENT
(SUPPLEMENTARY INFORMATION REPORT)

CONFIDENTIAL

APRIL 2016

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EBRD

**Final
Confidential**

Project no: 70017146

Date: April 2016

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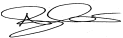



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QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Draft for Review	Incorporate comments		
Date	January 2016	April 2016		
Prepared by	Susan Wood Elizabeth Watts Felix Oku	Susan Wood Elizabeth Watts Felix Oku		
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Checked by	Neal Barker	Neal Barker		
Signature				
Authorised by	Neal Barker	Neal Barker		
Signature				
Project number	70017146	70017146		
Report number	Draft Version 1	Final		
File reference	E09\projects\2015	E09\projects\2015		

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1 INTRODUCTION

1.1 BACKGROUND

The European Bank for Reconstruction and Development (the “EBRD” or the “Bank”) is considering providing finance to the Ust-Kamenogorsk Poultry Farm Joint Stock Company (JSC) (“UKPF” or the “Company”) which is one of the largest vertically integrated poultry producers in Kazakhstan.

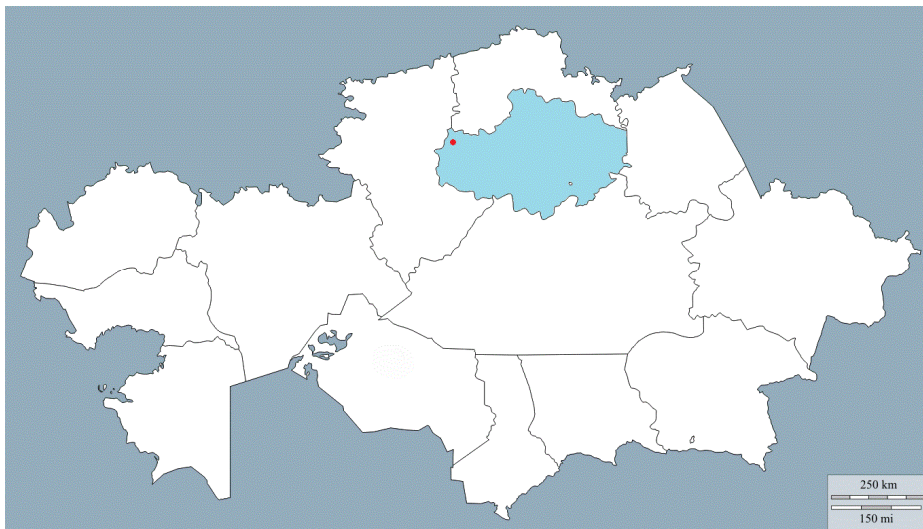
The proceeds of the Bank’s investment will partially finance UKPF’s construction of a new integrated broiler production site and a feed mill at Makinsk (together “the Project”). The investment programme is planned to be implemented over 3 years (2016–19), with main construction phase to last a period of 38 months during 2016–19.

WSP | Parsons Brinckerhoff (WSP| PB) has been commissioned by EBRD to prepare a *Supplementary Information Report* (SIR) that includes this Social and Health Impact Assessment following an environmental and social gap analysis for the proposed Makinsk Poultry Farm to be in line with EBRD’s Performance Requirements (PRs) and EU EIA Directive requirements.

1.2 SITE AND LOCATION

The proposed development would be located on agricultural land to the west of Makinsk. Makinsk (indicated by the red dot in Map 1.1) is a town in northern [Kazakhstan](#). It is the administrative center of [Bulandy district](#) in the [Akmola region](#) (shown in blue in Map 1.1).

Map 1-1 Site location map



The proposed site lies immediately to the west of the town of Makinsk. The land required for the poultry farm is all owned by the State. In total, the farm will require 301 hectares, of which 76 hectares is for the farm area for the technical aspects of the farm whilst a further 225 hectares will be used for the associated infrastructure such as the electrical, water and wastewater systems. Further details of the proposed farm are provided in Chapter 2 of this report.

The social and health context of the site is described fully in Chapter 4 of this report.

1.3 SCOPE OF THE SOCIAL AND HEALTH IMPACT ASSESSMENT (SHIA)

The objective of the Social and Health Impact Assessment (SHIA) is to address gaps identified as part of a Performance Requirement (PR) Compliance Assessment and ESIA Gap Analysis of the existing EIA to EU EIA Directive standards, completed by WSP| PB in December 2015 as part of the Environmental and Social Assessment and Audit (including animal welfare and biosecurity) of Ust-Kamenogorsk Poultry Farm JSC in December 2015. The purpose of this SHIA is to address the shortcomings wherever practicable.

It is intended that this SHIA, together with the documents listed below, will constitute an ESIA compliant with EBRD policy and safeguarding requirements, that can be released for public disclosure and consultation in Russian and English.

In summary, the combined information will collectively provide:

- An Environmental Impact Assessment (EIA) Supplementary Information report (SIR);
- An Environmental and Social Action Plan (ESAP);
- A Non-technical Summary (NTS);
- A Stakeholder Engagement Plan (SEP); and,
- A Land Resettlement Framework (LRF).

In particular, this SHIA will:

- Provide an initial evaluation of the social and health baseline survey information;
- Define the baseline social and health conditions;
- Assess the potential areas of project influence¹;
- Undertake a social and health impact assessment; and
- Define key areas which are important for future monitoring and potential intervention or mitigation, and document these in the Project Environmental and Social Action Plan (ESAP)

This SHIA is primarily based on the information provided to WSP | PB by the EBRD and by the Project Developer, Makinsk Poultry Farm (MPF), supplemented where possible with readily available public information (as referenced throughout this report). The key documents are the EIA and Gap Analysis Reports

Due to time constraints, further specialist surveys have not been undertaken at this stage to prepare this ESIA, however, where required, further specialist assessments have been proposed as part of an Environmental and Social Action Plan for the project. This approach has been adopted as further studies may only be possible when the project design information is further developed.

WSP | PB has been supported by local consultants, *Eco Social Analyst Consultants*, based in Kazakhstan.

¹ IFC Performance Standard 1 states: Where the project involves specifically identified physical elements, aspects, and facilities that are likely to generate impacts, environmental and social risks and impacts will be identified in the context of the project's area of influence.

1.4 METHODOLOGY AND IMPLEMENTATION

The steps that have been undertaken include:

- **Stage 1:** An initial evaluation of social and health baseline information compiled by Eco Social Analysts Consulting to identify key themes and review initial patterns to inform Stage 2;
- **Stage 2:** Identification of social and health guideline standards to develop relevant project expectation, to include EBRD Performance Requirements, IFC standards and good practice note on social assessment of major projects, UN Global Compact / labour standards, WHO community health guidelines and other investor lead guidelines (e.g. Equator Principles III);
- **Stage 3:** Assessment of the potential areas of project influence, including identification of the areas of potential significant impact;
- **Stage 5:** Development of key areas which are important for future monitoring and potential intervention or mitigation, and include these in the Project Environmental and Social Action Plan (ESAP).

1.5 CONTENT AND FORMAT OF THE SHIA

The SHIA has adopted the following structure:

- Chapter 1: Introduction
- Chapter 2: Summary of the Project
- Chapter 3: Local Governance and Administration Framework
- Chapter 4: Baseline Social and Health Conditions
- Chapter 5: Assessment of Potential Social and Health Impacts
- Chapter 6: Summary of Social and Health Impacts and Mitigation Measures

1.6 PROJECT AREA OF INFLUENCE

The area of influence in respect of this project is the investment programme proposed for the development of the new poultry farm at Makinsk and its associated infrastructure such as feed mill, wastewater treatment plant, composting process and water supply.

From the perspective of the Makinsk Poultry Farm, the Project Affected Area is the units that comprise the farm and its associated infrastructure and the immediate vicinity, including the residential areas 125m away from the hatchery unit and 1,250m away from some of the main farm buildings. The Project Area of Influence extends to the settlements nearby including the town of Makinsk.

1.7 ASSUMPTIONS AND LIMITATIONS

The key assumptions that have been made, and any limitations that have been identified in producing this SHIA are set out below;

- Third party data supplied to WSP | PB is complete and accurate;
- The principal land uses in the surrounding environs will remain unchanged;
- The scheme description will be as outlined in the “Summary of the Project” section below;
- Operation activities will be undertaken during normal industrial operating hours; and,
- The mitigation and enhancement measures in this report will be implemented as appropriate.

2 SUMMARY OF THE PROJECT

2.1 INTRODUCTION

This chapter provides a summary of the proposed development and describes the layout of the planned poultry farm and its associated infrastructure. The description of the project, its components and activities has been provided, and is based on, the EIA completed by MPF in 2014.

2.2 DESCRIPTION OF THE SITE AND ITS SURROUNDINGS

The proposed development is located on green field agricultural land to the west of the town of Makinsk, north-central Kazakhstan. The site falls within the administrative centre of Bulandy District in the Akmola Region. The Akmola Regional capital is Kokshetau.

The Kazakhstan capital, Astana, is also located within the Akmola Region, however, Astana is politically separate from the wider Akmola Region.

The project will occupy an area of 301 hectares of which 76 hectares is for the farm area for the technical aspects of the farm whilst a further 225 hectares will be utilised for the associated infrastructure such as the electrical, water and wastewater systems. The Akmola region's population is 748,300, of which 124,000 are located within the Region's Capital, Kokshetau.

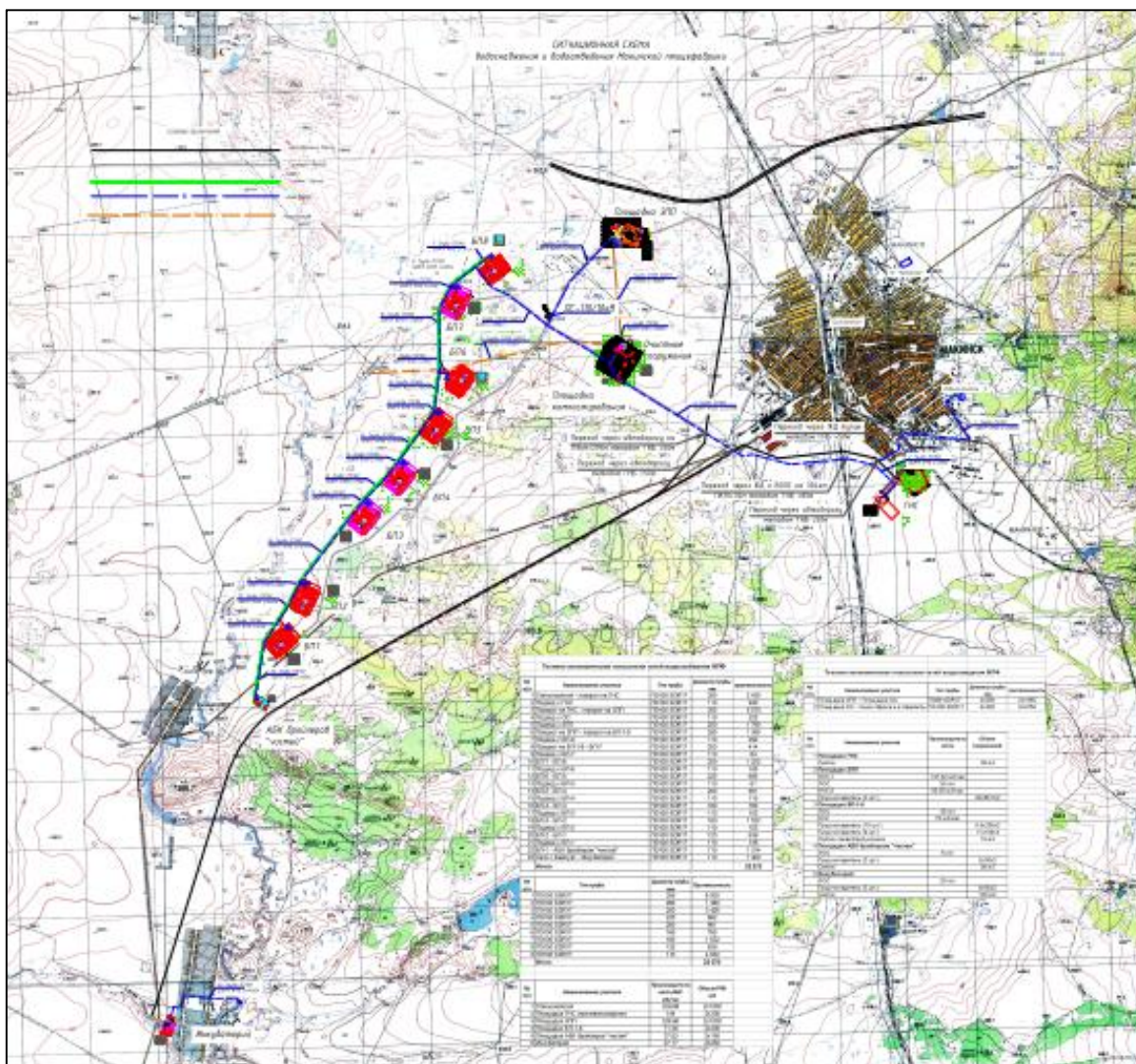
Akmola is one of only two regions that are not adjacent to a national borders. Akmola Region borders North Kazakhstan Region in the north, Pavlodar Region in the east, Karagandy Region in the south, and Kostanay Region in the west. Map 2-1 below shows the location of Akmola Region within Kazakhstan.

Map 2-1 Akmola Region of Kazakhstan



The proposed site lies immediately to the west of the town of Makinsk with the farm units in excess of 2km from the town with the associated infrastructure such as the feed mill, water treatment, wastewater treatment and composting facility closer to the town. Map 2-2 shows the layout of the farm units and associated infrastructure.

Map 2-2 Proposed Layout of Farm units and associated infrastructure



The proposed site near to Makinsk has started limited construction in 2015 with the foundations finished for the Hatchery and the slaughterhouse foundations almost finished. The remainder of the main construction programme will take place between 2016 and 2019 and last for a period of about 38 months.

Figure 2-1 overleaf provides an aerial view of the schematic layout of the proposed Project design.

Figure 2-1 Schematic layout of the proposed Project design



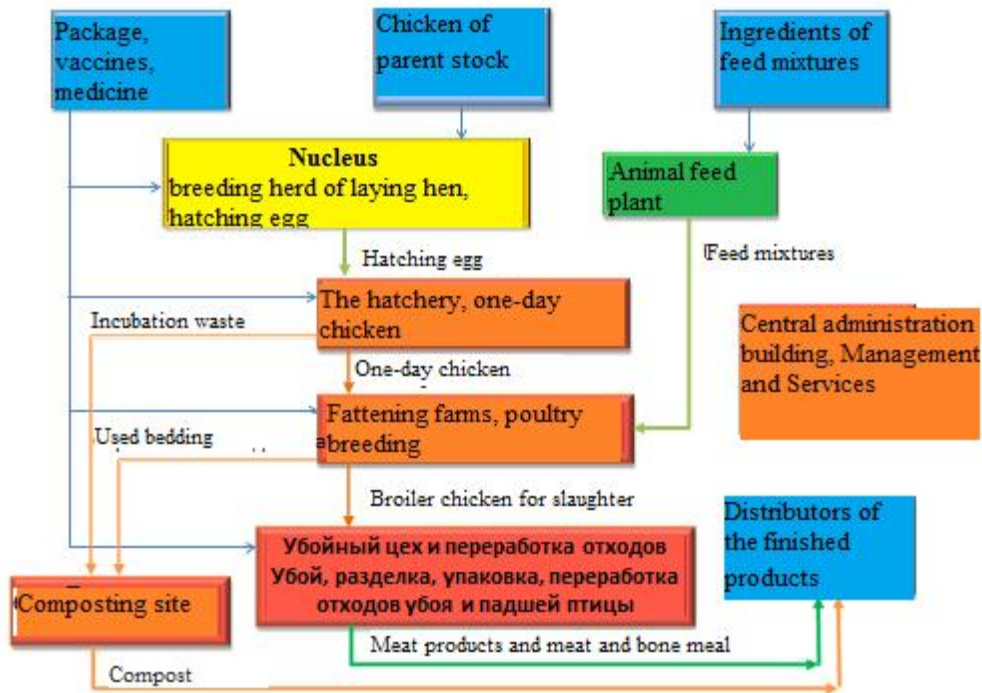
2.3 PROPOSED PLANT MANAGEMENT

Project management of the new farm is managed by a Director who was specifically recruited from a poultry business in the Ukraine in order to build and operate the new facility. Project design is reported to have been fully consulted with the Bulandy regional council who have been involved in discussions over the design during the previous 1.5 years. The construction company (LLP "Sary Arka Construction Corporation) who are building the new farm appear knowledgeable on the new project with the plans at the construction site as well as their offices at Makinsk.

2.4 PROPOSED SITE OPERATIONS

The poultry farm process begins with the hatching of eggs supply in an 'Incubator Cellar'. This is followed a 21 day incubation process, resulting in broiler chicks hatching. At the end of the process one day-old chicks are taken by special vehicles to 'Broiler Houses' for housing into the poultry houses intended for growing the broiler chickens. For 40-42 days in the poultry houses process of poultry growing is continued in accordance with the production schedule of housing. At the end of the growing cycle poultry should be prepared to slaughter and transported for slaughter to a poultry processing plant. After a series of processes, such as stunning, slaughter, bleeding, scalding, removal of feathers, gutting, cleaning, cooling, cutting, sorting and packaging, the final product should be taken out to the central storage and end product distribution warehouses.

Figure 2-2 Process Layout of Proposed Makinsk Site



Note:

- Brown color indicates the units of the projected Poultry farm;
- Green color designates the objects constructed at the first stage, parallel to the construction of Poultry farm on individual projects;
- Orange color designates the objects, constructed at the second stage on individual projects
- Blue color designates the organizations, performing a contract.

The production capacity of the proposed farm is planned to be 60 thousand tonnes of live weight annually. The key proposed farm activities are detailed in Table 2-1 below:

Table 2-1 Description of Farm and associated infrastructure

ELEMENT	DESIGN PARAMETERS AND DETAILS
Farms	<p>The key farm activities are detailed below:</p> <ul style="list-style-type: none"> ■ 62,258 tons of live weight annually; ■ 8 broiler farms with 12 houses each comprising with their own associated checkpoint building for biosecurity control; ■ Chickens for slaughter; ■ incubator- chicks; ■ incubator- hatching eggs; ■ slaughter floor; ■ Dirty and clean roads to ensure biosecurity; ■ Rendering facility; ■ Laundry; ■ Central warehouse; ■ Garage for 12 cars; and ■ Gas fired hot water boilers with a capacity of 6.8MW. Gas fired boiler providing 15 tons of steam per hour.
Feed Mill	<p>Feed is delivered from the feed mill to the farm with 3-4 days margin. The grain elevator, located in Makinsk, was acquired where it is planned to build the feed mill with the capacity of 20 tonnes per hour. The feed mill is planned to be operational run simultaneously with the first stage of the poultry farm. It is planned that this plant will provide 100% of the feed for the poultry farm complex.</p> <p>The following equipment is to be installed at the feed mill:</p> <ul style="list-style-type: none"> ■ Scales; ■ Transport lines-conveyors and bucket elevators ■ Crushers ■ Mixers ■ Mixer Granulator ■ Sifter (separator) ■ Elevator equipment <p>Reception: Transporters with 36 internal silos and 8 street silos</p>
Composting Pad	<p>The composting process will process 73,727 tons per year of waste.</p> <p>The litter from the broiler houses is shipped using litter dump trucks to the composting pad with a frequency according to the production schedule of the MPF which will be based on the 42 day growing cycle of the birds. Litter will be stored in windrows with a height of 2.6 m, width of 6m (in accordance with the terms and conditions of the manufacturer of equipment for turning clamp) and length of 100 meters. The composting period is 42-55 days.</p> <p>In addition to the treatment area in the hangar there is further asphalt pad areas designed for the storage of finished products and raw materials during times of slowing technology and inability to export products because of climatic conditions (Frost, snow).</p> <p>The compost is spread as manure on the fields of the consumer and this agricultural fertiliser period lasts approximately 60 days a year, from the moment of harvest season (August-September) to the moment when snow falls. The spreading will take place using two compost spreaders with a capacity of 20 tons per hour, based on one tractor and forklift carrying load of compost in the spreader on the edge of the field.</p>

ELEMENT	DESIGN PARAMETERS AND DETAILS
Wastewater Treatment Plant (WWTP)	<p>The wastewater treatment plant incorporates dissolved air flotation technology. Wastewater comes to an open reservoir designed for the separation of solid particles from water using air. Flakes float to the surface of the reservoir which automatically removes them using a drag mechanism. Flotation uses plastic plates, which increase the surface area and guarantees that even the smallest flakes are removed from the wastewater. Built-in recirculation/aeration ensures the required air-water mixture. Physico-chemical cleaning methods are by coagulation. As a result of physico-chemical treatment three streams are formed:</p> <ul style="list-style-type: none"> ■ Treated sewage water is sent into the buffer capacity before biological treatment facilities; ■ Removed floating material is sent for recycling in the shop on manufacture of meat and bone meal; and ■ Sludge goes to mechanical strainer and is later transported by truck to be composted to manure.
Boilers	LPG is used within the boilers and there is gas storage next to the feed mill. The central heating at some smaller isolated buildings is from electric boilers. An LPG fired central heating boiler will be at each farm component: broiler houses (100kW), broiler office (560kW), fodder mill, slaughter plant (steam, 6 800kW) and incubator (1 900kW).
Wastewater	Wastewater collection, transport, storage, treatment and discharge facilities.
Buildings	<p>Administrative building- there are two administrative areas for the production process – one for each of the clean and dirty area. The clean area administrative building is located in front of the broiler houses, whilst the dirty area administrative building is situated at the poultry processing plant territory.</p> <p>Separating ‘clean’ and ‘dirty’ administrative areas is required to comply with sanitary and epidemiological and hygienic standards of production;</p> <p>Garages at administrative clean, dirty , slaughterhouse and composting pad for machinery and collection vehicles including car washing facility and fuel storage provision.</p> <p>Eight farms consisting of 12 broiler houses each, hatchery unit, slaughterhouse and rendering plant, feed mill and grain elevator, wastewater treatment plant and compost hangar.</p>
Access and security	<p>Paved clean and dirty access roads constructed for the project.</p> <p>Passage onto and exit from the farms is by a checkpoint. The building dimensions 6 x 6 m. units posted security room, bathroom, entrance.</p> <p>CCTV system of cameras at checkpoint and fence perimeter for 24-hour security of the site with digital recording facility.</p>
Site paving	Paved entrance area, paved parking area and lighting.
Equipment	12 vehicles, two land spreading units (20 tonnes per hour capacity) and one forklift.
Vehicle wash	One vehicle wash facility located at the garage.
Surface water	Surface water collection, storage and discharge.
Services	<p>Include wastewater, waste collection, electricity, drinking water and communications. The slaughterhouse will also include an ammonia based refrigeration system.</p> <p>Power supply will be provided from electrical mains and hot water and steam from the boilers as detailed above.</p>
Others	<p>Fire extinguishers are located throughout the buildings.</p> <p>Ammonia refrigeration system fitted with leak detection system.</p>

2.5 WORK FORCE PROFILE

It is anticipated that the new poultry farm will employ a total of 805 staff with core staff typically working one shift per day; and, operators at the broilers as well as on-call personnel working a

two shift pattern. It is reported that the majority of site personnel will be recruited from the area local to Makinsk with the exception of 5 experts who were specifically recruited for the project from Ukraine, Russia and Belarus.

No information is provided on the gender, community and age distribution of the personnel that are planned for employment at the new farm during either the construction or operational phases.

Personnel working during the day are provided with one hot meal per day at lunch that is prepared in the dining rooms located on-site, or delivered to employees by delivered by truck in special containers or provided with mobile catering.

The routine operation of the proposed poultry farm (including the operation of its feed mills, meat processing facility, wastewater treatment from slaughterhouses and coal-fired boiler plant) will generate water effluent, hazardous and non-hazardous wastes, require the storage and handling of hazardous materials, generate air, noise and odour emissions, consume energy and alter the existing landscape and visual setting of the surrounding environs. Day-to-day poultry farm operations and activities may potentially introduce occupational health and safety (H&S) risks to the workforce and surrounding communities from exposure to harmful substances and noise, the use of vehicles on public road networks, and the potential for transmission of communicable diseases (such as respiratory or sexually transmitted diseases from in-migration of job seekers from outside the locality). It is anticipated that the implementation of formalised ISO14001 and OHSAS18001 systems together with their corresponding training, procedures and monitoring for all workers, contractors and visitors will reduce the likelihood and severity of accidents in the new poultry farm operation.

2.6 LAND ACQUISITION AND ASSOCIATED RESETTLEMENT

The land acquired on behalf of the Makinsk Poultry Farm Project was all state owned land. The project is to occupy 301 hectares, of which 76 hectares is for the farm area for the technical aspects of the farm, whilst a further 225 hectares will be utilised for the associated infrastructure such as the electrical, water and wastewater systems.

Further detail of land acquisition is provided in Section 4.3.

2.7 COMMUNITY CONSULTATION AND GRIEVANCE MECHANISMS

In the past, consultation has been undertaken aligned with regulatory systems (e.g. for EIA project). This consultation has not been formally recorded with regards to comments and issues raised; however, the resultant EIA is in the final stages of being approved by the Local Regulators, and therefore, deemed to have addressed Statutory local requirements with regards to consultation.

To our knowledge, (no project documentation) has been prepared and disclosed to the 'Affected Communities', and no strategy has been determined to handle the problems or objections that may emerge within the community or other parties.

There is currently no centrally controlled grievance management process or published *Grievance Mechanism* for stakeholders.

3 LOCAL GOVERNANCE AND ADMINISTRATION FRAMEWORK

3.1 INTRODUCTION

This chapter describes the administrative structure and healthcare organisation in Kazakhstan at a national, regional and where possible local level, and presents the applicable social and health guidelines and standards relevant to this new poultry farm development.

3.2 ADMINISTRATIVE STRUCTURE

The administrative territorial structure of Kazakhstan comprises 14 regions, 86 cities including two cities of republican subjection (Astana City and Almaty City), 168 regions and 174 villages. The heads of the local administrations (14 regions and two cities) are appointed by Kazakhstan president.

The Project is situated in Makinsk a town north central of Kazakhstan. It is situated in the Akmola Region in northern Kazakhstan. Akmola Region has eight towns of district importance: Akkol, Atbasar, Derzhavinsk, Yesil, Yereimentau, Makinsk, Stepnyak, Shchuchinsk; 245 villages and 17 districts. The capital city of Kazakhstan, Astana, is located in the centre of Akmola Region, with the administrative city of Kokshetau (founded in 1824).

Makinsk is the administrative centre of Bulandy District in Akmola Region.

3.3 EBRD PERFORMANCE REQUIREMENTS

The EBRD seeks to ensure that the projects they finance are socially and environmentally sustainable, respect the rights of affected workers and communities, and are designed and operated in compliance with applicable regulatory requirements and good international practices. The EBRD's Environmental and Social Policy was published in 1991 and updated in 2008 and 2014. The EBRD PRs consider the potential environmental and social impacts that must be assessed to demonstrate compliance, and provide the basis on which clients must demonstrate commitment to the sustainability of their business operations. The EBRD's Environmental and Social Policy includes compliance with the PR, which outline social and environmental responsibilities and specific practices that the EBRD clients must follow:

→ Performance Requirement 1 - Environmental and Social Appraisal and Management

The requirement defines the importance of a systematic approach to the management of the environmental and social impacts associated with project activities and operations. The PR provides guidance on the client's responsibilities for managing and monitoring environment and social issues and how these will be assessed in relation to the Bank's Policy. The PR also defines the 'area of influence' associated with the project that comprise all direct, indirect and supporting activities. In addition, the area and communities potentially impacted by project activities should be defined within the area of influence.

→ Performance Requirement 2 - Labour and Working Conditions

The EBRD requires that the structure and human resources for projects are transparent, fair and provide a framework for the sustainability of the enterprise over the lifetime of the project. The requirements should be articulated through appropriate policies, working conditions and equal opportunities.

→ Performance Requirement 3 - Pollution Prevention and Control

Increased economic activity associated with projects can result in pollution to air, water and land, as well as increased consumption of finite natural resources. The role of adhering to good international practice is identified, including the principle that the potential for environmental damage should be rectified at source, and the 'polluter pays' principle.

→ **Performance Requirement 4 - Community Health, Safety and Security**

PR4 requires that adverse health and safety impacts should be avoided or mitigated to reduce the potential effects on project workers, affected communities and consumers. The objective of this PR that include the protection and promotion of a health and safety culture throughout the client organisation together with appropriate management systems that enforce appropriate measures and anticipate risks associated with project activities.

→ **Performance Requirement 5 - Land Acquisition, Involuntary Resettlement and Economic Displacement**

Land acquisition is needing consideration for this project. The land acquired on behalf of the Makinsk Poultry farm project was all state owned land. The project is to use 301 hectares of which 76 hectares is for the farm area for the technical aspects of the farm whilst a further 225 hectares will be utilised for the associated infrastructure such as the electrical, roads, water and wastewater systems. The wastewater treatment plant is to be located on a parcel of land that was previously set aside for a new landfill for the town of Makinsk. However, the landfill was given another parcel of land within an appropriate development zone to allow the wastewater treatment plant to be built in the proposed location. This wastewater treatment plant will be utilised by both the farm and the town.

Under the RoK national legislation, a Sanitary Protection Zone (SPZ) of 1,000m will be in place for the farms, 50m for the hatchery and 100m for the feed mill. Most of the land within the SPZ will be Steppe.

The objectives of the PR include measures to reduce impacts associated with land acquisition, and methods and measures to maintain and improve living standards of Project-affected communities. As such as part of the project, a Land Acquisition and Livelihood Restoration Framework has been developed.

→ **Performance Requirement 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources**

The importance of maintaining core ecological functions is emphasised as these are integral to conserving and protecting ecosystem services and biodiversity potentially impacted by the Project activities. The PR identifies the use of the precautionary principle, mitigation hierarchy (including the objective of achieving no net loss, and where appropriate a net gain of biodiversity) and the promotion of good international practice throughout the Project activities.

→ **Performance Requirement 7 - Indigenous Peoples**

No Indigenous Peoples identified associated with this Project.

→ **Performance Requirement 8 - Cultural Heritage**

The importance of cultural heritage for current and future generations must be recognised. The Project should aim to protect cultural heritage and be precautionary in the management and sustainable use of these resources.

→ **Performance Requirement 9 - Financial intermediaries**

There are no financial intermediaries involved in the Project.

→ **Performance Requirement 10 - Information Disclosure and Stakeholder Engagement**

The importance of open and transparent communication and engagement with Project workers, affected communities and other stakeholders is identified in this PR. As such as part of the project, a Stakeholder Engagement Plan (SEP) has been updated.

An important additional requirement of the EBRD PRs is that projects funded by the EBRD achieve the outcomes of relevant European Union (EU) Directives. This also applies to projects in countries outside of the EU, and as such this project will be required by the EBRD to meet relevant EU Directives.

4 BASELINE SOCIAL AND HEALTH CONDITIONS

4.1 INTRODUCTION

The objective of this section of the report is to define and evaluate the socio-economic, health baseline conditions within the local community of Makinsk using readily available data. Where possible, local baseline conditions are compared against regional and national baseline conditions for benchmarking purposes.

All unreferenced data on local baseline information used this Section to establish the local baseline conditions, has been obtained from the Bulandy District and Makinsk as follows;

- Data for Bulandy District for the period between 2013 to 2014 are taken from Passport for Socioeconomic Development of Bulandy District.
- Data for Bulandy District for the period between 2010 to 2012 are taken from the Development Programme for Bulandy District for 2011-2015.
- Data for Makinsk are taken from Mayor's Report 2014

4.2 SOCIAL BASELINE CONDITION

POPULATION

As of 1st January 2016, the population of Kazakhstan was estimated to be 17,061,704 people. This is an increase of 0.40 % (67,975 people) compared to population of 16,993,729 the year before. In 2015 the natural increase was positive, as the number of births exceeded the number of deaths by 123,544. Kazakhstan population density is 6.3 people per km² (as of January 2016). The sex ratio of the total population was 0.924 (924 males per 1,000 females) which is lower than the global sex ratio².

Both death and birth rates fall but the population still grows because of reduction in death rates. A negligible number of people living below the poverty line (0.09%) are recorded, might not reflect the real situation as only those who apply for benefits have been considered and the application.

Life expectancy at birth is one of the most important demographic indicators. It shows the number of years a newborn infant would live assuming that birth and death rates will remain at the same level during the whole lifetime. Total life expectancy (both sexes) at birth for Kazakhstan is 68.5 years. This is below the average life expectancy at birth of the global population which is about 71 years³.

Dependency ratio of population is a ratio of people who are generally not in the labor force (the dependents) to workforce of a country (the productive part of population). The dependent part

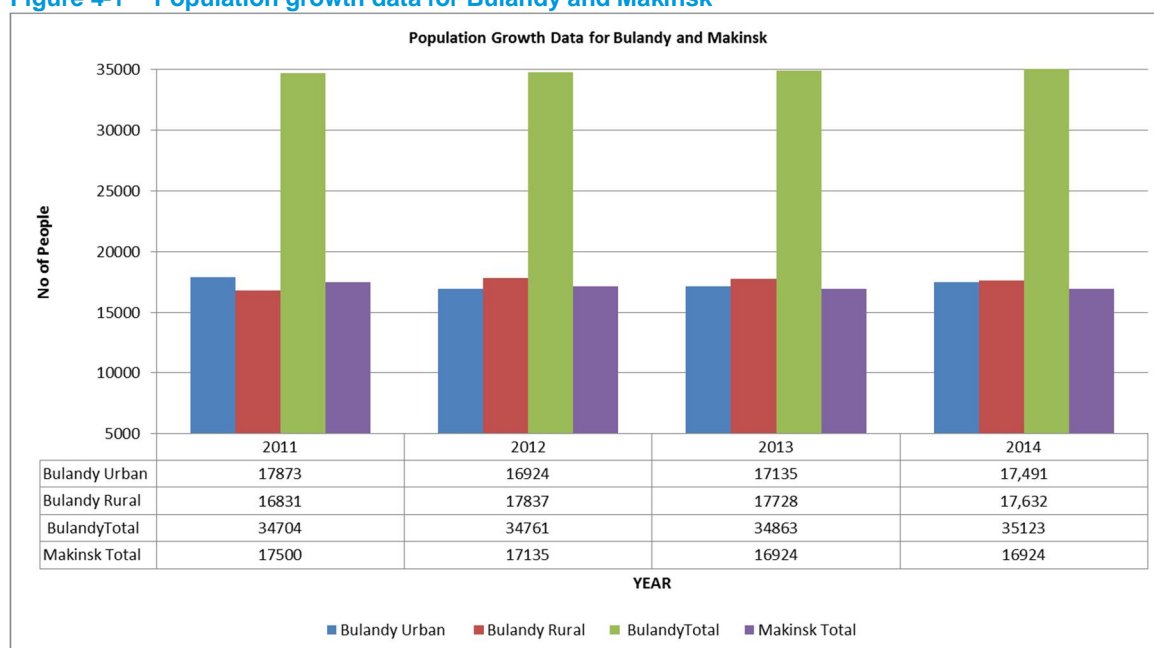
² <http://countrymeters.info/en/Kazakhstan>

³ http://www.un.org/en/development/desa/population/publications/pdf/mortality/WMR2013/World_Mortality_2013_Report.pdf

includes the population under 15 years old and people aged 65 and over. The productive part of population accordingly consists of population between 15 and 64 years. This ratio shows the pressure on productive population produced by the dependent part of population. **The total dependency ratio** of population for Kazakhstan is estimated to be 40.8 % which is relatively low.

Locally the population distribution for Burlandy and Makinsk has remained generally constant with minor increases in total population mainly due to increase in rural to urban migration over the years of 2011 to 2014 as shown in Figure 4-1 below ⁴.

Figure 4-1 Population growth data for Bulandy and Makinsk



EMPLOYMENT

The population density is considered to be comparatively low (6.3 people/ km²) with many professionals such as doctors migrating to different parts of the country in search of a higher salary.

Average wage for the district is KZT 65,282, lower than the regional average (KZT 81,032) and is considerably less than the country average (KZT 109,970). The monthly average wage/salary within the Bulandy District is recorded as 65,282, 60,660 and 53,968 for the years 2014, 2013 and 2011 respectively, which indicates a steady increase in pay over the three year period.

Unemployment in Bulandy is reported to be 636 people (0.2%) and 671 (0.2%) for 2014 and 2013 respectively, which are relatively very low. In reality, the figures might be significantly higher as only registered unemployed people are taken into account.

A negligible number of people living below the poverty line was recorded in 2014 (32 persons, 0.09% of population), which again might not reflect the real situation as only those who apply for

⁴ Data for Bulandy District for the period between 2013-2014 are taken from Passport for Socioeconomic Development of Bulandy District. Data for Bulandy District for the period between 2010-2012 are taken from the Development Programme for Bulandy District for 2011-2015. Data for Makinsk are taken from Mayor's Report 2014

benefits have been considered in the assessment. The number of families receiving government housing benefit has decreased from 134 in 2011 to 63 in 2013.

The recorded economically active population persons in Bulandy district for 2013 is 20,452 representing 59% of total population, and 20,437 persons representing 59% of the total population for 2011.

LANGUAGES

Kazakhstan is officially a bilingual country: Kazakh language spoken natively by 64.4% of the population has the status of "state" language, whereas Russian, which is spoken by most Kazakhstanis, is declared an "official" language, and is used routinely in business, government, and inter-ethnic communication. Other minority languages spoken in Kazakhstan include Uzbek, Ukrainian, Uyghur, Kyrgyz, and Tatar⁵

RELIGION

According to its Constitution, Kazakhstan is a secular state. Religious freedoms are guaranteed by Article 39 of Kazakhstan's Constitution. Article 39 states: "Human rights and freedoms shall not be restricted in any way". According to the 2009 Census, 70% of the population is Muslim, 26% Christian, 0.1% Buddhists, 0.2% others (mostly Jews, and 3% Non-religious)⁶.

HEALTHCARE SYSTEM DEVELOPMENT

Health care in Kazakhstan has improved recently in response to Kazakhstan 2030 and other state-mandated policy reforms. However, the country is still behind some of its European neighbours on key indicators of health and economic development. Recent data suggests that while Kazakhstan has improved on some measures of population health status, many environmental and public health challenges remain, including the need to improve public health infrastructure.⁷

There has been significant reform and government investment in the country's health system. However, the challenge has been to ensure that these are based on international best practice. Two comprehensive healthcare reform programmes have been implemented in Kazakhstan since its independence on 16th December 1991 namely (1) the National Programme for Health Care Reform and Development 2005-2010; and (2) "Salamatty Kazakhstan" State Healthcare Development Programme of Kazakhstan for 2011-2015⁸. There was a reduction in financing for the hospital sector and an increased focus on the development of primary health care, although inpatient facilities continued to consume the bulk of health financing. In 2000, health financing was devolved to the district level until 2004 when a new health financing system was set up that included pooling of funds at the regional level, establishing the regional health department as the single-payer of health services.

Since January 2010, Kazakhstan introduced a new single-payer Unified National Healthcare System with capitation funding for out-patient services that provided a framework to pool

⁵ <http://www.inform.kz/eng/article/2741711>

⁶ Results of the national population census of 2009. Agency of Statistics of the Republic of Kazakhstan. 2010. Retrieved from stat.gov.kz on July 20, 2015

⁷ [Public Health Challenges and Priorities for Kazakhstan | Aringazina | Central Asian Journal of Global Health](#)

⁸ ["Salamatty Kazakhstan" State Healthcare Development Program of Kazakhstan - CCS Please include full reference, Kazakhstan Central Communications Service, "Salmatty Kazakhstan" State Healthcare Development Program of Kazakhstan, http://ortcom.kz, January 2016.](#)

resources for hospital services under the State Guaranteed Benefits Package at the national level. Kazakhstan has also embarked on promoting evidence-based medicine and developing and introducing new clinical practice guidelines, as well as facility-level quality improvements. However, key aspects of health system performance still require improvement. One of the key challenges is regional inequities in health financing, health care utilization and health outcomes, although some improvements have been achieved in recent years. Despite recent investments and reforms, however, population health has not yet improved substantially.

HEALTHCARE INFRASTRUCTURE

The healthcare system in Kazakhstan is predominantly government-funded (about 70%) with a budget of approximately 4% GDP and comprising a network of primary, secondary and tertiary healthcare facilities. A significant proportion of medical healthcare is provided via primary healthcare facilities referred to as *ambulatories* and *policlinics*. There is a nationwide system of government-owned medical facilities open to the general public. The public hospital's share of total hospital capacity has remained relatively stable (about 70%) for decades. There are also privately owned for-profit hospitals as well as government hospitals in some locations, mainly owned by county and city governments.

Hospitals provide some outpatient care in their emergency rooms and specialty clinics, but primarily exist to provide inpatient care. Hospital emergency departments and urgent care centres are sources of sporadic problem-focused care. Hospice services for the terminally ill who are expected to live six months or less are most commonly subsidized by charities and government. Prenatal, family planning care is government-funded obstetric and gynaecological specialty and provided in primary care facilities, and is usually staffed by nurse practitioners (midwives).

LOCAL HEALTHCARE

Locally obtained data shows there is one (1) District hospital with OPD, A&E facilities with (95) beds for in patients, six (6) rural OPD clinics, four (4) feldscher/midwife stations and twenty six (6) first aid stations within Bulandy District. The information reports thirty eight (38) doctors and a hundred and sixty nine (169) nurses available for 2014 against 44 doctors for the previous year.

Makinsk has one (1) district hospital with OPD, A&E facilities with fifty one (51) beds for inpatients.

The major causes of adult mortality in Kazakhstan are non-communicable diseases (reported by WHO to be 84% in 2014⁹) such as cardiovascular disease (54%), cancers (15%), other tobacco and alcohol-related diseases and injuries. The new State Health Care Development Program recognizes health as one of the country's major priorities and a pre-requisite for sustainable socioeconomic development.

In 2014, the WHO reported that approximately 35% of total deaths (51,371) in Kazakhstan are caused by coronary heart disease.¹⁰ Data obtained from Bulandy District from 2013 to 2014 showed a reduction of cardiovascular diseases from 1,616.7 to 1,069.9 (for every 100,000 people).

Data obtained from Bulandy District from 2013 to 2014 indicated a reduction of cancerous diseases from 276.1 to 223.7 (for every 100,000 people).

⁹ http://www.who.int/nmh/countries/kaz_en.pdf
¹⁰ [HEALTH PROFILE KAZAKHSTAN](#)

In 2014, the WHO reported that approximately 1% of total deaths (1,651) in Kazakhstan were from Tuberculosis. Data obtained from Bulandy District from 2013 to 2014 a reduction in the incidence of Tuberculosis from 83.4 to 74.5 (for every 100,000 people).

A UNAIDS¹¹ funded study reports that in 2014 there were 20,000 people living in Kazakhstan with Human Immunodeficiency Virus (HIV) (7,500 women aged 15 and up). Less than 1,000 deaths were reported in 2014 due to AIDS. These figures are a very low proportion of the the population of Kazakhstan estimated to be 17,061,704 people as of 1st January 2016; this equates to approximately 0.1% of the country's population being HIV positive.

The Head of the Epidemiology Department at the Kazakhstan's Centre for Prevention and Combating AIDS reports that the number of new HIV cases has decreased in the 19-29 age bracket from 15% in 2001 to a current level of 1.5%.¹⁰ HIV cases have decreased by half in 20-29 year olds, although there has been an increase among the population aged 30-59 years (in particular in pensioners at 0.7%).¹⁰ The decreasing number of younger population infected with HIV certainly shows that awareness raising programs of HIV testing has had a positive effect.¹⁰

The Head of the Epidemiology Department also reported that over 50% of those infected were unemployed, with 23% employed and 22.5% are arrested and prisoners.¹⁰

Drug abuse is the main cause of HIV infection with 58.3% of HIV infection transmitted in this manner through shared needle and the male population are largely infected in this way.¹⁰ The percentage of HIV infected drug users ranged from 1.3 to 0.7% during 2010 and 2014, and 26% of those tested for HIV were drug users.¹⁰

HIV covers the whole of Kazakhstan although some of the regions have less HIV cases than others.¹² No specific data was available in relation to the prevalence of HIV in Akmola Region, Bulnady District and/ or Makinsk.

In March 2012, WHO officially acknowledged Kazakhstan to be malaria-free given it had successfully maintained the territory as being malaria-free since 2001. However, it should be noted that climatic conditions in Kazakhstan could lead to resurgence of malaria transmission following its importation.

Data obtained from the Bulandy District shows that the incidence of alcohol and substance abuse for Bulandy District was recorded as being relatively high in 2014 with approximately 1,000 for every 100,000 population.

EDUCATION

Data from the Bulandy District and Makinsk Mayor's 2014 Report for shows a reduction in the available secondary schools within the Bulandy District from forty two (42) in 2012 to forty (40) in 2014. The data also shows there were twenty-six (26) pre-school institutions in 2014. 4,856 students representing a 100% enrolment was reported for 2014. However, more than 230 babies and toddlers are reported to be placed on waiting lists for nursery places each.

According to the data obtained from the Bulandy District and Makinsk Mayor's 2014 Report, a high literacy rate of 99.8% is reported for the secondary school age population for both genders. Locally in Makinsk, the data shows there were five (5) secondary schools and five (5) pre-school institutions in 2014. 2,596 students representing a 100% enrolment was reported for 2014 with hot meals provided to every student.

¹¹ [Kazakhstan | UNAIDS](#)

¹² [HIV positive: gender and age trends in Kazakhstan. Health. Tengrinews.kz](#)

WATER AND SANITATION

Water is provided by 'Bulandy Su Arnasy' LLP, with 60% of the district supplied with water. A growing problem with water supply includes non-payment of bills by a great number of customers. Water supply (via street water tap) is disconnected for an entire settlement if the majority do not pay the bills. Local data shows that shows that 17 out of 37 settlements were connected to water mains representing 50.9% of the overall population within the District.

VULNERABLE GROUPS

Vulnerable groups can include individuals with disabilities, parentless children and receivers of poverty family benefit and lump sum cash aid.

According to the Ministry of Health and Social Development of the Republic of Kazakhstan 4,300 people with disabilities and 194 pupils from children's homes out of a total of 133,000 of the Kazakh population participated in the "Employment Road Map 2020" programme¹³ in 2015. The composition of those that participated in the programme included 54.1 % unemployed persons, 45.8% unproductive self-employed and 0.1% part-time employees¹⁴ and included individuals with disabilities. This programme promotes employment by providing funding and approval for the development of infrastructure, housing and communal services projects and through the promotion of employment through training and resettling.

In Bulandy District, there are 1,297 disabled people of working age, of which 337 falls into the employable category. It is reported that 217 of these disabled people are employed.¹⁵ No data is available for people with disabilities or social support programmes in Makinsk

In 2014, there were 32 recipients of government social allowance, and housing benefits were paid to 20 families. In addition, government social allowance was paid to 63 individual in 32013 and 134 individuals in 2011. No data was available for 2012 and 2010.

No local data was available for other vulnerable groups such as parentless children or receivers of other poverty family benefit and lump sum cash aid.

CRIME

Data from the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan indicated that the registered number of crimes per 1,000 population are fairly consistent on a national and regional level. Figure 4-2 shows that crimes per 1,000 population in 2012 to 2013 increased from about 17 to 21 respectively for both Kazakhstan and Akmola Region with a subsequent reduction in 2014 at both a national (~20 crimes per 1,000 population) and regional level (~18 crimes per 1,000 population) but remain above 2012 figures. In Akmola Region there was a notable reduction in registered crime of about 15% between 2013 and 2014.

The registered crime levels per 1,000 population in Bulandy District are significantly lower than national and regional levels with levels rising between 2012 (299 crimes) and 2013 (394 crimes) followed by a decline in 2014 (361 crimes). The figures indicate a 21% decrease in the number of registered crimes in Bulandy District from 2012 to 2014. However, it should be noted that local data from the Bulandy District's Passport for Socioeconomic Development of Bulandy provided indicates that the rate of crime detection has increased from 2010 to 2013 has increased by 7.7%

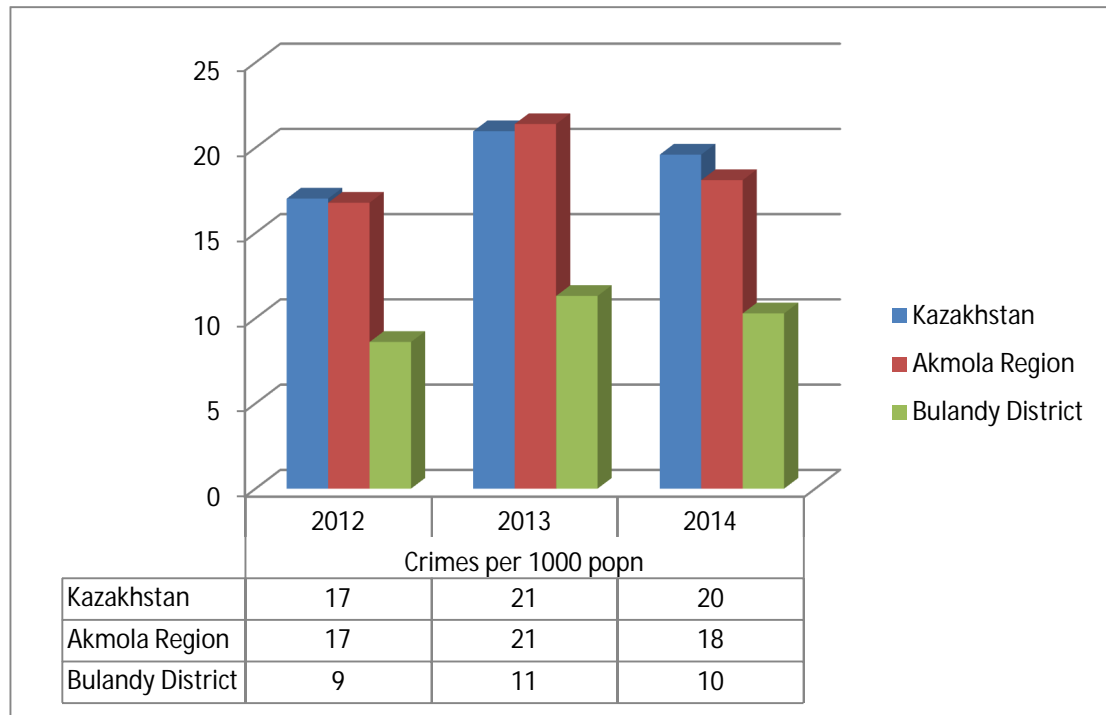
¹³ [Realization of population employment 2020 program](#)

¹⁴ [4,3 thousand disabled participated in Employment roadmap in 2015 - MHSD of RK :: News :: Prime Minister of Republic of Kazakhstan. Official Web Site](#)

¹⁵ Passport for Socioeconomic Development of Bulandy District.

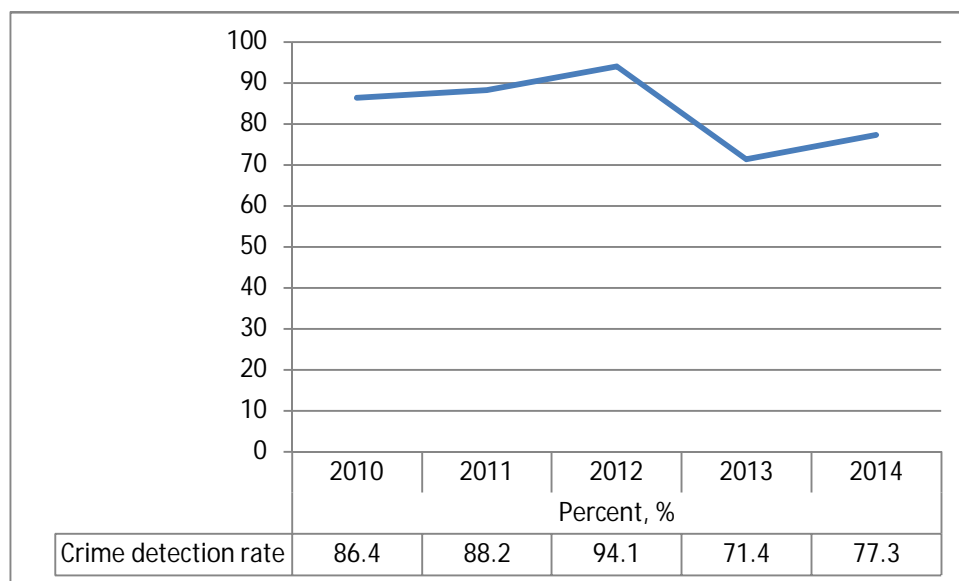
as shown in Figure 4-3. The crime detection rate worsened from 2012 to 2013 by 19.7% to below 2010 levels and then again by slightly improved in 2014 by 5.9%. This indicates that crime on a district level may not be fully captured and recorded.

Figure 4-2 Registered crimes per 1,000 population (as of 1st January following year)



Both on a national, regional and district level there appears to be increased in registered crime in 2013. No data is available for registered crimes in Makinsk.

Figure 4-3 Crime detection rate for Bulandy District



HOUSEHOLD CHARACTERISTICS

There were 5,035 households recorded in Makinsk in 2014; no further data in terms of number of households locally over a five year period nor data on the size of these households in Makinsk was available.

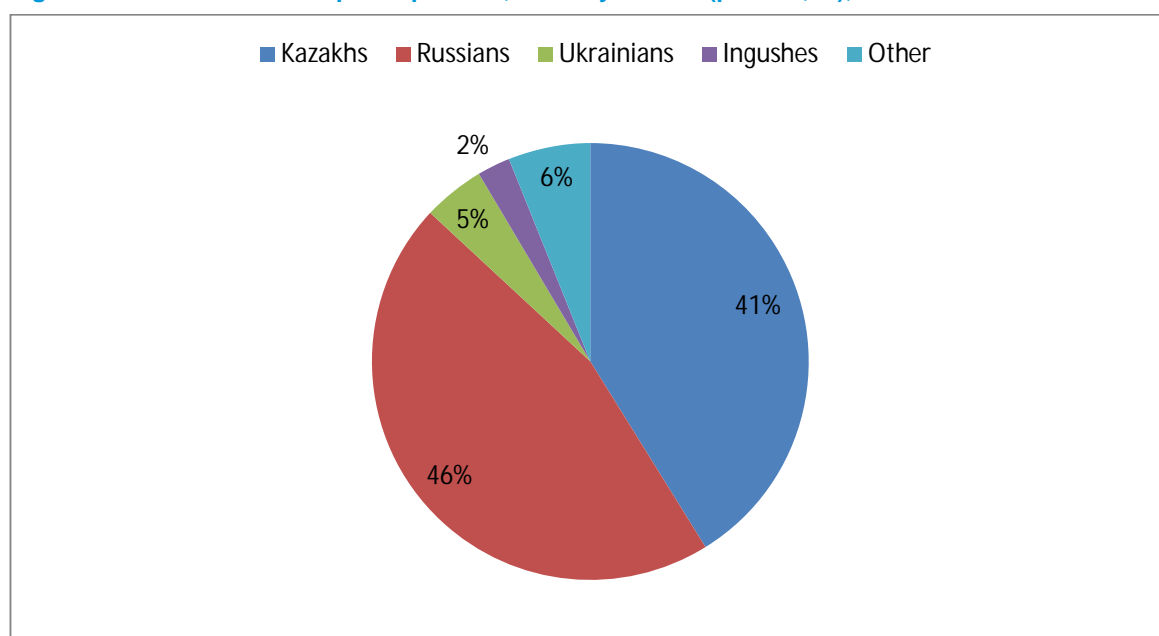
ETHNICITY

The population of Kazakhstan comprises in excess of 100 ethnic groups, or nationalities. The largest nationality groups comprising up to 95% from the total number of country population are Kazakhs, Russians, Ukrainians, Uzbeks, Germans, Tatars, and Uigurs. The Kazakh population has the largest composition at 53.4% of the national population with Russians forming approximately one third of the population.

The ethnic composition of Bulandy District is represented in Figure 4-4 below. This indicates that the largest ethnic group represented in Bulandy District are Russian (46%) followed by the Kazakhs (38.7%).

No ethnicity data was available for Makinsk.

Figure 4-4 Ethnic Group Composition, Bulandy District (percent, %), 2014



CULTURAL RESOURCES

A description of Cultural Resources is provided in the Section 5.10 of the main ESIA Report prepared by WSP PB.

4.3 LOCAL LAND USE, TENURE AND PLANNING

The proposed development is located on green field agricultural land immediately to the west of the town of Makinsk. Figure 4-5 provides an aerial view of the schematic layout of the proposed Project design, showing major land uses and major infrastructure in the Project vicinity. The Feed Mill will be South of Makinsk (see red lined rectangle south of Makinsk in Map 2-2). Neighbouring

land uses include other agricultural lands, fishing areas, woodland, rural settlements and a graveyard. In a regional context, the area is known for its contribution to the agricultural industry of the country with crop farming being the main source of income.

There are no ecologically sensitive protected areas within the immediate vicinity of the Project site.

Figure 4-5 Schematic layout of the proposed Project design



The land that has now been acquired on behalf of the Project was all state owned land.

Land tenure / designation maps are not available online but are understood to exist and potentially be available from the Makinsk Council. The same is true for relevant urban and regional planning policies and statutory land use, zoning and development controls that will influence the project. These are thought to be available in the form of a general plan for the town of Makinsk. These items along with information regarding any proposed urban, regional, industrial, tourism or other development that is relevant to the project, should be identified as part of the Land Acquisition and Livelihood Restoration Plan for the Project.

DISTANCE TO NEAREST RESIDENTIAL RECEPTORS

Each of the different sections of the Makinsk Poultry farm is discussed in turn below with their proximity to nearby residential receptors:

The **feed mill** is south of Makinsk and the nearest house is 150m from the site.

The **incubator** site will be located in Karaozetsk rural district, near v.Baysuat. The closest residential dwelling v. Baysuat is located easterly at the distance of 125m from the site.

The **administrative and service building** for broilers (pure) will be located in Karaozetsk rural district, near v. Karaozek. The nearest residential building, v. Karaozek is located to the west at a distance of 1,250m from the site.

The **site for growing of broilers (BP 1)** will be located in Karaozetsk rural district. The nearest residential building, v. Karaozek is located in a southwestern direction at a distance of 1,500m from the site.

The **site for growing of broilers (BP 2)** will be located in Karaozetsk rural district. The nearest residential building, v. Karaozek is located in southwestern direction at the distance 2,220m from site.

The **site for growing of broilers (BP 3)** will be located in Karaozeksk rural district. The nearest residential building, v. Karaozek is located in a southwestern direction at a distance of 3,980m from the site. Westerly at a distance of 994m from the site, is the Kayrakty river.

The **site for growing of broilers (BP 4)** will be located in Karaozeksk rural district. The nearest residential building, v. Karaozek is located in southwestern direction at the distance 4,965m from the site.

The **site for growing of broilers (BP 5)** will be located in Karaozeksk rural district. The nearest residential buildings are at Makinsk city, located in easterly direction at the distance of 5,410m from the site.

The **site for growing of broilers (BP 6)** will be located in Karaozeksk rural district. The nearest residential buildings are at Makinsk city, located in easterly direction at the distance of 4,870m from the site.

The **site for growing of broilers (BP 7)** will be located in Karaozeksk rural district. The nearest residential buildings are at Makinsk city, located in easterly direction at the distance of 5,070m from the site.

The **site for growing of broilers (BP 8)** will be located in Karaozeksk rural district. The nearest residential buildings are at Makinsk city in an easterly direction at the distance of 4,280m from the site.

The **poultry processing plant and administrative and service building of broilers (dirty)** will be located in the territory of Makinsk. The nearest residential buildings are at Makinsk city in an easterly direction at the distance of 2,012m from the site. The

The site of the **110/10kV substation** will be located in Karaozeksk rural district. V. Karaozek is located in south-westerly direction at the distance of 7,750m from the site.

The site of the **station for the biological treatment of sewage water** will be located in Karaozeksk rural district. The nearest residential building is in Makinsk city, located in easterly direction at the distance of 1,820m from the site. The composting site is located nearby, with the nearest residential buildings being at Makinsk city in an easterly direction at the distance of 2,015m from the site.

LEGAL FRAMEWORK AND ADMINISTRATION FOR LAND

Kazakhstan's Constitution (adopted in 1995 and amended in 1998 and 2007) states that land is owned by the State, but can also be transferred, sold, or rented to individuals or enterprises. There is a national land registration system managed by the Ministry of Regional Development.

The *Land Code of the Republic of Kazakhstan* (No. 442 of 20 June 2003, with amendments to 2013) defines a detailed system of land use rights and valuation, including relative timing of the compensation process. Topics covered by the Code include:

- Article 9. Payments for land (related to land taxes).
- "Article 10. Base rates of payment for land plots and assessed value of a land plot." This is established by the Government of the Republic of Kazakhstan if the land is still owned by the State. Rates of payment for land use shall be established at least equal to the amount of rates of land tax.
- "Article 11. The Adjustment Coefficients for Basic Rates of Payment for Land Plots." This article provides a valuation system for agriculture land based on a rigid system of coefficients and other factors. The coefficients for determining the land value apply nationally. When establishing the estimated value of the land plots, the adjustment coefficients (increasing or

reducing) include those related to the soil quality and condition of a given land plot, its location, water supply, and remoteness from service centres.

- “Article 92. Forcible withdrawal of a land plot, which is not used for intended purpose from the owner or land user.”
- “Article 106. Procedure for compensation of agricultural production losses.”
- “Article 166. Procedure for compensation of losses.”

The Code includes provision for granting an equivalent land plot (instead of cash compensation) with the consent of the owner or land user, and this may also occur in the case of land under lease.

Disagreements over the evaluation are settled in court.

4.4 ECONOMIC TRENDS AND ACTIVITIES

STRATEGIC ECONOMIC DEVELOPMENT PLAN

The Business Road Map 2020 is an approved strategic development plan for the Republic of Kazakhstan until 2020. The program is aimed at provision of Government Grants and Loans, reduction of loan interest payments, loan guarantee and training of entrepreneurs to support and develop small and medium businesses especially within the non-oil sectors.

URBAN AND INDUSTRIAL ECONOMIC ACTIVITIES

Kazakhstan's industrial sector rests on the extraction and processing of its natural resources and also on a relatively large machine building sector specializing in construction equipment, tractors, agricultural machinery and some military items.

Information gathered from the Bulandy District shows the main economic activities within the urban areas to be construction (share in local economy for 2014 – 5166.7 million tenge, 16.3% more than in 2013 value), manufacturing and processing (employs about 84 people) and small retail business which employ about 3063 people locally in Bulandy and Makinsk.

Total sales for production in 2014 was one million tenge, representing 153% of the previous year's value.

ECONOMIC INFRASTRUCTURE

According to information on the US- Kazakhstan Business Association's webpage¹⁶, Kazakhstan's infrastructure will continue to develop at a rapid pace for the next five or ten years. The construction industry, telecommunications, and the transportation sector will need to grow in order to accommodate the needs of other industries. Growth here is likely to attract further investment in other sectors as these infrastructure changes improve the overall business climate

Infrastructural investment requirements through 2030 are expected to total more than US\$25 billion - and of this, 40 percent% will be needed for railway transportation, 23 percent% for highways and motor transport, 25 percent% for telecommunications, and 12 percent% for the air and water transport systems. Since Kazakhstan's independence¹⁶

¹⁶ http://www.uskba.net/about_infrastructure.htm

CONSTRUCTION

The Construction and materials sector in Kazakhstan consists of cement factories, factories producing building materials and construction companies. Foreign investment has been attracted to construction projects in the new capital of Astana and in some key sectors of industry (such as petrochemicals, metallurgy, and the mining industry)

TRANSPORTATION

The transportation infrastructure in Kazakhstan consists of an ever-expanding web of pipelines, railways, aerial routes, water transport routes, highways, and mail routes, rapidly crossing Central Asia for the betterment of citizens, business partners, and travellers alike.

In 2000, freight traffic via land and sea constituted approximately 300 million tonnes¹⁶. Railroad lines carry the overwhelming bulk of freight traffic, 85 percent% of which is from the mining and metallurgy sector. More than half of the passenger traffic moves by road.

After rails and roads, water transportation is the third most important element in the Kazakhstani transportation complex, with both state and private companies operating in this field. The Irtys River and the Caspian Sea present excellent opportunities in this area. Kazakhstan boasts over 50 registered airlines, more than two thirds of which are private, and a developed airport network. The majority of cargo flights go to Russia, UAE, Turkey and Germany. Shipping operations in the country are carried out by 626 transport enterprises, of which 68 are state companies and 555 are private¹⁶.

TELECOMMUNICATIONS

Telecommunications is a leading sector. An upgrade to the Honeycomb communication service (AMPS standard) is under way in 10 regional centres; trunk communications are developed; personal pager services are expanding in 12 cities and towns; and Internet and telefax are available in a limited capacity¹⁶.

In 2001 and 2002, Kazakhstan opened two Internet Data Centers (IDC) in Astana and Pavlodar for 10,000 users each. Kazakhstan now has 200,000 internet users, representing an exponential increase in activity in the past five years¹⁶.

LOCAL INFORMATION

Locally, Bulandy District is connected to the capital Astana and other major towns by the A1 highway. There are about 344 km length of road networks of which 195 km are finished with tarmac and 149 km with gravel.

Water supply and wastewater treatment in the Bulandy District is provided by Bulandy Su Arnasy LLP and solid waste is collected and disposed of by 'Makinsk MZD' LLP.

Heating supply within the Bulandy District is currently inadequate and plans have been initiated increase supply through construction of a 28MW heating plant together with a 13km heat supply network. Data obtained from the Bulandy District shows an estimated area of about 35,000m² was heated for that year. In rural areas, houses are heated with local coal-fired boilers and stoves and thermosyphon heating.

LOCAL ECONOMIC ACTIVITIES

Crop and livestock farming are the main income generating economic activities within the area and the area is well known for its contribution to the agricultural industry of the country.

Limited available information (see Table 4-1 below) indicates that the total regional gross output from agriculture for the 2014 year is about 11 763,0 million tenge with crop farming forming 7 419 million tenge and livestock farming, 4 343.5 m tenge. The 2014 gross output shows increase in output from the 2005 gross output of 39,080 million tenge although there is no information in between the years to assess whether there has been steady or irregular increase in overall output.

Table 4-1 Gross agriculture output for 2014 and 2005 in Bulandy

GROSS OUTPUT (BULANDY DISTRICT)	YEAR	
	2014	2005
Crop (million tenge)	7 419	-
Livestock (million tenge)	4 343.5	-
Gross Total Output (million tenge)	11 763,0	39,080

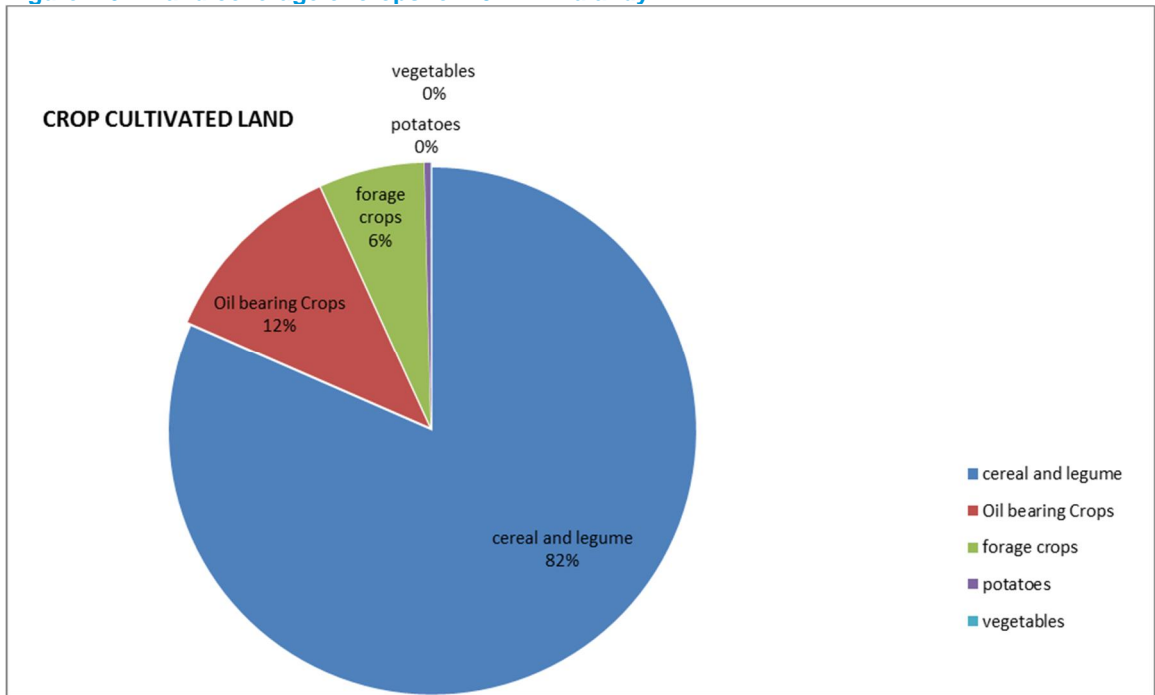
AGRICULTURE

Information obtained on the distribution of agriculture activities was only available on the district level covering the Bulandy District from 2012 to 2014.

CROP FARMING

Review of the obtained district level information shows that crop farming consists mainly of cereal and legume crops, cereal and legume, oil bearing crops, forage crops, potatoes and other general vegetables. The total area of crop projection within the district is about 218 thousand hectares (ha) of which 2.7 thousand ha are irrigated. The distribution (land coverage) of types of crops cultivated within this district for the 2014 is shown in below.

Figure 4-6 Land coverage of crops for 2014 in Bulandy

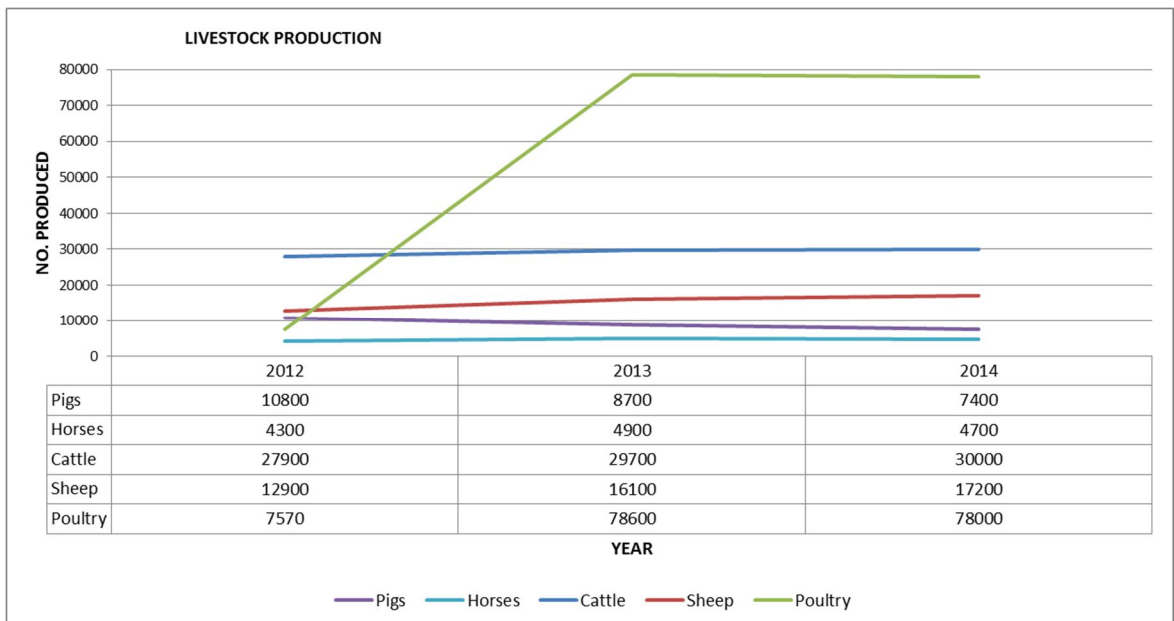


It can be seen from the Figure 4-6 that cereal and legume cultivation occupies most of the land under crop production within the district.

LIVESTOCK FARMING

The local data obtained indicates that livestock farming consisted mainly of cattle, sheep, horses, pigs and poultry. The population of livestock farming from 2012 to 2014 is shown in the Figure 4-7.

Figure 4-7 Livestock population from 2012 to 2014 in Bulandy



The data shows poultry production within the district has seen a sharp increase from 2012 to 2013 and this level of production has been sustained for the year 2014. On the other hand, production in horses and pigs has remained generally constant between the years of the data provided.

TOURISM

Information gathered from 2014 data shows net business revenue from tourism to be 7.7 million tenge, representing a 0.2% increase from the 2011.

The data also shows tourism related business within the district to include five hotels, four malls, nine bakeries, eleven hairdressing saloons, three houses and two currency exchange offices.

Available data also shows that general trading and public catering outlets have seen steady increases from 187 in 2010 to 198 in 2013 within the district.

4.5 RURAL LIVELIHOOD SYSTEMS

Site specific baseline information on the rural livelihood systems of the inhabitants of Makinsk and Bulandy was not readily available. However, it can be inferred from the 2014 economic data on production (see Figure 4-6 and Figure 4-7) that agriculture - mainly crop cultivation and livestock keeping - is likely to form the rural livelihood of the inhabitants of proposed project area of influence.

4.6 VISUAL LANDSCAPE

A description of the landscape character and visual amenity is provided in the Section 5.3 of the main ESIA Report prepared by WSP | PB.

4.7 ECOSYSTEMS SERVICES

FAUNA

Generally the fauna of Kazakhstan includes about 178 species of mammals, 489 species of birds and 117 species of fish. An estimated 6,000 species of vascular plants are found in Kazakhstan¹⁷. This high biodiversity results from the combination of faunas and floras of different bio-geographical origins. The diverse and threatened large mammal fauna includes Saiga antelope, wild sheep and goats, and their predators, including wolf and snow leopard. Populations of vulnerable species — such as Saiga, Caspian seal, Caspian sturgeon and migratory birds undertake large-scale annual movements that increase their exposure to risks from anthropogenic and climatic factors such as the proposed project development works. However, site observation and reports from local consultant indicates there are neither Saiga (who inhabits steppes that are 100s of km away), nor predatory/migratory birds within the proposed project site.

¹⁷ Biodiversity Assessment for Kazakhstan, Task Order under the Biodiversity & Sustainable Forestry IQC (BIOFOR), USAID CONTRACT NUMBER: LAG-I-00-99-00014-00, SUBMITTED TO: USAID CENTRAL ASIAN REPUBLICS MISSION, ALMATY, KAZAKHSTAN, SUBMITTED BY: CHEMONICS INTERNATIONAL INC. WASHINGTON, D.C. (June, 2001).

FLORA

According to the USAID Biodiversity Assessment Study⁷, more than 6,000 species of vascular plants are found in Kazakhstan, along with 5,000 species of fungi, 485 species of lichens, 2,000 species of algae, and 500 species of bryophytes. Among the vascular plants, 14% are endemic to Kazakhstan.

Steppe ecosystems host more than 20 major plant formations. However, most steppes are either heavily ploughed or grazed. However field observations show that steppes are several kilometres away from the proposed project site.

LOCAL ECOLOGICAL BASELINE INFORMATION

Only limited information on baseline key ecological receptors and ecosystem services within the project site and area of influence has been provided.

Site observations show that the proposed project site is arable land. The forest of the Bulandy Nature Reserve comes close to the Bird House 7 but there is no overlap. The forest is more fragmented than the Reserve and is already separated from the river irrigation impoundment by the road. No further information on the status of river is known.

Fish reported locally to be present include Carp, Perch, European cisco, Silver Carp and Pike.

5 ASSESSMENT OF POTENTIAL SIGNIFICANT SOCIAL AND HEALTH IMPACTS

5.1 INTRODUCTION

This section aims to provide an assessment of the potential positive and negative social and health impacts that may result from the project.

This assessment is based upon professional judgement, specific assessments and informed from a review of recent stakeholder engagement records. Management and mitigation measures are also described to ensure negative impacts on the study area and the region are managed and minimised and positive impacts are maximised.

5.2 IMPACT ASSESSMENT METHODOLOGY

METHODOLOGY

The methodology developed and adopted for the assessment provides a tool for assessing and evaluating the significance of impacts. The identified potential impacts of the proposed Project include positive and negative impacts of higher or lower significance. Impact significance is based on the following criteria.

- **Magnitude of impact** – the level or intensity of changes caused by the project activities with regard to baseline conditions. An impact of high magnitude would mean major changes for large amount of biophysical resources and/ or people.
- **Area of impact** – the area where the changes occur.
- **Duration of recovery** – estimated time required for returning to pre-impact conditions after the impact has ceased.

From the viewpoint of significance, the impacts can be negligible, minor, moderate or major. Definitions of these levels of significance are described in Table 7-1 below.

Table 5-1 Impact Significance Levels

LEVEL	IMPACT ON BIOPHYSICAL RESOURCES	IMPACT ON SOCIO-ECONOMIC CONDITIONS
Negligible	Almost no changes in the environment; the effects can be recovered within a few days.	Almost no changes in socio-economic conditions or commercial activities, the effects can be recovered within a few days.
Minor	Isolated change in biophysical conditions within a limited area (radius of 100m or so); the recovery takes a few months; no residual effects observed.	Isolated change in socio-economic conditions and/ or commercial activities lasting for a few days to a few months with no residual effects,
Moderate	Observable change in biophysical environment lasting for a few months to a few years before recovery. Considerable affected area is within a radius of 0.5 km or a lesser impact over a larger area.	Considerable change in socio-economic conditions and/ or commercial activities of up to 10% of present in Makinsk.

LEVEL	IMPACT ON BIOPHYSICAL RESOURCES	IMPACT ON SOCIO-ECONOMIC CONDITIONS
Major	Changes in biophysical conditions observable within a radius beyond 0.5 km or a considerable change in a smaller area not recoverable within a few years.	Considerable changes in socio-economic conditions and/ or commercial activities of more than 50% of persons present in Makinsk or noticeable changes for persons outside Makinsk.

Generally, impacts which are 'moderate' or 'major' are deemed to be 'significant'.

RESIDUAL IMPACTS AFTER MITIGATION

Adverse effects rated as 'significant' must be mitigated in order to reduce the level of significance of the residual impact. Monitoring measures must also be defined to assess the efficacy of the mitigation measures.

The potential impacts, with mitigation imposed, have then been reassessed to derive residual effects as a result of Project activities. This assessment is based on the same Impact Significance Matrix (Table 5-1) as used to assess unmitigated impacts. The residual effect is determined as a result of the impact and implemented through appropriate risk analysis based on the monitoring programme targeted to audit the effectiveness of the mitigation measure targeted on the potential impact.

5.3 IMPACT ON POPULATION

The project aims to employ about 805 staff although it is not clear whether this number of staff is for the construction, operational phases or both. Although it is reported that most of the workforce will be recruited locally with the exception of 5 experts who were specifically recruited for the project from Ukraine, Russia and Belarus, it is not clear from the ESIA what proportion of this future labour force constitutes skilled/unskilled or male/female positions.

The 2014 baseline data on local (Makinsk) and district (Bulandy) population are 16,924 and 35,123 respectively. If the proposed 805 staff positions are not filled locally, it could lead to migration from other regional areas and an overall increase in local and district population. The increase in local population could result in increase on pressure on local facilities such as health, housing, waste water and sanitation, prostitution, crime and general social cohesion.

In our opinion this could represent a **Moderate Adverse** impact on the sustainable outcomes of the project development works prior to implementation of mitigation. It is therefore recommended that a detailed impact assessment on the overall increase in population on local facilities is undertaken in order to design a mitigation plan to avoid, minimise and/or compensate for any significant residual impacts. Furthermore, it is recommended that an indicator to monitor the perception of risk of crime has been proposed as part of the assessment. Further collections of crime statistics will help determine whether this perceived risk is justified.

However, the retention of employees sourced from the local community of Makinsk will have a positive impact in that it retains the permanent residing local population. Further, increased local incomes arising from local employment in the poultry farming and meat processing sector and the stability around this income, is likely to enhance the retaining of local young work seekers, reducing residing population decline whilst enhancing local birth rates.

5.4 IMPACTS ON SOCIO-ECONOMICS AND CAPACITY BUILDING

No baseline information on socio-economic and capacity building within the project's area of influence has been readily available during this supplementary impact assessment.

SOCIAL IMPACTS OF A CONSTRUCTION CAMP

The planned number of construction personnel is currently in the development of the proposed Project. Depending on the size of the construction team and whether they are local or have to migrate from other area of Kazakhstan and the facilities the construction camp (if any) would provide (e.g. accommodation, cooking facilities, catering, etc..) is currently unknown, and as such the social implications of the construction workforce is currently unknown.

The impacts of such camps depend primarily on the extent of interactions between local people and workers and the extent of non-workers' expenditure on local goods and services. If present, this is likely to affect the local community of Makinsk.

Relatively unrestricted access to Makinsk may give rise to social conflict due to "competition" to access shops, goods and services. Also due to the fact that construction camp is likely to include a higher proportion of men, there is the potential for there to be a change in the gender balance of the settlement which could give rise to local conflict which could lead to more criminal acts and a weakening of social norms that underpin social control. It is assumed that the construction and workforce would be sourced from within Kazakhstan and as such it is not anticipated that the ethnic balance would alter significantly. Potentially these impacts could be significantly adverse.

As a knock-on effect, there may be increase demand on local police services, particularly as the local population continues to grow. Increases in population may impact on police resourcing requirements and the ability for police officers to manage increased needs for law enforcement. Population growth may lead to an increase in road incidents and disruptions to social order.

The sensitivity of the local community population to a construction camp is considered to be medium, and the associated magnitude of changes, prior to mitigation, is likely medium. Therefore, there is likely to be direct, probably temporary, long-term effects of **Moderate Adverse** significance on the local community prior to the implementation of mitigating measures. However, there are general mitigation measures which can be easily and effectively implemented to manage this impact to the level of **Minor to Moderate**.

5.5 IMPACT ON EDUCATION AND SKILLS DEVELOPMENT

In the longer-term it is expected that project development would enhance the education and training facilities and services at a local level. It is currently unknown the exact percentage of pre-school and school places taken up in Makinsk, but that enrolment is 100% and there is a waiting list for nursery places. This being the case together with the fact that available secondary schools in the district has decreased by two between 2012 and 2014, it is possible that there is not sufficient capacity available through current education facilities at a local level to absorb a potential growth in population as a result of workforce and family migration should this occur. This being the case, any increase in local population (highly sensitive) could have a **Moderate Adverse** impact prior to implementation of mitigation.

Furthermore, the employees will benefit from training programmes that will be instituted by the proposed Project to enable the local labour force to work in different areas of the poultry farm and meat processing operations. This training will build a critical mass of technicians and plant operators, electricians, among others, that will not only benefit Makinsk but also the local population at large during and after the project life. The employees are medium sensitivity with medium magnitude of change anticipated. This adverse impact will be direct, temporary, long-term over the life of the manufacturing plant, but beneficial and of **Moderate** significance.

5.6 PHYSICAL, SOCIAL AND COMMUNITY INFRASTRUCTURE AND SERVICES

There would likely be some increased demand for the community services offered in the study area, and to a lesser extent in the region. It is likely that the cumulative demands of projects in the region would continue to place pressure on community services.

In addition, the operation of the new poultry farm may see an increase in the number of activities (such as recreational, leisure and sporting facilities) available and participation in these as people (and their families) move into the area.

Community infrastructure and services is of medium sensitivity with medium magnitude of change expected. This impact will be direct, permanent, long-term over the life of the project, but beneficial and of **Moderate** significance.

5.7 IMPACTS ON LAND USE, TENURE AND PLANNING

Project impacts with respect to land use include those associated with economic displacement.

LAND ACQUISITION

The land for the Project has already been acquired by UKPF and at the time of acquisition was all state owned land. The project is to use 301 hectares of which 76 hectares is for the farm area for the technical aspects of the farm whilst a further 225 hectares will be utilised for the associated infrastructure such as the electrical, water and wastewater systems.

The wastewater treatment plant is to be located on a parcel of land that was previously set aside for a new landfill for the town of Makinsk. However, the landfill was given another parcel of land within an appropriate development zone to allow the wastewater treatment plant to be built in the proposed location. This wastewater treatment plant will be utilised by both the farm and the town.

It is understood that UKPF has acquired an elevator at the feed mill location and will simply reconstruct the infrastructure without additional land take. This should be confirmed as part of the Land Acquisition and Livelihood Restoration Plan for the Project.

When the company approached the town of Makinsk with regards to developing in their municipal boundary it was the responsibility of the regional and district councils to allocate the land. The councils offered the land that in their opinion was unsuitable for agriculture and pasturing due to poorly developed soil with shallow laying bedrock.

Whilst in Kazakhstan law it is not allowed to give land away the company were granted free of charge a 10 year lease with an option to purchase the 76 hectares under the poultry facility after it has been commissioned. The remaining 225 hectares would remain under state ownership. The district council has also given the Company an empty 60 flats block for the use by project staff once it is renovated. It is understood that the Company will pay for the renovation efforts in exchange for the land provided by the state.

SANITARY PROTECTION ZONE

In addition to the land required for the Project's physical footprint and associated infrastructure, a sanitary protection zone (SPZ) has been determined in accordance with the decree of Minister of National Economy of the Republic of Kazakhstan from March 20, 2015 No. 237. Registered in the Ministry of Justice of the Republic of Kazakhstan on May 22, 2015 No. 11124.

According to the above-mentioned sanitary regulations "sanitary protection zone for the sites of the poultry farm, there are the following SPZ sizes:

- Ground for broilers growing BP1-BP8: SPZ of 1,000m, hazard class – 1;
- The site of the factory for poultry processing: SPZ of 1,000m, hazard class – 1;
- The composting site: SPZ of 300m, hazard class – 3;
- Gas accumulation station: SPZ of 300m, hazard class – 3;
- Activated sludge plant: a SPZ of 200m;
- Administrative and service building of broilers (pure): SPZ of 100m, class of hazard - 4;
- Feed mill: SPZ of 100m;
- Hatching house site: SPZ with a size of 50m, class of hazard – 5.

The company undertook a programme of stakeholder engagement for the Project in accordance with its requirements to consult publically under national planning legislation. This was advertised both locally and nationally. Six questions were raised and answered at the public meeting held on the 4th December 2015. The questions were mainly on the size of the SPZ, nearest residence to the project, quality of the wastewater and storm water discharges and what wastes will be generated. It is noted that the answer with regards the SPZ and the nearest residences were not answered correctly in that the SPZ for the hatchery is 50m and there are residences at 125m. These being the closer residences rather than those which are 1,250m away from the main farm activities from the 1,000m SPZ.

PHYSICAL AND ECONOMIC DISPLACEMENT

There are no residential developments in the proposed SPZ for the sites and no physical resettlement associated with the Project in general.

The Project site will have security fencing in place to help facilitate the bio-security of the farm.

Due to land demands of the projects, there is economic displacement associated with the Project, mainly through the use of agricultural land. Each of the Company's that had land withdrawn from them for the implementation of the project were given larger parcels of land by the council as compensation.

Of the 301 hectares for the project, with the exception of the land designated for use as a landfill (which was state controlled), there were two parcels of land which had long term leases associated with them.

No information was available at the time of this report with respect to any informal use of the Project land or the effect on land use within the sanitary protection zone.

There is currently no centrally controlled grievance redress management process or published Grievance Mechanism for stakeholders.

No Resettlement and / or Livelihood Restoration Framework have been established to set out UKPF's land acquisition related activities.

5.8 IMPACTS ON ECONOMIC ACTIVITIES AND RURAL LIVELIHOOD SYSTEMS

Family and household characteristics in the study area and region are not expected to noticeably change as a direct result of the Project. Generally it is reported within the ESIA that the project will generate 805 jobs to local communities which will have a positive economic impact on surrounding communities, district and country as a whole.

Review of the limited district baseline data available on the economic activities shows that crop and livestock farming are likely to be the predominant economic activities for communities within the project's area of influence. The data shows a particular increase in poultry production between 2012 and 2013 which was sustained for the year 2014.

The exact number of household within the surrounding communities and other small scale farmers at the district level is unknown at this stage due to absence of data. Furthermore it is also unknown whether crop and livestock farming by the surrounding communities is practised on subsistence bases only or for economic purposes to generate income to support local community or households. It is therefore not possible to accurately assess the impact on the economic impact of the proposed project works throughout its development cycle.

In our opinion, the absence of data to inform an impact assessment on the economic activities (*wage based and enterprise based* livelihoods) on the surrounding communities and potential small scale farmers at the district level represent a **Moderate** risk to the sustainable development of the project prior to implementation of mitigation measures.

It is therefore recommended that a detailed census be conducted particular for communities within the project's areas of influence prior to commencement of construction works to assess;

- i. Any other economic activities within the project's area of influence
- ii. The number of potential household to be affected by the proposed project development works
- iii. A detailed impact assessment of the impact on the potential affected households and the development of a mitigation plan (such as alternative livelihood restoration plan) to avoid, minimise and/or compensate against any residual significant impacts from the project development works. Wage earners in the affected households and communities may benefit from skills training and job placement, provisions made in contracts with project sub-contractors for temporary or longer term employment of local workers, and small-scale credit to finance start-up enterprises.

5.9 IMPACTS ON CULTURAL HERITAGE

Section 2.5 of the first issued ESIA report specifies the legislative requirement for protection of cultural heritage within the project development site and states that the project activities will be away from protected and/or sensitive cultural sites.

It is however not known what baseline information has been reviewed to inform absence of sensitive or protected cultural sites within the proposed project development site. In our opinion the potential impact on previously unknown heritage resources, particularly archaeological resources encountered during project construction and operation could be high.

As part of the Client's ESMS, it is recommended that the client develops provisions for managing chance finds¹⁸ through a *Chance Find Procedure*¹⁹ which will be applied in the event that cultural heritage is subsequently discovered. The client will not disturb any chance find further until an assessment by competent professionals is made and actions consistent with the requirements of EBRD's Performance Requirement and applicable national legislation are identified

¹⁸ Tangible cultural heritage encountered unexpectedly during project construction or operation

¹⁹ A chance find procedure is a project-specific procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered

5.10 IMPACTS ON VISUAL LANDSCAPE

The Project will have visual landscape impacts during construction and operation, and these are described and assessed in Section 7.5 of the main ESIA report.

5.11 IMPACTS ON ECOSYSTEM SERVICES

Many human activities disrupt, impair or reengineer ecosystems every day including, runoff of pesticides, fertilizers, and animal wastes, pollution of land, water, and air resources, introduction of non-native species, overharvesting fisheries, destruction of wetlands, erosion of soils, deforestation and urban sprawl.

Only limited baseline information has been obtained on key ecological receptors such as, sensitive habitats, invasive species, protected species, migratory birds and existence of ecosystems for the proposed project area, hence it has not been possible to assess the potential impact from the project development activities on such key receptors even at this supplementary stage.

Ecosystem services are benefits people obtain from ecosystems including (1) *provisioning services* such as food and water; (2) *regulating services* such as regulation of floods, drought, land degradation, and disease; (3) *supporting services* such as soil formation and nutrient cycling; and (4) *cultural services* such as recreational, spiritual, religious and other non-material benefits²⁰.

Biodiversity underpins all types of ecosystem services, but *provisioning services*, such as clean water, wildlife and fuel wood, are the types of services that may have the greatest overlap with establishing the necessary baseline for effective impact assessment.

In our opinion, the absence of baseline data to help assess potential impact on ecosystem services represents a **Moderate Adverse** Significance to the project development outcomes prior to implementation of mitigation measures.

It is therefore very crucial that a baseline study/survey is undertaken to assess the existence of any ecosystems services within the proposed project's area of influence in to other to avoid, minimise or compensate for any residual impacts from project development activities.

If the outcome of the ecosystems survey indicates that ecosystem services generate potentially important benefits within the proposed project area, then neighbouring communities should be engaged directly in an exercise to prioritize and/or protect the importance of the ecosystem services within the area.

5.12 IMPACTS ON EMPLOYMENT, LABOUR AND WORKING CONDITIONS

It is reported within the ESIA that the project aims to employ about 682. However no further information on the following list questions has been provided to help assess impact on labour and working conditions:

- What proportion of this labour force will be for the construction phase and operational phase?

²⁰ Hardner, J., R.E. Gullison, S. Anstee, M. Meyer. 2014. *Good Practices for Biodiversity-Inclusive Impact Assessment and Management Planning*. Prepared for the Multi-lateral Financing Institutions Biodiversity Working Group.

- What percentage constitutes skilled and unskilled labour which could be resourced locally and/or from migration from surrounding regions?
- How many are going to be for women and what extra effort will be set in place to ensure local youth and disadvantage households are considered?
- What are the expected negative/positive impacts (if any) on gender? (e.g., changes in allocation of roles and responsibilities, in the constraints linked to gender-based discrimination?)

Furthermore additional information is required to help assess how the following working conditions will be managed through the client's adopted ESMS in line with applicable national labour laws and EBRD's PR 2:

- Human resources Policy
- Working relationships
- Child and forced labour
- Non-discrimination and equal opportunity
- Worker's organisations
- Wages and benefits and conditions of work including full time and part time staff
- Retrenchment
- Grievance mechanism
- Setting up of Workers accommodation in line with EBRD/IFC Guidance Note²¹

In our opinion the potential impacts on employment, labour and working conditions on the sustainable development outcomes of the project could be **Moderate** risk to project development outcomes prior to implementation of mitigation measures. It is recommended that prior to commencement of construction works, additional information is provided to help assess the impact on the reported 802 workers to be employed by the project and help design appropriate mitigation measures to avoid, minimise and/compensate for any significant residual impacts.

5.13 IMPACTS ON PUBLIC HEALTH

Directly and indirectly affected property owners living near the project are likely to be affected by issues relating to, in particular, dust and noise. Directly affected property owners may also be affected by visual disturbances. The nearby residents are highly sensitive and magnitude of change is likely to be high given the rural character of the project locality. Therefore, there is likely to be a direct impact, permanent, long-term effect of visual disturbance from the project, which is likely to be **Moderate Adverse significance** prior to implementation of mitigation measures.

Impacts in relation to noise nuisance, air emissions (dust, etc), waste generation and wastewater discharges together with the impacts of increased traffic movements during the construction and operation of the scheme are identified and evaluated in the relevant sections of the main ESIA SIR.

²¹ Worker's Accommodation: Processes and Standards, September 2009 IFC and EBRD

HEALTH SERVICES INFRASTRUCTURE AND CAPACITY

There is expected to be some increase in demand for general health services from the project. Overall, there is a need to improve public health infrastructure with Kazakhstan and given the regional inequities of health financing provision of healthcare services in the regions can struggle for support. This would be further impacted by workforces who rely on local health services when they are in the area. Any increase in population (resident or transient) should encourage further government investment in health care resources in the study area, in particular through the provision of more general practitioners and maternity services as an example. Publicly available information regarding future development plans was unavailable and therefore could not be considered as part of the impact assessment.

The local population is highly sensitive and magnitude of change is likely to be low if some medical services are to be provided as part of the project. Therefore, there is likely to be an indirect impact, temporary, long-term effect in the demand of healthcare services generated by the project of **Minor to Moderate Adverse** significance prior to implementation of mitigation measures.

INCREASED INCIDENCE OF RESPIRATORY, CIRCULATORY AND COMMUNICABLE DISEASE

The major causes of adult mortality in Kazakhstan are non-communicable diseases such as cardiovascular disease (54%), cancers (15%), other tobacco and alcohol-related diseases and injuries.

An increase in population from in-migration could lead to crowded housing in the local communities and facilitate the mixing/ interaction of different groups.

The construction of the poultry farm has the potential to lead to elevated dust concentrations, released as a fugitive source and as a point source, in the surrounding areas due to the nature of the activities being carried out. An increase in dust levels associated with construction activities could be a contributory factor in respiratory disease levels especially to regular staff and informal workers on site. However the closest off-site receptors, and the closest to dust generated by activities carried out during construction, are located in Bajsuat; the closest property within Bajsuat is approximately 125m from the proposed hatchery building. Besides the properties in Bajsuat, all others are located over 1.5km from the Site. The area surrounding the Site is therefore considered to be of low sensitivity to dust generated by construction activities, and therefore low risk of experiencing significant dust impacts during construction. Consequently, dust generation impacts during construction on ambient air quality are considered to be of **Negligible Adverse** significance prior to mitigation

The impacts of air emission during construction and operation of the Project have been assessed within the main ESIA SIR.

SEXUALLY TRANSMITTED INFECTIONS

The potential influx of workers into the communities could lead to an increase in incidents of sexually transmitted infections. Although not a significant existing risk associated with the project, there is a potential risk that the operation of the new poultry farm could attract sex workers into the local area, resulting in an increase in communicable diseases such as HIV. The sensitivity of exposure to sexually transmitted diseases is medium (due to significant levels of local or regional workforce), but the magnitude of change, prior to mitigation, is low, of direct impact, permanent and of **Minor Adverse** significance prior to implementation of mitigation measures.

SOCIAL DETERMINANTS OF HEALTH

As discussed in previous sections, the project will result in an increase in inward migration and therefore increase the demand for housing in the local communities. A direct impact from the project is an increase in employment in the area. With this potential migrant worker influx, there will be an increase in mixing of the social groups and ethnicities. With this change in the social and ethnic makeup of the area there is the potential for the introduction of diseases into the local communities.

RISK OF INCIDENCE OF ALCOHOL AND SUBSTANCE ABUSE

The incidence of alcohol abuse in Bulandy District was recorded as being relatively high in 2014 with approximately 1,000 for every 100,000 population. There is the risk with increased employment and income in the local population that incidents of alcoholism can potentially increase.

The local community is highly sensitive to the impact of the project on incidence of alcoholism in the areas, and the magnitude of change is also considered to be medium. Therefore, the impact is anticipated to be direct impact, permanent, long-term effect of **Moderate to Major Adverse** significance prior to implementation of mitigation measures.

IMPACT ON WATER QUALITY AND SUPPLY / SOIL WATER AND SANITATION

The impacts of the project on water quality, supply and sanitation has been included in the ESIA.

IMPACT ON EMERGENCY SERVICES

There is expected to be limited impacts on Emergency Services in the study area and region as a direct result of the project. The increase in the population would inevitably increase vehicles on the roads and this is where the main workload for the response would likely be.

It is assumed that the new poultry farm will have emergency capabilities based on site and a fire prevention standard operating procedure, thereby relieving pressures on community emergency services.

The local community is highly sensitive to the impact of the project on emergency service provision, and the magnitude of change is also considered to be medium. Therefore, the impact is anticipated to be an indirect impact, temporary, long-term effect of **Minor to Moderate Negative** significance prior to implementation of mitigation measures.

HAZARDOUS MATERIALS EXPOSURE

Occupational exposure to hazardous materials could include exposure to oils/fuels, reagents that are used in the process. As part of the integrated management system, operational control procedures are required to be in place for the management of hazardous materials.

The potential for community exposure to hazardous materials is expected to be very limited. Risks are likely to come from the transportation of materials and any spillages that may occur during transportation. Other exposure to hazardous substances is likely to be due to abnormal / emergency situations such as spillages / releases to surface water. It should be noted that the majority of the oils or chemical substances used within the Project are anticipated to be of a low

hazard level. However, effective management and contingency planning arrangements need to be in place.

The impact of the project on exposure to hazardous materials is considered, prior to mitigation, to be moderate, in the areas, and the magnitude of change is also considered to be medium. Therefore, the impact is anticipated to be direct impact, temporary, long-term effect of **Minor Negative** significance prior to implementation of mitigation measures.

5.14 OCCUPATIONAL HEALTH AND SAFETY

There is a potential that workers and contractors conducting work during operation could be exposed to an additional level of personal safety risk relating to workplace activities.

The project needs to develop management arrangements and procedures in order to mitigate these risks to human health to protect the workforce and contractors. Safe systems of work will be in place during operation for both operational and maintenance activities. An occupational health and safety system is being developed for the operational phase aligned with the international standard OHSAS 18001, along with the Environmental management System implemented in line with the ISO 14001 international environmental standard. Furthermore, the company will be implementing a continuous programme of occupational health monitoring and regular air and water quality monitoring in order to identify and respond immediately to potential adverse effects of mining activities.

The management systems implemented will ensure that there is an effective approach to the management of worker, contractor, visitor and public safety issues related to the project. The management system is aligned with the international standard OHSAS 18001 and developed in alignment with EBRD's Performance Requirement 2 – Labour and Working conditions. The aim of the management system is to protect workers and contractors and to promote safe and health working conditions and the health of workers. The management system will comprise a policy, which details the company's commitments to protecting the health of workers and providing a safe environment to work. A series of objectives, targets and KPIs will be designed to enable the monitoring of health and safety performance, which will be achieved through the implementation of procedures and controls, which have been developed to achieve the best possible working conditions, aligned with internationally recognised best practice.

The sensitivity of the workers and contractors to increased occupational health and safety risks is medium and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a direct, long-term effect on the workforce and contractors, including those employed from the local communities, of **Moderate Adverse** significance prior to implementation of mitigation measures.

5.15 IMPACT ON VULNERABLE GROUPS

In Bulandy District, there are 1,297 disabled people of working age, of which 337 falls into the employable category and 217 of these individuals are employed.²² No data is available for the local community of Makinsk.

"Employment Road Map 2020" programme has been established nationally to promote employment by providing funding and approval for the development of infrastructure, housing and communal services projects and through the promotion of employment through training and resettling.

²² Passport for Socioeconomic Development of Bulandy District.

The vulnerable groups involved are highly sensitive and the magnitude of change is low in terms of the impact of the project on vulnerable groups. Therefore, impact is expected to be indirect, temporary, long-term over the life of the mine, negative and of **Minor to Moderate Adverse** significance prior to implementation of mitigation measures.

6 MITIGATION AND ENHANCEMENT MEASURES

Table 6-1 summarises the proposed mitigation and enhancement measures proposed to be implemented by UKPF in order to prevent or mitigate the potential impacts created by the proposed poultry farm project.

Table 6-1 Summary of Impact Assessment and Mitigation Measures

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
Employment						
Estimated workforce of 805 staff during operation of the poultry farm	Operation	Yes	Positive	Moderate	Provision of on-the-job training. Existing HR personnel actively seeking to improve retention of local workforce. Implementation of an early HR recruitment campaigns to include as a minimum: Promotion of fair treatment, non-discrimination, and equal opportunity of workers. Establishment, maintenance, and improvement of the worker-management relationship. Promotion of compliance with national employment and labour laws. Protection to workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, workers in the client's supply chain, and workers sourced	Minor to Moderate

²³ Impacts associated with elevated dust levels, noise nuisance, visual disturbance and increased transport risks are covered in the main ESIA SIR, together with cultural heritage.

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
					<p>from the local community.</p> <p>Promotion of safe and healthy working conditions, and the health of workers.</p> <p>Avoidance of forced labour.</p> <p>Prepare detailed job description for each position offered and their corresponding requirements.</p> <p>Proactive and early communication with labour unions and professional associations relating to requirements.</p>	
Economic						
Direct employment	Construction and operation	No	Positive	Major	No mitigation required/ proposed measure to maximise benefits.	N/A
Indirect employment	Construction and operation	No	Positive	Moderate to Major	No mitigation required/ proposed measure to maximise benefits.	N/A
Direct local business opportunities	Construction and operation	NO	Positive	Moderate to Major	<p>Initiatives to promote local business for farming.</p> <p>Engagement activities with the local communities.</p> <p>The establishment of a social programme to implement Corporate social responsibility (CSR) initiatives throughout the Bulandy District and to encourage sustainable socio-economic development in the region.</p>	N/A
Business opportunities indirectly associated with the project	Construction and operation	No	Positive	Moderate to Major	<p>All measures below are based on the condition that they are economically viable, or cost competitive, or non-detrimental to the overall cost of the contract.</p> <p>Maintain a close dialogue and continuous updates with government authorities on the plans and progress of the project, defining as accurately as possible the needs of the project and the timing of the activities during construction.</p> <p>Maintain close relationships with Employer's Associations and Civic Society organisations, keeping them abreast of forthcoming opportunities and discussing solutions and alternatives to potential challenges for the local companies to access business opportunities.</p> <p>Participate and organise open day events to inform, identify and</p>	N/A

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
					<p>attract potential services and goods suppliers and workforce</p> <p>Monitor indicators related to volume and type of business and local share, and incorporate into the annual report.</p> <p>Unbundling of contracts for services and supplies to the site where no cost hindrance to the project exists.</p> <p>Preferential purchase of local goods and services to the poultry farm operation.</p> <p>Supplier opportunities enhancement programmes - Regular liaison with local communities to determine whether local services / produce could replace existing non-local suppliers.</p> <p>Requirements in contract with providers of catering services to give preference to supplying local/ traditional food.</p>	
Impact of local economic flows, resulting in land and food price inflation, etc.	Operation	No	Negative	Minor to Moderate	No mitigation required/ proposed measure to maximise benefits.	N/A
Impact of local economic flows, resulting in inflation of land value	Operation	No	Negative	Minor to Moderate	No mitigation required/ proposed measure to maximise benefits.	N/A
Impact on key aspects of the local and potentially regional provision of services and development in the local area (e.g. transport, waste infrastructure,	Construction and operation				<p>Implementation of local and national plans and programmes.</p> <p>Implement local community programmes – specifically related to access to potable water.</p> <p>Development and implementation of a water management plan with regular reviews and updates.</p> <p>Development and implementation of a waste management plan with regular reviews and updates, particular focus will be placed on the commercial feasibility of transporting waste to current and future recycling facilities.</p> <p>Establish co-operation with local government as soon as possible, in order to clarify the project needs for treatment and final disposition of certain types of wastes, and solutions acceptable to</p>	

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
utilities)					<p>the authorities.</p> <p>Promote the development of new and innovative waste recycling/ reuse local business.</p> <p>Review the possibility for the trans-boundary transport of recyclables</p>	
Land Use						
Economic Displacement	Construction and operation	Yes	Negative	Moderate	<p>Develop and implement a Land Acquisition and Livelihood Restoration Framework (LALRF) and later a detailed Plan, according to EBRD requirements, focusing on both formal and informal livelihoods that are adversely impacted by the Project. This should include identification of vulnerable groups and development of targeted measures to ensure that they are not subjected to adverse effects or at a disadvantage in terms of distribution of benefits and opportunities for development.</p> <p>Implement a formal grievance mechanism as part of a wider stakeholder engagement plan.</p>	Minor
Social						
Demographic changes associated with increase of 805 employees	Operation	Yes	Negative	Moderate to Major	<p>Implementation of a Stakeholder engagement plan (SEP), including its regular evaluation and review at key milestones within the project lifetime (this should be a live document throughout the project to facilitate the continued community consultation during the project).</p>	Minor to Moderate
Impacts of in-migration of workforce due to interaction between workers and local community	Construction and operation	Yes	Negative	Moderate	<p>Implementation of a Grievance mechanism, including evaluation and improvement of the Grievance Mechanism if required for the operational phase.</p> <p>Bi-annual review of grievances reported and solutions provided (number of grievances received and percentage of them satisfactorily resolved reported in annual report). Identify any recurring themes.</p> <p>Monitoring of the demographic changes taking place in local communities.</p> <p>Develop social indicators as part of a monitoring plan; this will allow an early identification of demographic changes and social problems.</p> <p>Regular focus group meetings with women in the community and</p>	Minor to Moderate

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
					<p>identified vulnerable groups (returning migrant workers and their families).</p> <p>Support through local support groups for vulnerable groups and unskilled workers at risk from social exclusion.</p> <p>Contracts with suppliers should reflect measures for the prevention of risks for social conflict</p> <p>Free or subsidised alcohol counselling for the local workers or their families can facilitate the prevention of social problems related to substance abuse and retain workforce (co-ordinated with public health programmes and specialised organisations)</p> <p>Support the design and implementation of a Community Development Plan which (potentially) focuses on the following areas:</p> <ul style="list-style-type: none"> → Health awareness campaigns to educate the workforce and their families associated with the risks of substance abuse and smoking (particularly smoking inside living areas); → Assistance to civil society groups that can provide support to vulnerable groups located within the two communities and; → Provision of equipment to local schools to boost young people's interaction with technology and basic educational materials. 	
Improved living standards	Construction and operation	No	Positive	Major	No mitigation required/ proposed measure to maximise benefits.	N/A
Education capacity	Operation	No	Positive	Moderate	A training needs assessment should be prepared as part of the planned formal management system. A training programme to be developed for the delivery of the training.	N/A
Impact on skills development	Operation	No	Positive	Moderate	<p>Locally based Kazakh/ Russian speaking HR Manager to be appointed to develop and follow up on recruitment training and career development of the staff</p> <p>Actively promote training in the English language, for both potential workers as well as for improving communications skills of local workers, for example offering courses to be taken during their weeks off or after work hours on the site for workers and making the classes available for non-employees. Consider the potential to increase the capacity of English teaching in the local</p>	N/A

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
					<p>schools to improve employability of the local people.</p> <p>Engagement with local education institutions. Creation of opportunities for apprenticeships and vocational courses.</p> <p>Regular evaluation of progress on the training programmes and performance of apprentices and local and international staff, in order to continuously optimise the internal training programme.</p> <p>Consider whether any collaboration with other farming companies could be adopted to increase capacity of workers in the industrial sector.</p> <p>Identify any Government programmes aimed at increasing capacity for working in the poultry farming sector.</p>	
Improved community infrastructure and services	Construction and operation	No	Positive	Moderate	No mitigation required/ proposed measure to maximise benefits.	N/A
Health						
Increased demand on healthcare services	Construction and operation	Yes	Negative	Minor to Moderate	<p>Contact with local health service and cooperation established between both parties.</p> <p>Emergency preparedness plan in place.</p> <p>Develop clear criteria and conditions for use of local health services; communicate these to health providers and assess the need for supplementing capacity where necessary in cooperation with local authority.</p> <p>Recommend obligatory health screening of workers for transmittable diseases.</p> <p>Collaboration with the local medical centres to ensure capacity for community screening with particular focus on identified vulnerable groups (e.g. returning migrant workers and their families)</p>	Minor
Increased risk of respiratory and / or circulatory disease.	Construction and operation	Yes	Negative	Minor to Moderate	No mitigation required/ proposed measure to maximise benefits.	N/A

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
Increased risk of communicable diseases , including sexually transmitted diseases	Construction and operation	Yes	Negative	Minor	Workforce awareness campaigns. Collaboration with the local health services to increase awareness throughout the local communities with specific focus on identified vulnerable groups (e.g. returning migrant workers and their families)	Minor
Risk of incidence of alcohol and substance abuse	Construction and operation	Yes			Health and Socio-Economic monitoring arrangements should be developed and included in a Monitoring Plan. Monitoring and records procedures, which form part of the Integrated Management System, will provide details on the collation, presentation and review of this information. Ongoing communications with the heads of communities and community wide stakeholder engagement. The allocation of a budget for social investment, which can be requested by the local communities through community leader. Chess lessons, film screenings / cultural events and concerts sponsored by the poultry farm company.	Minor
Impact on water quality and supply	Construction and operation	Yes			Development and implementation of a water management plan. Implementation of an environmental management system – procedures for the safe handling and storage of hazardous materials. Replanting of cleared ground. Identify those within the local communities who use the surface water and their uses. Collation of contact details for these people and the notification of any incidents, which may result in the decline in water quality. Installation of waste water treatment associated with drainage from the poultry farm.	Negligible
Occupational health and safety	Construction and operation	Yes	Negative	Moderate	Occupational health monitoring Implementation of a health and safety management system certified to OHSAS 18001 (an internationally recognised standard) and also aligned to the requirements prescribed in EBRD's Performance Requirement 2 (Labour and Working Conditions),	Minor

POTENTIAL IMPACT ²³	PHASE	MITIGATION/ MANAGEMENT PROPOSED	POSITIVE OR NEGATIVE	IMPACT	MITIGATION MEASURES	RESIDUAL IMPACT
					<p>which aims to promote safe and health working conditions, and the health of workers.</p> <p>Health and safety training.</p> <p>Planned preventative maintenance schedule in place.</p> <p>Continuous health and safety training for all employees.</p> <p>Appropriate contractual requirement to suppliers and contractors regarding safety measures.</p>	
Impact on vulnerable groups	Construction and operation	Yes	Negative	Minor to Moderate	Introduce a specific initiative or awareness campaigns to promote employment amongst minorities within the local community.	Negligible
Exposure to potentially hazardous materials	Construction and operation	Yes	Negative	Minor	<p>As part of the integrated management system, operational control procedures are in place for the management of hazardous materials. Studies have been completed to determine feasibility of replacing these materials with alternatives, although this is not considered to be feasible at the moment, a regular review of the study will be undertaken and replacements made where possible.</p> <p>Emergency response plan in place detailing several emergency scenarios e.g. fire, etc.</p> <p>Spill response kits, procedures and training.</p> <p>Road safety plan. Vehicles used for transportation appropriate to the risk of the materials.</p> <p>Awareness raisings campaigns and coordination with the local health service to ensure specific facts are presented to minimise the perception of risks which are not applicable / relevant to the project.</p>	Negligible

